
Asset Renewal Plan – 2025

Monday, 22 September 2025

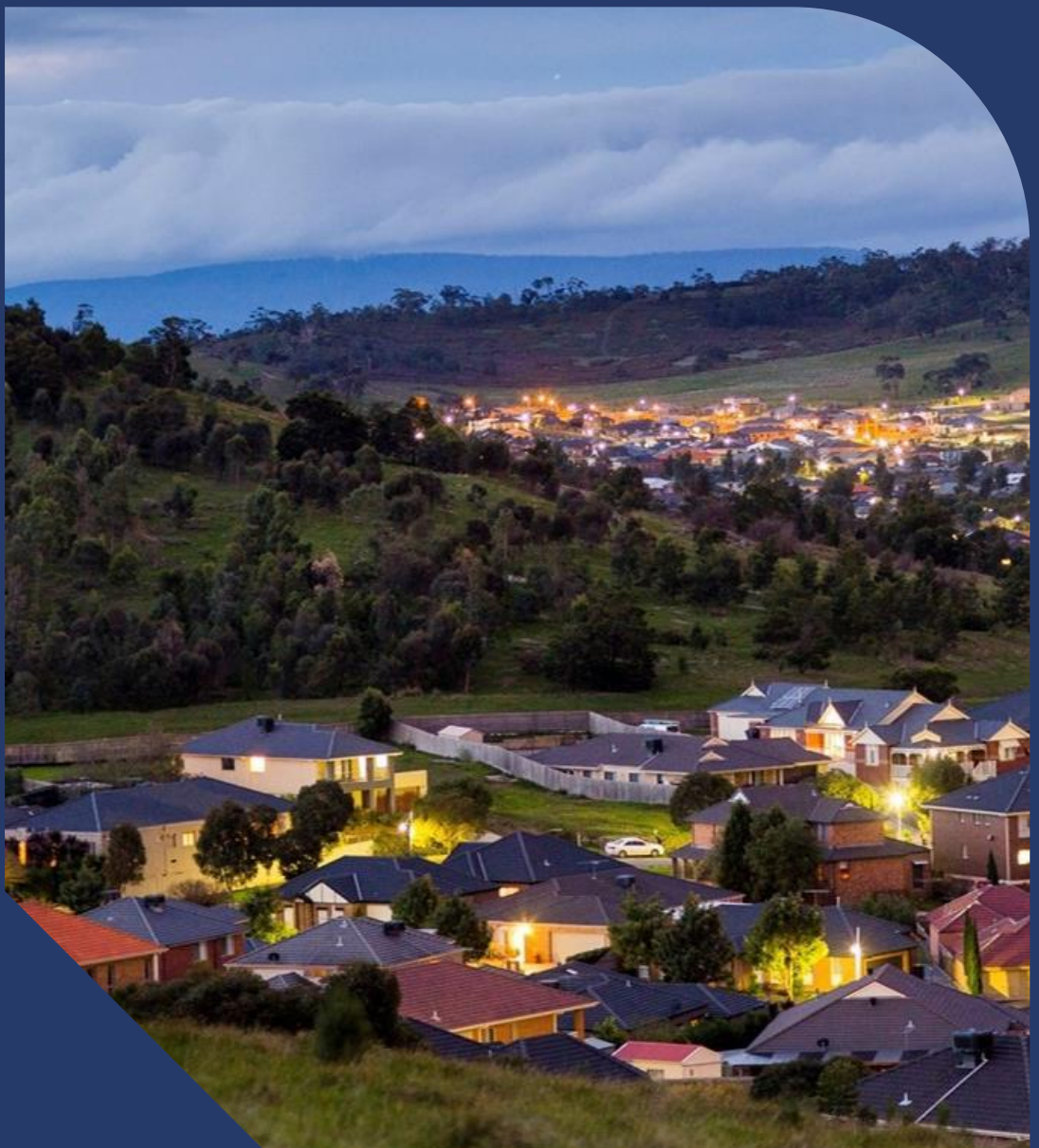


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1. Asset Management Approach

1.1. Asset Management Framework

AusNet Services' renewal decisions are made using our asset management framework and systems. The asset management system contains an asset management policy statement, strategic asset management plan, asset management objectives and a detailed suite of asset management strategies. The asset management policy acknowledges the company's purpose and directs the content and implementation of asset management strategies, objectives, and plans.

The development of asset management strategies are informed by an assessment of the external business environment, the corporate business and financial plans and responses to stakeholder engagement, which incorporates customer, generator, regulator, shareholder, and government views.

AusNet Services' asset management framework is illustrated in **Figure 1**.

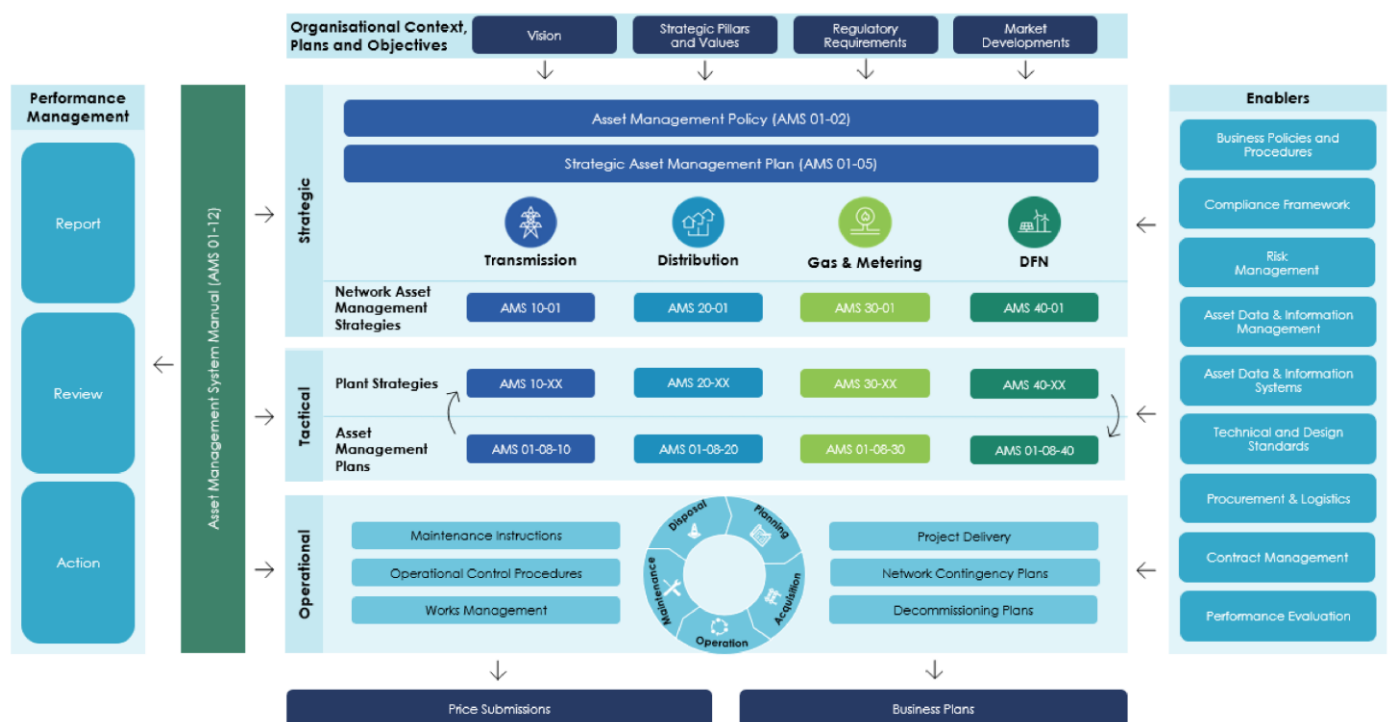


Figure 1: Asset Management Framework

AusNet Services uses a risk-based cost benefit analysis methodology to guide asset replacement decisions. The decision-making process considers the likelihood of failure (based on historic failure data and asset age and condition information) and the consequences of failure to value the risk of asset failure in monetary terms. **Figure 2** shows the factors considered in the cost benefit analysis.

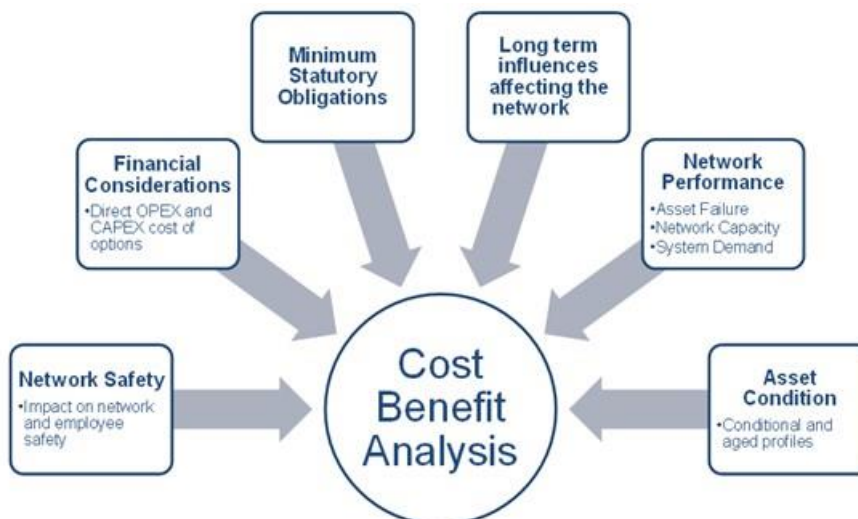


Figure 2: Cost Benefit Analysis Inputs

A range of options are considered as part of the cost benefit analysis including network reconfiguration, asset retirement, asset refurbishment, asset replacement and non-network alternatives.

The methodology assesses whether the overall economic value of expenditure is positive and ensures that risks are reduced as far as practicable, as required by the Electricity Safety Act 1998.

1.2. Further Information

Further information on AusNet Services' asset management strategy and methodology may be obtained by contacting ritconsultations@ausnetservices.com.au. In the subject field, please reference 'Asset Management Strategy'.

2. Ten-Year Asset Replacement Plan

The ten-year asset replacement plan (in calendar years) focuses on major transmission asset replacement projects. AusNet Services' asset renewal plan does not propose any network changes that will have a material inter-network impact and AusNet Services has liaised with AEMO and VicGrid to integrate the asset renewal plan with transmission augmentation plans for Victoria, including AEMO's Integrated System Plan (ISP) and VicGrid's Victorian Transmission Plan. It is also informed by joint planning discussions with the Victorian distribution networks.

AEMO has also reviewed and assessed the alignment of the asset renewal plan to the most recent power system frequency risk review.

2.1. Asset Renewal Options

The following asset renewal options are considered in the asset renewal evaluation and project specification:

- Renewal by Asset Class is employed when a class of assets has either a higher than acceptable failure rate or exhibits a higher deterioration rate than its peers. This approach avoids widespread deterioration in network performance due to multiple, asset class-related failures.
- Selective or Staged Replacement.
- Renewal on a Bay-by-Bay (or Scheme/Network) basis is employed when it is economic to replace all primary plant and equipment within a specific bay or scheme. This strategy is often adopted for terminal station renewals and where planned outages are challenging.
- Replacement of a Whole Station in Existing Location (Brownfield) is employed when it is economic to replace most assets as part of a single, coordinated project within the existing station (normally when station assets are approaching the end of their life and there are advantages in reconfiguring primary electrical circuits).
- Replacement of a Whole Station in New Location (Greenfield) is employed for the construction of a replacement station on a new site. It is a more expensive strategy than works within an existing station due to the need to procure new land, establish key infrastructure, and to relocate lines. It is usually only economic when the existing infrastructure is inadequate, and replacement works cannot occur without a sustained supply disruption due to limitations at the existing site.

Non-network options are considered in AusNet Services' asset renewal approach once an identified need has been determined and includes options such as demand side response and embedded generation. Non-network solutions are considered in the RIT-T process to find the most economical technically feasible solution.

2.2. Asset Renewal Plan 2025

Changes to scope, cost estimate and completion date have been made for some projects included in the 2025 Asset Renewal Plan compared with last year's plan. The completion dates of the projects that are not committed yet have been updated in this plan based on the latest asset failure risk analysis.

The cost estimates allow for the entire project cost including project management cost, overheads and finance costs.

Wherever possible, asset renewal works are planned at times that minimise the impact of network outages.

As a prudent network owner, our assessment of the economic timing of an asset replacement is continually evolving as and when updates to assumptions and inputs are made. Hence, the Asset Renewal Plan is subject to change based on the results of further asset condition analysis, asset failures necessitating a reprioritisation of projects, changes in costs of options considered, and regulatory revenue decisions. In addition, the significant investment in network expansions being undertaken under the ISP and VTP may also impact on the deliverability of our renewal plan. Therefore, our plans may be materially changed to ensure that expansion projects are appropriately prioritised after detailed implementation plans are discussed with VicGrid.

No urgent or unforeseen network issues have been identified to date.

A description of the planned asset replacements is given below. Projects within the Asset Renewal Plan are being developed on an ongoing basis, and therefore, both their timing and associated costs are subject to change.

Project Name	Location	Total Cost (\$M nominal)	Target Completion (December)	Network Assets to be Retired	Reasons for Retirement	Date of Retirement	Impact of Inaction	Proposed Replacement	Options Considered	Expected timing of RIT-T PSCR	Changes Compared with Last Plan
Brooklyn Terminal Station 66kV Circuit Breaker Replacement	BLTS	20	2025 (Practical completion achieved)	Fifteen 66kV circuit breakers	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2022 to 2025	Market and reliability impact	Like-for-like replacement of assets to be retired	Refurbishment, replacement and staged replacement	RIT-T completed	Change to completion date
Transmission Line Ground Wire Replacement - Phase 1	Various	24	2025	Selected ground wire sections	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2023 to 2025	Market and reliability impact	Like-for-like replacement of retired assets, where appropriate replace steel ground wire with optical ground wire	Refurbishment, replacement and staged replacement	RIT-T completed	No change
Transmission Line Insulator Replacement	Various	10	2025	Selected insulators	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2023 to 2025	Market and reliability impact	Like-for-like replacement of retired assets, where appropriate replace disc strings with composite strings	Refurbishment, replacement and staged replacement	RIT-T completed	No change
Murray Switching Station to Dederang Terminal Station No. 1 and 2 lines tower upgrades	MSS-DDTS	35	2025 (Practical completion achieved)	Selected towers/ tower parts	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2024 to 2026	Market and reliability impact	Existing asset reinforcement, no replacements	Refurbishment, replacement and staged replacement	RIT-T completed	Change to completion date
Transmission Line Ground Wire Replacement - Phase 2	SYTS-MLTS	13	2026	Selected ground wire & conductor sections	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2024 to 2026	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	RIT-T completed	Change to cost
Templestowe Terminal Station Transformer and 66kV Circuit Breaker Replacement	TSTS	89	2027	Two 220/66kV transformers, two 66kV minimum oil circuit breakers, eleven 66kV bulk oil circuit breakers, and install new protection and control systems	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2025 to 2027	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	RIT-T completed	No change
Transmission Line Insulator Replacement Program	HWTS-SMTS 2, SMTS-SYTS 1, SYTS-KTS, CSTS-ROTS, MLTS-TRS-APD	45	2027	Selected 500kV insulators	Condition of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2025 to 2027	Market and reliability impact	Like-for-like replacement of retired assets, where appropriate replace disc strings with composite strings	Refurbishment, replacement and staged replacement	2025	Change to cost
Rectification of Low Transmission Line Conductor Spans: Stage 1: Ground Clearance < 6m at Maximum Operating Temperature	220kV spans along BATS-BETS and HWPS-ROTS, CBTS-ERTS	38	2027	No retirement	Conductor ground clearance to be increased to reduce public safety risk when the circuit is at maximum operating temperature	N/A	Market and reliability impact	Various solutions including re-tensioning of spans, replacing insulators, replacing structures, to increase ground clearance	Staged program	2025	Change to cost
Sydenham Terminal Station 500kV Gas Insulated Switchgear (GIS) Replacement	SYTS	115	2028	500kV GIS	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2025 to 2027	Market and reliability impact	New 500kV air-insulated switchgear (AIS) to replace the GIS	Refurbishment, replacement and staged replacement	RIT-T completed	Change to cost and completion date
Moorabool Terminal Station Circuit Breaker Replacement	MLTS	69	2028	Eight 500kV circuit breakers and ten 220kV circuit breakers	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2025 to 2027	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	RIT-T completed	Change to cost, scope and completion date
Heywood to Alcoa Portland 500 kV Line Replacement	HYTS-APD	TBA	2028	Towers replacement (with associated conductors / insulators) and tower refurbishment (parts replacement)	Condition of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2026 to 2028	Market and reliability impact	Like-for-like replacement of retired assets, and refurbishment where economic	Refurbishment, staged replacement live-line, staged replacement de-energised; replacing towers with poles	2025	Change to cost, scope and completion date

Project Name	Location	Total Cost (\$M nominal)	Target Completion (December)	Network Assets to be Retired	Reasons for Retirement	Date of Retirement	Impact of Inaction	Proposed Replacement	Options Considered	Expected timing of RIT-T PSCR	Changes Compared with Last Plan
Red Cliffs Terminal Station Transformer Replacement	RCTS	93	2028	Two 220/22kV transformers and two 220/66kV transformers	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2026 to 2028	Market and reliability impact	Two 66/22 kV transformers and two 150MVA 220/66kV transformers	Refurbishment, replacement and staged replacement	RIT-T completed	Change to cost and scope
South Morang Terminal Station 330/220kV Transformer Replacement	SMTS	158	2028	Two 700 MVA 330/220 kV transformers	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2026 to 2028	Market and reliability impact	In service and spare 700 MVA 330/220 kV transformers	Refurbishment, replacement and staged replacement	RIT-T completed	Change to cost and completion date
SHTS Transformer and Circuit Breaker Replacement	SHTS	70	2029	Two 150MVA 220/66kV transformers and twelve 66kV circuit breakers	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2026 to 2028	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	RIT-T completed	Change to cost and completion date
Thomastown Terminal Station Circuit Breaker Replacement	TTS	36	2029	One 220kV circuit breaker and fourteen 66kV circuit breakers	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2027 to 2029	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	2025/26	Change to cost
Rowville Terminal Station Gas Insulated Line (GIL) Replacement	ROTS	81	2029	ROTS GIL (ROTS-SMTS 500kV and ROTs-TTS 220kV circuit)	Condition of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2026 to 2028	Market and reliability impact	Replace with cable	Refurbishment, replacement with 500kV cable, replacement with 220 and 500kV cable, replacement with 500kV overhead Line and undergrounding 220 kV lines exits	2026	Change to cost and completion date
Transmission 66kV, 220kV and 330kV Ground-wire Replacement Program	Various 66kV, 220kV and 330kV circuits	14	2029	Selected steel ground wire sections	Condition of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2027 to 2029	Market and reliability impact	Like-for-like replacement of retired assets, optical ground wire will be installed where needed	Replacement and staged replacement	From 2027 to 2029	New project
Transmission 66kV, 220kV and 330kV Ground-wire Replacement Program	Various 66kV, 220kV and 330kV circuits	18	2029	Selected steel ground wire sections	Inadequate short circuit rating of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2027 to 2029	Market and reliability impact	Replacement of retired assets with ASCR conductor	Refurbishment, replacement and staged replacement	From 2027 to 2029	New project
Transmission Line Insulator Replacement	Various 220kV, 275kV, 330kV, and 500kV circuits	69	2029	Selected insulators	Condition of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2028 to 2029	Market and reliability impact	Like-for-like replacement of retired assets, where appropriate replace disc strings with composite strings	Refurbishment, replacement and staged replacement	From 2027 to 2029	New project
Thomastown Terminal Station B4 220/66kV Transformer Replacement	TTS	50	2031	B4 220/66kV Transformer	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2032 to 2034	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	2031	New project
Moorabool Terminal Station Shunt Reactor Replacement	MLTS	40	2030	No1 220kV shunt reactor	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2027 to 2029	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	2027	Change to cost, scope and completion date
Ballarat Terminal Station B2 220/66kV Transformer Replacement	BATS	49	2032	B2 220/66kV Transformer	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2029 to 2031	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	2028	Change to cost
Newport Power Station 220kV Gas Insulated Switchgear (GIS) Replacement	NPSD	172	2032	220 kV GIS	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2028 to 2030	Market and reliability impact	Replace with GIS	Refurbishment, replacement and staged replacement	2025/26	Change to cost and completion date
Morwell Terminal Station 66kV Circuit Breaker Replacement	MWTS	36	2031	Thirteen 66kV circuit breakers	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2029 to 2031	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	2028	Change to cost

Project Name	Location	Total Cost (\$M nominal)	Target Completion (December)	Network Assets to be Retired	Reasons for Retirement	Date of Retirement	Impact of Inaction	Proposed Replacement	Options Considered	Expected timing of RIT-T PSCR	Changes Compared with Last Plan
Loy Yang Power Station and Hazelwood Terminal Station 500kV Circuit Breaker Replacement - Stage 2	LYPS & HWTS	77	2030	Fourteen 500kV circuit breakers	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2028 to 2030	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	2026/27	Change to cost
Keilor Terminal Station 500/220kV Transformer Replacement	KTS	305	2032	A2, A3 and A4 750MVA 500/220kV transformers, No.1 220kV capacitor bank circuit breakers and B4 150 MVA 220/66 kV transformer	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2029 to 2031	Market and reliability impact	Replacement with 1000MVA 500/220kV transformers and one 150 MVA 220/66kV transformer	Refurbishment, replacement and staged replacement	RIT-T PSCR Published October 2024	Change to cost and completion date
Dederang Terminal Station H3 330/220kV Transformer and Circuit Breaker Replacement	DDTS	56	2032	One 340MVA 330/220kV transformer and two 330kV Circuit Breakers	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2029 to 2031	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	2028	Change to cost and completion date
South Morang Terminal Station 500kV Gas Insulated Switchgear (GIS) and F2 500/330kV Transformer Replacement	SMTS	335	2032	500kV GIS and the F2 1000 MVA 500/330 kV transformer	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2030 to 2032	Market and reliability impact	New 500kV AIS to replace the GIS. Replace with 1000 MVA 500/330 kV transformer	Refurbishment, replacement and staged replacement	RIT-T PSCR Published June 2024	Change to cost and completion date
Transmission Line 220kV Ground-wire Replacement Program	Various 220kV circuits	7	2032	Selected steel ground wire sections	Condition and age of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2030 to 2032	Market and reliability impact	Like-for-like replacement of retired assets, OPGW will be installed where needed.	Replacement and staged replacement	From 2030 to 2032	New project
Transmission 66kV, 220kV and 330kV Ground-wire Replacement Program	Various 220kV circuits	17	2032	Selected steel ground wire sections	Inadequate short circuit rating of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2030 to 2032	Market and reliability impact	Replacement of retired assets with ASCR conductor	Replacement and staged replacement	From 2030 to 2032	New project
Transmission Line Insulator Replacement	Various 220kV, 275kV, 330kV, and 500kV circuits	98	2032	Selected insulators	Condition of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2028 to 2032	Market and reliability impact	Like-for-like replacement of retired assets, where appropriate replace disc strings with composite strings	Refurbishment, replacement and staged replacement	From 2030 to 2032	New project
Rectification of Low Transmission Line Conductor Spans - Stage 2	Various 220kV and 330kV spans	88	2032	N/A	Conductor ground clearance to be increased to increase the public safety of the circuit at maximum operating temperatures	N/A	Market and reliability impact	N/A	Various solutions using re-tensioning of spans, replace insulators, modify structure, to increase ground clearance	From 2030 to 2032	New project
Replacement of Corroded Members at Various Transmission Towers	Towers along various 220 and 500kV circuits	9	2032	Part/member replacement of selected towers	Condition of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	N/A	Market and reliability impact	N/A	Refurbishment of tower, painting.	From 2027 to 2032	New project
Tower Strengthening for Increased Network Resilience	Towers along various circuits 220kV, 500kV circuits	31	2032	Part/member strengthening of selected towers	Increase strength of selected Towers to improve circuit withstand for extreme convective downdraft weather events	N/A	Market and reliability impact	N/A	Strengthening of towers, replacement of structures.	From 2027 to 2032	New project
Bulk Oil 66 kV Circuit Breaker Replacement	FTS, GNTS & HOTS	9	2032	Fifteen 66kV circuit breakers	Condition of assets presenting a safety, supply, environmental and collateral damage risk in the event of an asset failure.	From 2030 2032	Market and reliability impact	Like-for-like replacement of retired assets	Refurbishment, replacement and staged replacement	2029	New project

2.3. Regulatory Investment Test for Transmission (RIT-T) Schedule

Table 1 shows the asset renewal RIT-Ts that are in progress. AusNet Services' RIT-T consultations can be found at: [Regulatory investment test - AusNet \(ausnetservices.com.au\)](https://ausnetservices.com.au/regulatory-investment-test)

Table 1: AusNet Asset Renewal RIT-Ts In-Progress

RIT-T Title	Project Name	Location	Network Assets to be Retired	Latest RIT-T Report	Consultation Closes
Tower replacement on the Heywood to Alcoa Portland 500kV line	Heywood to Alcoa Portland 500 kV Line Replacement	Heywood Terminal Station to Alcoa Portland Smelter	Towers replacement (with associated conductors / insulators) and tower refurbishment (parts replacement)	Project Assessment Draft Report	11 Oct 2024
Maintain reliable transmission network services at South Morang Terminal Station	South Morang Terminal Station 500kV Gas Insulated Switchgear (GIS) and F2 500/330kV Transformer Replacement	South Morang Terminal Station (SMTS)	500kV GIS and the F2 1000 MVA 500/330 kV transformer	Project Assessment Draft Report	24 Oct 2024
Maintain reliable transmission network services at Keilor Terminal Station	Keilor Terminal Station 500/220kV Transformer Replacement	Keilor Terminal Station (KTS)	A2, A3 and A4 750MVA 500/220kV transformers, No.1 220kV capacitor bank circuit breakers and B4 150 MVA 220/66 kV transformer	Project Assessment Draft Report	30 Jun 2025
Transmission Insulator Replacement 500kV & 220kV	Transmission Line Insulator Replacement Program	HWTS-SMTS 2, SMTS-SYTS 1, SYTS-KTS, CSTS-ROTS, MLTS-TRS-APD	Selected 500kV insulators	Project Specification Consultation Report	23 June 2025

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