AusNet

TD-0014572 Tranche1 Rectification Low Spans - TL

Business Case

LoB: Transmission

Sponsor & Benefit Owner: [C-I-C], EGM Transmission

Initiative Owner: [C-I-C], Principal Engineer, Transmission Lines

Prepared By: [C-I-C] Principal Engineer, Transmission Lines / [C-I-C] Technical Writer

Approval Date: Friday, 19 December 2025

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1. Executive Summary

1.1. Project Overview

This business case seeks approval of $42.3 million CAPEX (Including direct + CFC +OH , MR and WDV) to raise 23 low spans as the first phase of a two Tranche program[1]. This investment is necessary to meet safety obligations under the Electricity Safety Act, which requires AusNet to minimise hazards and risks 'as far as practicable'(AFAP).

Low spans are defined as Transmission line spans where ground clearance at Maximum Operating Temperature (MOT) is below the industry standard specified in AS/NZS 7000 Overhead Lines.

Risk Assessment Outcome

AusNet has undertaken a comprehensive risk-based review of transmission line ground clearances, applying the methodology outlined in AMS 10-79 *Transmission Line Conductors* and aligned with AMS 10-75-21 *Management of Transmission Ground Clearance*, as referenced in the Electricity Safety Management Scheme (ESMS 10-01). Through a detailed risk assessment 114 spans were identified across the network with a high risk of flashover at MOT. These spans traverse agricultural and public areas, creating significant safety hazards for landholders, farmers, and the public due to vehicle access and activities beneath the lines. The cohort of 114 spans present a risk level that economically warrants rectification, which is planned for completion by 2032 over the current and next TRR period.

This project - Tranche 1 will address 16 of the 114 high-risk spans, including six Priority 1 spans (ground clearance < 6.0 m), which AusNet committed to rectify as soon as practicable following engagement with Energy Safe Victoria. Increasing the tension on these six Priority 1 spans requires adjacent spans connected to them to also be re-tensioned. This adds 10 high-risk Priority 2 spans (ground clearance < 6.7 m) and seven low priority spans (< 7.5 m) which are within associated strain-to-strain line sections. [C-I-C]

Consequences of Inaction

- Increased likelihood of public safety incidents
- Increased likelihood of regulatory remediation orders
- Reputational damage and loss of stakeholder trust

A Regulatory Investment Test – Transmission (RIT-T) is currently underway, with the first stage, the Project Specification Consultation Report (PSCR), published on 25 November 2025. It is anticipated that there will be no disputes regarding the RIT-T, as there are no viable non-network alternatives to address the need for a safe easement environment for landholders, road users, and members of the public accessing the easement. AusNet has also applied for an exemption from publishing the second stage, the Project Assessment Draft Report (PADR), and expects to complete the RIT-T process when the final stage, the Project Assessment Conclusion Report (PACR), is released around 31 March 2026.

[C-I-C]

[1] Tranche 2 is proposed in the 2027-32 Transmission Revenue Reset (TRR) submission.

[C-I-C]

[C-I-C]

1.2. Solution Recommendation

The project seeks to rectify low spans using the most cost-effective and safest construction solution, following a comprehensive evaluation of practical options and outage constraints. Multiple solutions were assessed, including conductor re-tensioning, replacing vertical strain insulators with horizontally aligned floating strain insulators, crossarm inversion or replacement, a combination of all of these and the installation of taller structures—either strengthened lattice towers or steel poles.

Including adjacent spans in the Priority 1 work packages improve overall program efficiency because adjustments to one span affect others, so a holistic approach addressing entire sections creates balanced loads, proper clearances, and minimises future rework. Crews already mobilized in the same corridor can complete both priorities in one deployment, optimizes resources and leverages economies of scale. This approach reduces repeated disruptions for landholders already consulted about low spans and helps rebuild trust and improve stakeholder relationships.

The recommended solution for each of the 23 low spans is shown in the table below. In summary, this project is proposing to increase the conductor tension on 21-line spans, replace 7-towers with new taller steel poles with new insulators, and strengthen an existing tower.[2]

Item No	Span ID	Person Exposure	Span Risk Category	Solution
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

[2] The detailed scope of this project can be found in Appendix C: Tranche 1 rectification Estimate.

[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Holistic approach

Multiple factors influence the solutions, necessitating a comprehensive approach. Rather than focusing on individual spans, it's essential to address entire strain-to-strain sections, as conductor spans are interconnected and adjusting one impacts the others. Some spans may still require re-tensioning or elevation changes to balance loads and maintain proper clearances.

Placing a taller pole strategically, such as at S207 or S231, rather than only at the section's lowest point, improves overall optimisation, enhances clearance, and minimises future rework by resolving several low-span issues simultaneously.

Tower replacements

Following detailed evaluation, conductor re-tensioning was chosen for minor span adjustments. For greater height requirements, replacing towers with taller poles was preferred over combination solutions (i.e., replacing suspension strings with floating strain, re-tension of conductors, and inversion of crossarms), since it avoids extensive tower and foundation strengthening and allows safer, cost-comparable construction by enabling line bypass during replacement.[3]

Steel poles were selected as the preferred option due to their lower cost and reduced visual and community impacts relative to lattice towers. Ongoing engagement with landholders has provided valuable input into the development of the solution; however, consultation on operational and maintenance requirements has not yet been undertaken. This includes discussion of maintenance approaches for monopoles, which are expected to require Elevated Work Platform (EWP) access and may have different impacts than current tower-climbing maintenance practices. Delivery risks remain, including cultural heritage, access and construction-related considerations arising from the ground disturbance required during installation. These risks need to be managed and are identified in Delivery risks Section 3.1.

Dependencies

Item No	Project Dependency Details and Description
NA	NA

This work has no dependencies on other projects. However, since the BATS–BETS line is near the Western Renewable Link (WRL) project, so proactive coordination with the WRL team will be essential to align engagement activities, minimise landholder disruption, and ensure that project timelines and stakeholder expectations are managed effectively.

[3] Initial discussions indicate pole replacement require daily outages which must be scheduled outside the restricted window.

1.3. Solution Strategic Alignment

Strategic Pillar	Applicable <Y/N>
Safely deliver our customer's energy needs today Making value-for-money investments to create resilient, reliable and safe networks and deliver a simple experience that customers can count on.	Yes
Create the energy network of tomorrow Investing in network and non-network solutions to unlock renewables capacity and consumer energy resources, supporting electrification while responsibly decarbonising gas.	No
Enable the transition to a net zero future Building trust and delivering social value, reducing our environmental impact, and operating efficiently.	Yes

Funding Lines of Business	Work Category	Work Code	Work Code Name
Transmission % Split: 100%	Replacement	2001	Lines

Project included in 5-year Regulatory Reset submission?	Reset Submission	Regulatory Reset Category	Reset Amount ($'000)
No.	n/a	Tx - Replacement Other	0.00

This project was not funded under the current Transmission Revenue Reset (TRR). However, to address the safety requirements 'as far as practicable' and Energy Safe commitments, we have elected to commence work as soon as possible. To enable this, funding has been drawn from the current internal CAPEX portfolio.

A portion of the project scope will be included in the submission for the 2027–32 regulatory period, with an estimated cost of $24.2 million as part of the next TRR.

Title	Current Year	Outer Years	Total
Requested Funding ($'000)	2.36	39.53	41.90
Capital Plan ($'000)	6.37	39.34	45.71
Variance ($'000)	**4.01**	**-0.19**	**3.81**

2. Investment Analysis

A total of $42.29 million capital (inc. CFCs, OHs and Management Reserve) and $0.0 PROPEX is required for the life of the project. No incremental OPEX cost is likewise anticipated for the project.

2.1. Total Estimated Expenditure

Project Expenditure Forecast

Project Expenditure for approval (nominal)	Calendar year (first 5 years)					Lifecycle Total
	2025	2026	2027	2028	2029	
Direct Capital expenditure	2,088,347.0	10,854,165.4	11,738,389.0	11,110,329.8	1,361,526.1	37,152,757.3
Overheads	104,835.0	544,879.1	589,267.1	557,738.6	68,348.6	1,865,068.4
Capitalised Finance Charges	46,944.7	356,465.3	271,218.9	257,772.8	34,772.8	967,174.6
Project Delivery Budget (SAP Capex budget)	**2,240,126.7**	**11,755,509.8**	**12,598,875.1**	**11,925,841.1**	**1,464,647.6**	39,985,000.3
Management Reserve	52,974.8	633,489.2	649,326.4	665,559.6	233,897.2	2,235,247.3
Total CAPEX for Approval (incl risk, CFCs & OHs)	**2,293,101.5**	**12,388,999.1**	**13,248,201.5**	**12,591,400.7**	**1,698,544.8**	42,220,247.6
Operating Expenditure for approval (Project Opex)	-	-	-	-	-	-
Written down value of assets retired/sold	70,040.2	-	-	-	-	70,040.2
Total Estimated expenditure for approval (nominal)	**2,363,141.7**	**12,388,999.1**	**13,248,201.5**	**12,591,400.7**	**1,698,544.8**	**42,290,287.8**

Analysis of Investment Options

Analysis of investment options ($ - Present Value)	Capex	Opex	Total Financial Costs	Potential Costs	Other Economic Costs & (Benefits)	Total PV Cost	PV Cost Ratio (compared to BAU)	Financial outcome (in present value terms) - compared to BAU - excl non cash costs and benefits	
BAU- Manage risks by landowner engagement, letter drops, & permits to work	-	34,375	34,375	74,224,583	46,518,674	120,777,632	1.00		✗
Option 1 Raise conductors using Structure, Line Tension & Insulator Modification	38,558,195	8,594	38,566,789	25,817,700	-	64,384,489	0.53	*Excluding Economic costs and benefits, this Option saves $25,781k Opex and spends $38,558m more Capex compared to BAU*	✗
Option 2 - Includes Replacement of Tower to Pole Method	37,116,662	8,594	37,125,256	25,817,700	-	**62,942,956**	**0.52**	*Excluding Economic costs and benefits, this Option saves $25,781k Opex and spends $37,117m more Capex compared to BAU*	✓

2.2. CAPEX Breakdown

Capex Breakdown (incl mngt reserve - nominal)	Calendar year (first 5 years)					Lifecycle Total
	2025	2026	2027	2028	2029	
Design	235,867.0	1,452,157.5	-	-	-	1,688,024.5
Internal Labour	167,480.0	1,568,940.9	1,608,164.4	1,648,368.5	563,192.9	5,556,146.6
Materials	15,000.0	1,315,672.6	1,348,564.4	460,759.5	-	3,139,996.5
Plant & Equipment	-	37,205.5	50,848.1	52,119.4	4,451.7	144,624.6
Contracts	-	6,113,030.3	8,354,474.4	8,563,336.3	731,451.5	23,762,292.5
Meter Costs	-	-	-	-	-	-
Other	1,670,000.0	367,158.8	376,337.7	385,746.2	62,430.0	2,861,672.6
Management Reserve (incl Risk)	52,974.8	633,489.2	649,326.4	665,559.6	233,897.2	2,235,247.3
Total Capex	2,141,321.8	11,487,654.6	12,387,715.5	11,775,889.4	1,595,423.3	39,388,004.6

2.3. OPEX Breakdown

Opex excl Project implementation (nominal)	Calendar year (first 5 years)					Lifecycle Total
	2025	2026	2027	2028	2029	
BAU Total Opex	6,000.0	6,765.0	7,627.5	8,600.0	9,696.6	38,689.1
Incremental Opex Costs - Option 2 - Includes Replacement of Tower to Pole Method	-	-	-	-	-	-
Opex Savings - Option 2 - Includes Replacement of Tower to Pole Method	(4,500.0)	(5,073.8)	(5,720.7)	(6,450.0)	(7,272.4)	(29,016.9)
Net Budget impact (split by division below)	(4,500.0)	(5,073.8)	(5,720.7)	(6,450.0)	(7,272.4)	(29,016.9)
New Cost profile	**1,500.0**	**1,691.3**	**1,906.9**	**2,150.0**	**2,424.1**	**9,672.3**

Project results in Incremental OPEX	Annual Incremental OPEX Impact ($'000)	Business Owner	Cost Centre
No	-	-	-

2.4. Benefits

Benefit Category	Benefit Description	Anticipated Benefit	Current Benefit Baseline	Benefit Assumptions	Benefit Realisation Start Date	Benefit Realisation End Date	Cost Centre	LOB Benefit Owner
Safety	• Mitigation of the risk of flashover. • Provides a safe environment for landholders, members of the public under the easement. • Strong alignment with strategic pillar 1	• Meeting our commitment to ESV. • Gain stakeholder trust and reduced safety risk by raising the high risk spans so they can always operate their equipment safely.	• AusNet will retain risks in public safety associated with low spans, e.g., flashover resulting to injury or worse, death.	Rectification significantly reduces the safety risk and meet the safety regulator's expectations.	14/02/2026	30/04/2029	13260	[C-I-C]
Compliance	• Compliance with Electricity Safety Act (AFAP) principle • Alignment with Asset management objective enablers.	• Reduces risk of direction or penalties imposed by Energy Safe. • The avoidance of corporate effort in the administration in the event something goes wrong	• The retention of a probability weighted risk 42.6M in ESV penalties and worst-case value of flashover event.	A potential of $25.8M in fines from Energy Safe due to breach of our ESMS, Compliance requirements, etc., including probability weighted consequence of $36.8M due to risks of a flashover and monetary value of impacting corporate reputation.	14/05/2026	30/01/2029	13260	[C-I-C]

3. Project Risks & Schedule

3.1. Risk Assessment

[C-I-C]

Refer to Risk Assessment Criteria Summary

3.2. Project Schedule

Key Milestones	Planned Date	Actual Date
Project Selection (Stage Gate 2) (Group PMO to populate)	6/06/2024	6/06/2024
Business Case Approval (Stage Gate 3) (Group PMO to populate)	19/12/2025	TBC
Handover to Project Manager	22/12/2025	TBC
RIT-T Completion	31/03/2026	TBC
Design Complete (Stage Gate 4)	20/03/2026	TBC
Build Complete (Stage Gate 5)	29/02/2029	TBC
Asset In Service (AIS)/Go-Live	29/02/2029	TBC
Benefit Realisation Start Date	31/02/2029	TBC
Close (Stage Gate 6)	30/04/2029	TBC

4. Approvals

Title	Name	Date Approved	Evidence
GM Network Management	[C-I-C]	[DD/MM/YY]	-
GM, Regulated Investments	[C-I-C]	[DD/MM/YY]	-
LoB EGM (Sponsor)	[C-I-C]	[DD/MM/YY]	-
CFO	[C-I-C]	[DD/MM/YY]	-

A. Appendix: Options Analysis

A.1. Options Considered

Three options have been assessed. The below table provides details of the options considered:

Continue to use administrative controls to manage the risk of contact or flashover associated with low spans, e.g., permit to work, letter drops reminding landholders what activities are permitted/ not permitted.	**Raise conductor spans by re-tensioning conductor spans, replacing suspension (vertical) insulators with horizontally aligned floating strain insulators, inverting crossarms, or combining any/all the above activities.**	**Replace existing tower with taller steel pole with new floating strain insulators, then re-tension conductors along the strain-to-strain section.**
BAU **(Do Nothing)**	**(Option 1)**	**Recommended Option** **(Option 2)**
• Retain all risks associated with safety and the possible event of flashover • Not being able to demonstrate that we have applied the Electricity Safety Act 'as far as practicable' for high-risk low spans • Manage the risks associated with low spans by liaising with the landholders about what is required for living underneath transmission lines, undertaking letter drops for their information and issuing permits to work, when necessary. • Continue to visit low span sites, e.g., dams, embankments, to confirm no additional works have occurred. • The BAU option relies on the landholder to "do the right thing" when it comes to complying with AusNet's requirements, which cannot guarantee compliance.	• Option 1 provides a solution that leverages existing infrastructure without requiring new structure installation. This approach encompasses section re-tensioning, upgrading suspension insulator sets to floating strain sets, converting suspension towers to strain configurations through cross arm modifications, and strengthening existing towers. The scope also includes provisional works for potential footing reinforcement to confirm structural integrity. • By utilising and enhancing existing assets, this option offers an effective mitigation strategy that addresses clearance requirements while minimising the need for additional land acquisition and new construction activities. • Including nearby Priority 2 spans within Priority 1 work packages improves efficiency and reduces costs on the overall program. Crews already mobilized in the same corridor can complete both priorities in one deployment, minimizing duplicate travel, setup, and permitting. This approach optimizes resources, leverages economies of scale, [C-I-C].	• This option offers an alternative mitigation strategy through the installation of new pole structures rather than tower conversion. • This approach eliminates the need for extensive strengthening works on existing towers, such as cruciform leg reinforcement and/or footing modification, while effectively mitigating the risk of unbalanced tension forces that could result from re-tensioning isolated sections. • By installing new poles, this option provides a streamlined solution that avoids the complexity and potential structural risks associated with modifying existing infrastructure. • Certain spans will still make use of re-tensioning, balancing of tensions and floating strain method in conjunction with the Transmission Poles. • Including nearby Priority 2 spans within Priority 1 work packages improves efficiency and reduces costs. Crews already mobilized in the same corridor can complete both priorities in one deployment, minimizing duplicate travel, setup, and permitting. This approach optimizes resources, leverages economies of scale, [C-I-C].

Rationale for choosing Option 2

Option 2 emerges as the preferred solution that addresses safety requirements while providing long-term asset reliability, regulatory compliance and cost-efficient solution.

This approach eliminates the need for major tower strengthening, such as cruciform leg conversions, while mitigating risks from re-tensioning isolated spans. Where practical, constructing new poles provides a simpler, more robust solution—reducing structural complexity, avoiding modification risks, and improving line resilience by minimizing cascading failures from unbalanced loads.

Transmission poles are a standard structure in the transmission network with 81 installed along the 220kV network and AusNet's maintenance partner trained to inspect and maintain these structures.

Option 2 offers project simplicity, an optimised asset and better value for money compared to all other solutions

Rationale for why Option 1 was not chosen

Option 1 was rejected due to significant technical and implementation risks. Converting suspension towers to strain towers would introduce continuous unbalanced longitudinal (twisting) loads, requiring extensive strengthening of towers and potentially, the foundations. These loads would persist for the structure's service life, increasing engineering risk compared to Option 2.

Although reinforcements could improve tower capacity, the risk profile remains high. Additionally, retrofitting aging infrastructure—such as converting suspension towers, reinforcing legs to cruciform, and strengthening foundations—adds complexity, scheduling challenges, and budget risks. These modifications increase the likelihood of delays from outage cancellations and extended construction times, further impacting timelines and costs.

Given the high technical risk, increased effort, and reduced value for money. Option 1 is a rejected solution. Option 2 is therefore preferred.

A.2. Least Cost Analysis

Analysis of Investment Options

Analysis of investment options ($ - Present Value)	Capex	Opex	Total Financial Costs	Potential Costs	Other Economic Costs & (Benefits)	**Total PV Cost**	PV Cost Ratio (compared to BAU)	Financial outcome (in present value terms) - compared to BAU - excl non cash costs and benefits	
BAU- Manage risks by landowner engagement, letter drops	-	34,375	34,375	74,224,583	46,518,674	120,777,632	1.00		✗
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B. Appendix: Attachments
Required Documentation (Networks only)

	Response (Y/N)	Attachment if applicable (Embedded document)
Financials		
Has a Financial Model with an NPV been completed?	Y	TD-0014572 NPV ver1.xlsm
Has a detailed cost estimate and benefit assumptions assessment been completed?	Y	ES_TD-0014572 - Low Spans - Priority DCS - TD-0014572 Low Spans -Priority
Has a Customer Contributions Model been completed?	N/A	-
Cultural Heritage		
Is a Cultural Heritage Checklist required for this project? If yes, please see additional documentation table.	Y	On-going
Delivery		
Has a Scope of Works / Initiative Brief /Business Requirements been completed?	Y	TD-0014572 Tranche1 Rectificatic
Have the relevant project delivery team been engaged?	Y	
Has a project manager been assigned?	Y	Abdul Hannan
Environmental Sustainability		
Is an Environmental Sustainability Checklist required for this project? If yes, please see additional documentation table.	N	<n/a>
Technical		
Are there any additional technical documents to be included? E.g. Asset Condition Report, Asset Management Strategy, Network Planning Report.	Y	Low span risk assessment update A

Additional Documentation

	Response (Y/N)	Attachment if applicable (Embedded document)
Change Impact Assessment		
Has a Change Impact Assessment been carried out?	N/A	-
Cultural Heritage		
Has a cultural heritage checklist been completed?	N	On-going.
Have the relevant teams been engaged?	Y	Land Management Team, Customer Engagement Team, Project Management Team, Planning Team
Customer and Community		
Is there an impact to Customer and/ or Community?	Y	Customer Engagement Team is currently liaising with Customers/ Land holders
Have you engaged with the Customer and Community team?	Y	See above
Environment		
Has an Environmental Checklist been completed?	N	On-going
Have the relevant teams been engaged with?	Y	On-going
Financials		
Will the project result in any Gifted Assets?	N	N/A
Have the Write Down Value (WDV) details been assessed?	Y	TD-0014572 WDV Template Raising Low
Land and Property		
Have the Land and Property team been engaged with?	Y	[C-I-C] have been engaged.
Are there any relevant documents to be added?	Y	On-going
Safety		
Have the HSEQ team been engaged with?	N	<n/a>

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