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Managing risk on Line 94M (Beryl-Crudine Ridge)

Notification of MCC Assessment

Region: Central West

Date of issue: 1 July 2026

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2. Executive Summary

The 'Managing risk on Line 94M (Beryl-Crudine Ridge)' Regulatory Investment Test for Transmission (RIT-T) was completed on 13 December 2025. This RIT-T considered three credible options:

• Option 1 – Remediate known condition issues on the line

• Option 2 – Rebuild the entire line, replacing wood poles with concrete or steel pole structures

• Option 3 – Rebuild the entire line and replace existing conductors.

The RIT-T identified Option 1 as the preferred option as it maximised the net present value of the net economic benefit.

Since completion of the RIT-T, we ran a competitive tender process for the works required to remediate known condition issues on the line under Option 1, which has resulted in the estimated capital costs increasing by approximately 40 per cent (from $9.34 million to $13.05 million, in 2025/26 dollars). As a result, we have performed a Material Change in Circumstance (MCC) Assessment to ascertain whether this increase constitutes a MCC as contemplated in the National Electricity Rules (NER)[1]. Specifically, given the cost increase is outside of the 25 per cent increase tested in the Project Assessment Conclusions Report (PACR) capital cost sensitivity, we consider it prudent to undertake an MCC Assessment to determine whether the preferred option has changed. In this MCC Assessment we refer to this as whether an 'MCC event' has occurred.

Section 3.2 of this MCC Assessment outlines the underlying factors affecting the cost. For Option 1, a Class 2 estimate with an accuracy of +/- 10 per cent was developed using our MTWO cost estimating system and market pricing obtained through a competitive tender process. This was based on detailed design with a higher level of accuracy than the estimate available at the time the PACR was published. Options 2 and 3 remain within +/- 25% of the central capital cost estimate.

While we have not explicitly applied the Association for the Advancement of Cost Engineering (AACE) international cost estimate classification system, we note that the current estimates for Options 2 and 3 are considered to be at an accuracy of +/- 25 per cent and align with the accuracy range of a 'Class 4' estimate, as defined in the AACE cost estimate classification system. In this MCC Assessment, labour, plant, and other contractual costs were significantly higher than those forecast in the PACR. The primary contributors to these increases were procurement costs, construction contract costs, and internal resource costs. The key drivers behind these increases are detailed in section 3.2.

We expect to reach the point of Financial Investment Decision (FID) within the next three months and therefore we do not anticipate further cost increases.

Market Benefits and Net Present Value

Through this MCC Assessment we have demonstrated that there is no material change to the net benefits of Option 1.

[1] As per clause 5.16.4(z3) of the NER

The Net Present Value (NPV) results are presented below. Option 1 remains the preferred option, with its NPV increasing from $2.34 million in the PACR to $11.05 million in this MCC Assessment. Despite a 40% increase in capex, higher avoided risk costs more than offset the additional capex, particularly in the later years of the analysis. The higher avoided risk costs are driven by updated bushfire risk modelling which reflects material enhancements to ignition, weather, and asset impact modelling resulting in higher and more spatially accurate risk estimates.

Table 2-1 Original and revised NPV of net economic benefits – weighted scenario ($m, 2025/26)

Assessment	Option 1	Option 2	Option 3	Preferred Option
Original (as presented in the PACR)	2.34	-19.76	-25.81	Option 1
Revised (MCC Assessment)	11.05	8.48	-0.27	Option 1

Bushfire risk costs have increased materially due to the updated bushfire risk modelling as reflected under environmental cost in the analysis.

This MCC Assessment confirms that Option 1 remains the preferred option for Managing risk on Line 94M (Beryl-Crudine Ridge). We therefore have concluded that an MCC event has not occurred. This MCC Assessment includes a statement that the preferred option identified remains the preferred option and sets out supporting information necessary to demonstrate that the preferred option identified remains the preferred option in section 5 (MCC Assessment results).[2]

[2] As per clause 5.16.4(z4B)(1) of the NER

3. Context and purpose of this report

On 13 December 2025 Transgrid completed the Regulatory Investment Test for Transmission (RIT-T) for Managing risk on Line 94M (Beryl-Crudine Ridge). This RIT-T considered three credible options outlined in the table below.

Table 3-1 Summary of credible options as presented in the PACR

Option	Description
1	Remediate known condition issues on the line
2	Rebuild the entire line, replacing wood poles with concrete or steel pole structures
3	Rebuild the entire line and replace existing conductors

3.1. Background to the RIT-T

Line 94M is a 132 kV line between Beryl substation and Crudine Ridge Wind Farm. The line consists of one part originally built in 1976 as a Mount Piper 132 kV to Beryl substation. It was cut in to Crudine Ridge Wind Farm in 2020 with 46 double circuit structures over a route length of 13.7 km. The double circuit section is a negotiated asset and was outside the scope of the RIT-T. The section to Mount Piper was given the new line number '9ML'. The remaining 94M (Beryl substation to the cut-in location) has a route length of 70 km strung over 264 structures.

The line has widespread condition issues on various line components, all of which increase the probability of asset failure. These issues present a bushfire and safety risk which Transgrid is obligated to manage. The most significant element of concern is the condition of the wood pole structures on the line. Line 94M was first placed into service in 1976, and the wood poles are approaching 50 years of age and toward the end of their nominal lives. The defect rate on the line has increased from 2017 onwards, which is in line with the expected condition of the asset based on its original design parameters. It is noted that the neighbouring Line 94B between Beryl and Wellington had amongst the highest defect rates of Transgrid's wood pole lines, prior to its replacement with concrete pole structures between 2012 and 2015.

If action is not taken, the condition of Line 94M is expected to expose us and our customers to increasing levels of risk going forward, as the likelihood of failure increases. There are safety and bushfire risks under the 'do nothing' base case, as well as higher expected costs associated with reactive maintenance that may be required under emergency conditions ('financial risks').

We manage and mitigate bushfire and safety risk to ensure they are below risk tolerance levels or 'As Low As Reasonably Practicable' ('ALARP'), in accordance with our obligations under the New South Wales Electricity Supply (Safety and Network Management) Regulation 2014 and our Electricity Network Safety Management System (ENSMS).[3] The proposed investment will enable us to continue to manage and operate this part of the network to a safety and risk mitigation level of ALARP. Consequently, it is considered a reliability corrective action under the RIT-T. A reliability corrective action differs from a 'market

[3] Our ENSMS follows the International Organization for Standardization's ISO31000:2018 Risk Management framework which requires following a hierarchy of hazard mitigation approach.

benefits'-driven RIT-T in that the preferred option is permitted to have negative net economic benefits on account of it being required to meet an externally imposed obligation on the network business.

3.2. Capital cost changes since completion of the RIT-T

Since completion of the RIT-T, we ran a competitive tender process for works required to remediate known condition issues on the line, which has resulted in the estimated capital costs for Option 1 increasing by approximately 40 per cent (from $9.34 million to $13.05 million in 2025/26 dollars). The cost estimates used in the RIT-T were based on our 'MTWO' cost estimating system which utilises historical average costs from recently implemented projects.

As Options 2 and 3[4] were not identified as the preferred option, a tender process was not undertaken for these options. Accordingly, capital costs for Options 2 and 3 have been updated based on the latest desktop analysis, further scoping and design work has not been progressed.

The table below shows that the capital costs for the latest capital costs for all options since the PACR.

Table 3-2 Original and revised capital cost ($m, 2025/26)

Cost	Option 1	Option 2	Option 3
Original (as presented in the PACR)	9.34	47.47	61.28
MCC Assessment (June 2026)	13.05	61.43	70.83

After receiving market pricing, labour, plant, and other contractual costs were significantly higher than those forecast in the PACR. The primary contributors to these increases were construction contract costs and internal Transgrid resource costs. The key drivers behind these increases are:

- Access track works
- Construction bench due to presence of rock
- Pole delivery to site by contractor
- Additional remediation scope such as earth and damper remediation, control ring, and Overhead Earth Wire (OHEW) replacement
- Site establishment costs increased due to additional two weeks in program.

3.3. Material change in circumstance provisions in the NER

The NER covers the situation where there has been a material change in circumstance following the publication of a PACR. It is important to note that the increase in the capital cost estimate for the project, whilst substantial, does not in itself mean that an MCC event has occurred for the purposes of the NER. The NER defines a *material change in circumstance* as including, but not being limited to, a change to:

- a change to the key assumptions used in identifying the identified need described in the PACR;
- one or more reopening triggers have been triggered; or

[4] Transgrid did not run a competitive tender process for Options 2 and 3 as they were not the preferred option at the conclusion of the RIT-T and therefore have not been progressed.

- a change in circumstances which, in the reasonable opinion of the RIT-T proponent, means that the preferred option identified in the PACR may no longer be the preferred option.

Pursuant to these NER provisions, we have undertaken this MCC Assessment to evaluate whether an MCC event has occurred as a result of changes to the capital cost and delivery timing of the options.

4. Approach to the MCC Assessment

This section outlines the inputs and assumptions used to complete the MCC assessment including the updated capital cost estimates.

4.1. Assessment against the base case

The costs and benefits of each option are compared against the base case. Under the base case, no investment is undertaken, we incur regular and reactive maintenance costs, and the line will continue to operate with an increasing level of risk.

We note that this course of action is not expected in practice. However, this approach has been adopted since it is consistent with AER guidance on the base case for RIT-T applications.[5]

4.2. Assessment period and discount rate

The RIT-T analysis spans a 20-year assessment period from 2023/24 to 2042/43.

Where the capital components of the credible options have asset lives extending beyond the end of the assessment period, the NPV modelling includes a terminal value to capture the remaining asset life. This ensures that the capital cost of long-lived options over the assessment period is appropriately captured, and that all options have their costs and benefits assessed over a consistent period, irrespective of option type, technology or asset life. The terminal values are calculated as the undepreciated value of capital costs at the end of the analysis period and can be interpreted as a conservative estimate for benefits (net of operating costs) arising after the analysis period.

A real, pre-tax discount rate of 7 per cent was adopted as the central assumption for the NPV analysis presented in the PACR, consistent with the AEMO's 2025 Inputs, Assumptions and Scenarios Report (IASR).[6] The RIT-T requires that sensitivity testing be conducted on the discount rate. We have therefore tested the sensitivity of the results to a lower bound and upper bound discount rate of 3.00 per cent and 10.0 per cent, respectively which are consistent with AEMO's 2025 IASR.

4.3. Approach to estimating option costs

We have estimated the capital and operating costs of the options based on the scope of works necessary together with costing experience from previous projects of a similar nature.

The RIT-T cost estimates were developed using our 'MTWO' cost estimating system. This system utilises historical average costs, updated by the costs of the most recently implemented project with similar scope. All estimates in MTWO are developed to deliver a 'P50' portfolio value for a total program of works (i.e., there is an equal likelihood of over- or under-spending the estimate total).[7]

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5 Transgrid notes that the AER RIT-T Guidelines state that the base case is where the RIT-T proponent does not implement a credible option to meet the identified need but rather continues its 'BAU activities. The AER define 'BAU activities' as ongoing, economically prudent activities that occur in the absence of a credible option being implemented.

6 AEMO, *2025 Inputs, Assumptions and Scenarios Report*, August 2025, pp.158.

7 For further detail on our cost estimating approach refer to section 7 of our Augmentation Expenditure Overview Paper submitted with our 2023-28 Revenue Proposal.

For this MCC Assessment, the cost estimate for Option 1 was developed with an Association for the Advancement of Cost Engineering (AACE) Class 2 estimate, based on a detailed design with a high level of accuracy. Contractor costs have been derived from market pricing obtained through a competitive tender process, reflecting that Option 1 was identified as the preferred option in the RIT-T. An accuracy of +/- 10 per cent for cost estimates is consistent with industry best practice and aligns with the accuracy range of a 'Class 2 estimate', as defined in the Association for the Cost Engineering classification system. All cost estimates are prepared in nominal dollars.

The cost estimates for Option 2 and 3 were developed using our 'MTWO' cost estimating system The estimates for Option 2 and 3 were based on desktop analysis and remain within +/- 25% of the central capital cost estimate. The estimates have not been further assessed as we do not plan to progress with these options because they were not identified as our preferred option in the RIT-T.

Routine operating and maintenance costs are based on works of similar nature. Given that there is an incremental routine operating and maintenance costs saving in the options compared to the base case, this is a net benefit in the assessment.

4.4. Uncertainty has been captured by way of three scenarios

The RIT-T is focused on identifying the top ranked credible option in terms of expected net benefits. However, uncertainty exists in terms of estimating future inputs and variables (termed future 'states of the world').

To deal with this uncertainty, the NER requires that costs and market benefits for each credible option are estimated under reasonable scenarios and then weighted based on the likelihood of each scenario to determine a weighted ('expected') net benefit. It is this 'expected' net benefit that is used to rank credible options and identify the preferred option.

The credible options have been assessed under three scenarios as part of the PACR assessment, which differ in terms of the key drivers of the estimated net market benefits (ie, the estimated risk costs avoided).

Given that wholesale market benefits are not relevant for this RIT-T, the three scenarios implicitly assume the most likely scenario from the AEMO's 2025 IASR (i.e., the 'Step Change' scenario). The scenarios differ by the assumed level of risk costs, given that these are key parameters that may affect the ranking of the credible options. Risk cost assumptions do not form part of AEMO's IASR and have been based on Transgrid's analysis.

We developed the Central Scenario around a static model of demand scenarios, described further in Section A.3 of our Network Asset Criticality Framework. We consider that this approach is appropriate since it materially reduces the computational effort required, and since differences in demand forecasts will not materially affect the ranking of the credible options.

How the NPV results are affected by changes to other variables (including the discount rate and capital costs) has been investigated in the sensitivity analysis. We consider this is consistent with the latest AER guidance for RIT-Ts of this type (ie, where wholesale market benefits are not expected to be material).[8,9,10]

The table below summarises the specific key variables that influence the net benefits of the options under each of the scenarios considered, as stated in the PACR.

Table 4-1 Summary of scenarios

Variable/Scenario	Central scenario	Low risk costs scenario	High risk costs scenario
Scenario weighting	1/3	1/3	1/3
Discount rate	7%	7%	7%
Network capital costs	Base estimate	Base estimate	Base estimate
Operating and maintenance costs	Base estimate	Base estimate – 25%	Base estimate + 25%
Safety, environmental and financial risk benefit	Base estimate	Base estimate – 25%	Base estimate + 25%

No further updates were applied to these scenarios for this MCC Assessment.

4.5. Sensitivity analysis

We have not conducted sensitivity analysis in this MCC Assessment as we expect to reach the point of Financial Investment Decision (FID) within the next three months. Should that period extend beyond six months, we will re-assess if required.

8 AER, *Application Guidelines Regulatory Investment Test for Transmission*, November 2024, pp.43-44

9 We consider the approach to scenarios and sensitivities to be consistent with the AER guidance provided in November 2022 in the context of the disputes of the North West Slopes and Bathurst, Orange and Parkes RIT-Ts. See: AER, Decision: North West Slopes and Bathurst, Orange and Parkes Determination on dispute - Application of the regulatory investment test for transmission, November 2022, pp. 18-20 & 31-32, as well as with the AER's RIT-T Guidelines.

10 AEMO '2025 Inputs, Assumptions and Scenarios Report', August 2025, pp.156-159

5. MCC assessment results

5.1. NPV results from the PACR

NPV results presented within the PACR are shown in the table below.

Table 5-1 NPV of net economic benefits relative to the base case ($m, 2025/26), as presented in the PACR

Option	Weighted Scenario
Option 1	2.34
Option 2	-19.76
Option 3	-30.61

5.2. NPV results from this MCC Assessment in June 2026

NPV results from this MCC Assessment are shown in the table below.

Table 5-2 NPV of net economic benefits relative to the base case ($m, 2025/26), as presented in this MCC Assessment

Option	Weighted Scenario
Option 1	11.05
Option 2	8.48
Option 3	-0.27

The increase in NPV is driven by the increase in the avoided risks cost in this MCC Assessment.

Table 5-3 Present value (PV) of avoided risk costs ($m, 2025/26) as benefits – weighted scenario

Option	PACR Benefits	MCC Benefits
Option 1	10.2	20.8
Option 2	19.1	54.2
Option 3	19.2	54.9

6. Conclusion and recommendation

This MCC Assessment has found that Option 1 (remediate known condition issues on the line) remains the preferred option, with its NPV increasing from $2.34 million in the PACR to $11.05 (real FY2025/26) million in this MCC Assessment. As a result, an MCC event has not occurred.

Therefore, it is recommended that Transgrid continue to deliver the project using Option 1: remediate known condition issues on the line.