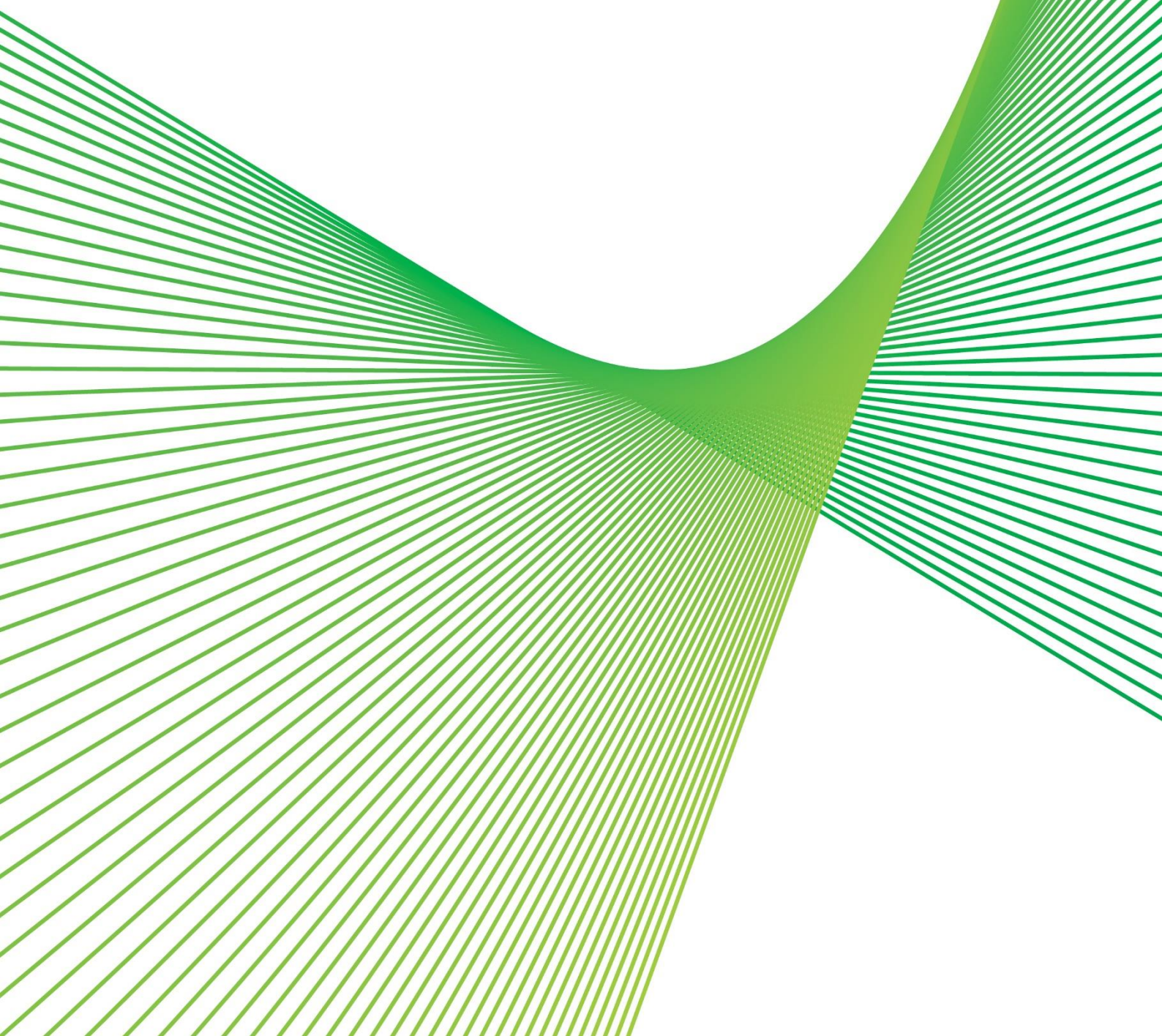


# **Managing increased fault levels in southern NSW**

Notification of MCC Assessment

Date of issue: 8 October 2026



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## 2. Executive Summary

On 21 March 2025, Transgrid completed the Regulatory Investment Test for Transmission (RIT-T) for *Managing increased fault levels in southern NSW*. The RIT-T identified one credible network option, Option 1, as the preferred option to meet the identified need. Option 1 is summarised in Table 1 below.

Table 1 Summary of the credible option

| Option | Description                                                                                                                           |
|--------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Upgrade transmission assets at the affected Southern NSW substations to ensure forecast fault levels remain within equipment ratings. |

Option 1 involved upgrading substation switchgear and earth grid at the four affected substations to accommodate the forecast increase in fault levels on the transmission network.

As part of the RIT-T, Transgrid considered but did not progress four additional options, including non-network options, because they were not technically or commercially feasible. This is because:

- there are no other technically and commercially feasible options that can increase the fault level capacity of the existing substations or increase the fault level ratings of the affected transmission assets;
- there are no other technically and commercially feasible options that can decrease the fault current that the affected substations and transmission assets face; and
- alternate delivery approaches for the preferred option, such as staging delivery, would increase mobilisation costs but not deliver any corresponding increase in economic benefits.

Further information on these options is provided in section 3.1. Transgrid invited Interested Parties to make submissions in response to the Project Specification Consultation Report (PSCR) and the Project Assessment Draft Report (PADR). No submissions were received and no alternative credible options were proposed. For the reasons stated above, at the Project Assessment Conclusion Report (PACR) stage, Option 1 remained the only credible option from a technical, commercial and project delivery perspective that could be implemented in sufficient time to meet the identified need.

Since publication of the PACR:

- the estimated capital cost of Option 1 has increased by approximately 89 per cent, from \$52.1 million to \$98.7 million in real 2024/25 dollars; and
- the expected commissioning date has moved from 2027/28 to 2029/30, approximately 24 months later than indicated in the PACR.

Following publication of the PACR, Transgrid undertook detailed technical studies, site investigations and market testing to confirm the scope and cost of Option 1.

These technical studies confirmed that the nature of the identified need stated in the PACR remains the same, i.e.:

*...without action, the expected commissioning of the three actionable ISP projects in southern NSW, as well as the full commercial operation of Snowy 2.0, is expected to result in fault levels that exceed the existing fault level ratings of existing transmission assets at four of our substations in southern NSW.*

As a result of this work, these technical studies, site investigations and market testing resulted in changes to the scope of works for Option 1 required to ensure forecast fault levels remain within equipment ratings at affected substations in Southern NSW, and a corresponding change in the estimated capital cost of those works. The scope and cost changes are described in section 3.2.

In addition, in preparing the revised scope of Option 1, Transgrid identified that while upgrades to Wagga substation are still required to meet the identified need, many of these upgrades will be undertaken as part of the HumeLink project. Accordingly, Transgrid descope these works from this project to avoid duplication of costs.

Transgrid's technical studies undertaken since the PACR confirmed that the timing of the identified need remains the same, i.e., following commissioning of Project EnergyConnect and HumeLink, and ahead of full commercial operation of Snowy 2.0 (i.e., in December 2028). Further, based on Transgrid's analysis, fault level ratings are forecast to exceed equipment ratings at affected substations irrespective of whether the VNI West project is delayed or its scope is amended.

However, Transgrid has reassessed that the earliest feasible timing for full delivery of the Project is in July 2029. Although this timing is after December 2028, Transgrid's investigations have confirmed that there is no alternative technically or commercially feasible option that could be implemented in a shorter time period. As such, Transgrid will prioritise works for the highest priority assets and develop appropriate interim risk management measures pending full delivery of the Project. Changes to the delivery time are noted in section 3.3.

Transgrid has undertaken this Material Change in Circumstance (MCC) Assessment to determine whether the revised scope, capital costs and delivery schedule for Option 1 constitute a material change in circumstances under the National Electricity Rules (NER). As no capital cost sensitivity testing was conducted in the PACR, Transgrid considers it prudent to reassess whether the revised capital cost changes the preferred option.

The increase in the estimated capital cost and revision to the scope and delivery schedule change key inputs to the economic assessment. However, they do not change the identified need at the affected substations, the set of credible options or the preferred option (Option 1) to meet the identified need. This MCC Assessment confirms that Option 1 remains the preferred option under the RIT-T, on the basis that:

- the identified need has not changed, which is to ensure forecast fault levels remain within equipment ratings at affected substations in Southern NSW;
- the revised scope of Option 1 continues to address the identified need, given the works undertaken on the Wagga 330 kV substation as part of HumeLink;
- no alternative credible option has emerged;
- Option 1 remains technically and commercially feasible; and
- while the revised delivery schedule delays full delivery of Option 1 to July 2029, Transgrid's investigations have confirmed that there is no alternative technically or commercially feasible option that could be implemented in a shorter time period.

Given the identified need remains the same, and that the preferred option (revised scope) identified in the PACR continues to meet that need and remains the preferred option, Transgrid has concluded that an MCC event has not occurred.

### 3. Context and purpose of this report

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On 21 March 2025 Transgrid completed the RIT-T for *Managing increased fault levels in southern NSW*. The RIT-T identified Option 1, comprising upgrades to transmission assets at Lower Tumut, Upper Tumut, Wagga 330 kV and Murray substations, as the preferred option to meet the identified need.

Since publication of the PACR, the estimated scope, capital cost and delivery schedule for Option 1 (the only credible network option) have changed. This report assesses whether the changes constitute an MCC under the NER and whether Option 1 remains the preferred option.

#### 3.1. Background to the RIT-T

The expected commissioning of three actionable Integrated System Plan (ISP) projects in southern NSW, Project EnergyConnect, HumeLink and VNI West, together with the full commercial operation of Snowy 2.0 in December 2028, is expected to result in fault levels that exceed the fault level ratings of existing transmission assets at four of our substations in southern NSW. Further, based on Transgrid's analysis, this expected exceedance in fault level ratings is forecast to occur irrespective of whether the VNI West project is delayed or its scope is amended.

Without action, (i.e., under the base case), fault levels are forecast to exceed the existing fault ratings of transmission assets at Lower Tumut, Upper Tumut, Wagga 330 kV and Murray substations. In preparing the revised scope of Option 1, Transgrid identified that while upgrades to Wagga substation are still required to meet the identified need, many of these upgrades will be undertaken as part of the HumeLink project. Accordingly, Transgrid descope these works from this project to avoid duplication of costs.

Exceedance of fault level ratings would result in equipment failure that would breach our requirements under Schedule 5.1a.8(a)(3) of the NER, as well as likely result in significant unserved energy to end consumers in the National Electricity Market (NEM).

Transgrid commenced the RIT-T to identify the preferred option for managing the forecast increase in fault levels, avoiding the associated consequences and maintaining compliance with applicable equipment standards under the NER. The identified need is therefore a reliability corrective action for the purposes of the RIT-T. A reliability corrective action differs from a 'market 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 Transgrid.

The scope assessed through this RIT-T is separate to the scope of Project EnergyConnect, HumeLink and VNI West. The assessment of fault level impacts involves complex network-wide considerations and can only be assessed accurately once the design parameters and equipment specifications of the relevant ISP projects have been fully identified (i.e., after the RIT-Ts for those projects have been completed). The combined effects of the projects also make it difficult to attribute the required fault level works and associated costs to any one project.

The separate treatment of these works is consistent with the AER's approval of the '*Managing increased fault levels in southern NSW*' contingent project in its determination for our current regulatory control period. The contingent project was approved with a value of \$54.3 million (in 2022/23 dollars).<sup>1</sup>

One trigger for the contingent project is the completion of a RIT-T that demonstrates that the proposed network investment is the most efficient option to ensure fault current ratings of equipment at the identified substations and associated infrastructure are not exceeded.

The system standards in Schedule 5.1a of the NER stipulate fault clearance times that Transgrid is required to meet. Specifically, Schedule 5.1a.8(a)(3) requires that faults anywhere within the power system be cleared sufficiently rapidly to minimise consequent equipment damage.

The RIT-T considered Option 1 against a 'do nothing' base case. In addition to Option 1, the RIT-T considered four other potential options and concluded that these were not technically or commercially feasible. These are summarised in Table 2.

Table 2 Options considered but not progressed

| Option                         | Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Conclusion                                                             |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 'Do nothing' base case         | <p>The connection of Project EnergyConnect, HumeLink and VNI West, together with full commercial operation of Snowy 2.0, would increase fault levels at the identified substations in southern NSW. Without action, the resulting fault levels would cause equipment failure, breach the requirements of Schedule 5.1a.8(a)(3) of the NER and likely result in significant unserved energy for consumers in the NEM.</p> <p>In practice, Transgrid could manage fault levels in the short-term by disconnecting generation in the region, potentially including Snowy 2.0. However, ongoing generation constraints would not provide a sustainable long-term solution. Section 8.4.4.2 of the Australian Standards AS2067-2016 requires equipment design to take account of expected future fault levels. The identified affected substations were commissioned in the 1970s and were not designed to accommodate the increase in fault levels associated with the major projects expected to be commissioned in the region.</p> | The base case is not technically feasible to meet the identified need. |
| Staged version of Option 1     | <p>Not commercially feasible, and less efficient than the preferred option, as increased mobilisation costs associated with staging outweigh the benefits associated with delaying capital expenditure.</p> <p>Staging involves undertaking the required work at each substation according to when fault levels exceed equipment ratings rather than in a more proactive and efficient manner. Put another way, staging means the required works for each substation would be done separately for each major project, due to the timing differences in major projects.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                       | This option continues not to be commercially feasible.                 |
| Using fault limiters to reduce | Fault current limiters are not a tested-and-proven solution for the NEM in these circumstances. They could also create                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | This option is not technically feasible.                               |

<sup>1</sup> AER, Final decision Transgrid transmission determination 1 July 2023 to 30 June 2028, Attachment 5 – Capital expenditure, April 2023, p 39.

| Option                                              | Assessment                                                                                                                                                                                                                                                                                                                      | Conclusion                                                  |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| associated fault levels                             | other network issues, including introducing voltage stability problems during normal conditions and adversely affecting Transgrid's ability to maintain system security.                                                                                                                                                        |                                                             |
| Contracting generators to disconnect or not connect | Fault level issues could potentially be managed through contracts requiring generators to disconnect or not connect, including in relation to Snowy 2.0. However, such arrangements are unlikely to be commercially acceptable to affected generators and would not provide a sustainable means of meeting the identified need. | This option is not commercially feasible.                   |
| Non-network solutions                               | Non-network options (NNO) would need to replace the relevant functionality of the affected substations. New generators and Battery Energy Storage Solutions (BESS) would generally contribute to, rather than reduce, fault levels. In addition, no NNO were proposed by proponents during the RIT-T.                           | No technically or commercially feasible NNO was identified. |

### 3.2. Cost and scope changes since completion of the PACR

The capital cost estimate presented in the PACR was based on earlier tender information and desktop studies. Further technical investigations and current market information have since provided a more developed basis for estimating the cost of Option 1.

Since completion of the RIT-T, Transgrid has:

- undertaken detailed technical studies and site investigations to confirm the required scope of work;
- conducted a competitive tender process to obtain fixed price quotes for construction labour, materials costs and expenses; and
- re-estimated its internal labour costs required for designing and ensuring delivery of the Project in accordance with the project schedule.

These technical studies confirmed that the nature of the identified need stated in the PACR remains the same, i.e.:

*...without action, the expected commissioning of the three actionable ISP projects in southern NSW, as well as the full commercial operation of Snowy 2.0, is expected to result in fault levels that exceed the existing fault level ratings of existing transmission assets at four of our substations in southern NSW.*

However, the studies and market testing have resulted in an increase in estimated capital costs for Option 1 by approximately 89 per cent, from \$52.1 million in the PACR to \$98.7 million in this MCC Assessment in real 2024/25 dollars. Transgrid presents the revised capital expenditure profile in Table 3 below.

Table 3: Capital expenditure profile (\$m, real 2024/25)

|                     | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---------------------|------|------|------|------|------|------|
| Capital expenditure | 0.7  | 2.7  | 20.3 | 48.7 | 25.4 | 0.8  |

Transgrid has also undertaken further assessment of the routine maintenance and operating expenditure required for the Project. It has found that no incremental operating expenditure is required relative to the base case given only replacement works are required. This reflects a reduction in incremental operating expenditure of \$260,000/year, compared to the PACR analysis.

Transgrid considers that reasonable future refinements to its cost estimates are unlikely to change the preferred option or affect the conclusions of this MCC Assessment.

Transgrid sets out in the remainder of this section how it refined the scope of works for Option 1 through detailed site investigations, and its approach to cost estimation in this MCC assessment.

### 3.2.1. Transgrid has refined the scope of works through detailed site investigations

Following the PACR, Transgrid undertook detailed technical studies and site investigations to confirm the scope of works for Option 1. The studies were conducted between May 2025 and August 2026. These technical studies, site investigations and market testing resulted in changes to the scope of works for Option 1 required to ensure forecast fault levels remain within equipment ratings at affected substations in Southern NSW.

Table 4 and Table 5 below compare the scope included in the PACR with the revised scope for Option 1 in this MCC Assessment.

Table 4 outlines elements of the scope that have decreased since the PACR.

Table 4 Scope comparison, elements that have decreased since the PACR

| Package of work            | Original scope of work (PACR)                                                                                                                                                                                       | Revised scope of work (MCC Assessment)                                                                        |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Disconnecter replacement   | 77 sets of 3 phase 330 kV disconnector with new footings                                                                                                                                                            | 38 sets of 3 phase 330 kV disconnector with existing/new footings                                             |
| Wave traps replacement     | 6 sets of 2 phase 330 kV wave traps reusing existing footings                                                                                                                                                       | 4 sets of 2 phase 330 kV wave traps to be removed (reduction of 2 sets)                                       |
| CVT replacement            | 6 sets of 3 phase 330 kV CVT reusing existing footings                                                                                                                                                              | No CVT replacement is required                                                                                |
| Gantry and gantry footings | 13 large gantry structures with 50 members for replacement each<br><br>10 small gantry structures with 15 members for replacement each<br><br>39 gantry footings require extension at the base by 0.5m on all sides | 5 gantries at Murray 330kV substation require strengthening works<br><br>No gantry footings need modification |
| Replacement of bushings    | 2 transformer bushing – 330 kV single phase                                                                                                                                                                         | No bushing replacement is required.                                                                           |

|                               |                                                  |                                                                                                                            |
|-------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Secondary systems             | New secondary systems replacement at Lower Tumut | No modification is required for Lower Tumut 330 kV substation except the new cables and conduits for the new disconnectors |
| Tower foundation modification | 17 foundations                                   | No foundation works required                                                                                               |

Table 5 outlines elements of the scope that have increased since the PACR.

Table 5 Scope comparison, elements that have increased since the PACR

| Package of work            | Original scope of work (PACR)                               | Revised scope of work (MCC Assessment)                                             |
|----------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------|
| Post insulator replacement | 29 sets of 3 phase 330 kV post insulators with new footings | 109 post insulators to be added/modified/removed                                   |
| Reshape conductors         | 26 sets of equipment                                        | 44 sets of equipment                                                               |
| OHEW replacement           | OHEW replacement for 4 lines                                | OHEW replacement for 5 lines                                                       |
| Tower strengthening        | 206 members to be strengthened                              | 50 towers to be strengthened with approximately 3000 members to be replaced/added. |

### 3.2.2. Transgrid has market tested construction labour, materials costs and expenses

Transgrid has undertaken detailed technical studies and site investigation to refine the scope of works for the Project, which has resulted in a high degree of understanding of the required technical solution for the Project. Transgrid has included the cost of undertaking these works in the total cost for this MCC assessment, for comparability with the PACR.

Transgrid considers that its procurement approach for construction and HV equipment is comprehensive and has provided it with a robust estimate of the costs for the Project. Transgrid undertook the following four step process to refine its estimates of the construction labour, materials costs and expenses for the project:

- issued a request for information (RFI) similar to a request for tender (RFT) to three qualified vendors, to obtain budgetary market contract pricing based on the scope in the PACR and assess technical capability to deliver the project;
- evaluated the RFI responses, where it ruled out one provider for not demonstrating technical capability to deliver the scope of works;
- undertook a robust process of refining the scope of works for the project, which included detailed site studies with a range of industry experts to confirm the scope of works required for the project; and
- issued a formal RFT to the two respondents that demonstrated capacity to deliver the project to obtain a fixed price quote for construction and delivery.

Transgrid will ensure value for money by:

- issuing a fixed price contract for construction and delivery, minimising the risk of cost overruns;

- procuring the major HV equipment required for the project through its fixed price schedule from its engineering partners as opposed to from its construction and delivery partners, minimising the cost of the equipment as Transgrid could negotiate these costs with the benefits of scale; and
- benchmarking the budgetary market pricing received against costs for similar projects it has undertaken.

### 3.3. Updated delivery timing since PACR completion

The PACR indicated the original scope for Option 1 would be delivered between 2024/25 and 2027/28, with commissioning in 2027/28. This timing reflected the expected commissioning of Project EnergyConnect and HumeLink and ahead of full commercial operation of Snowy 2.0 in December 2028.

Transgrid's technical studies undertaken since the PACR also confirmed that the timing of the identified need remains the same, i.e., following commissioning of Project EnergyConnect and HumeLink, and ahead of full commercial operation of Snowy 2.0 (i.e., in December 2028).

However, Transgrid has reassessed that the earliest feasible timing for full delivery of the Project is in July 2029. Although this timing is after December 2028, Transgrid's investigations have confirmed that there is no alternative technically or commercially feasible option that could be implemented in a shorter time period. As such, Transgrid will prioritise works for the highest priority assets and develop appropriate interim risk management measures pending full delivery of the Project.

Transgrid notes that delivery of upgrades to Wagga 330 kV substation as part of HumeLink will be delivered by November 2027, which will address fault level exceedances identified at Wagga 330 kV substation.

The works are now expected to be undertaken between 2027 and 2029 with commissioning possible by 2029/2030 for all substations and transmission line works. This is approximately 24 months later than the commissioning date indicated in the PACR.

## 4. MCC Assessment

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

### 4.1. MCC provisions in the NER

The NER provides for circumstances where there has been a material change in circumstance following the publication of a PACR. An increase in the estimated capital cost for the project, even where substantial, does not necessarily constitute an MCC event. The NER defines a *material change in circumstance* as including, but not being limited to<sup>2</sup>:

- a change to key inputs and assumptions used in identifying the identified need described in the PACR;
- one or more RIT reopening triggers applying to the project having been triggered; or
- 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.

<sup>2</sup> As per clause 5.16.4(z4) of the NER.

Transgrid has undertaken this MCC assessment to determine whether the revised scope, capital cost and delivery schedule change the outcome of the RIT-T, including whether Option 1 remains the preferred option.

## 4.2. Assessment against the base case

Under the RIT-T, the costs and benefits of each credible option are assessed relative to a 'do nothing' base case.

Under the base case for this RIT-T, no proactive capital investment would be undertaken to address the forecast increase in fault levels. Fault levels would consequently exceed the ratings of the existing assets at the affected substations, increasing the risk of equipment failure and expected unserved energy.

While this is not a situation Transgrid plans to encounter, and this RIT-T has been initiated specifically to avoid it, the RIT-T assessment is required to use a base case as a common point of reference when estimating the net benefits of credible options.

In addition, Transgrid notes that it has not quantified the expected unserved energy from potential equipment failure under the base case (or Option 1). This is because Option 1 is the only credible option, as outlined below, and the identified need is a reliability corrective action. Consequently, quantification of the net market benefits of Option 1 would not affect the ranking of the options, nor the requirement to undertake the project.

## 4.3. Assessment period and discount rate

The RIT-T analysis covers a 20-year assessment period from 2025/26 to 2044/45.

Where the asset life of capital components of the credible options extends beyond the assessment period (i.e., longer than 20 years), the NPV modelling includes a terminal value reflecting its remaining asset life. This ensures that the costs and benefits of all options, including those with long-lived assets, are assessed over a consistent period, irrespective of option type, technology or asset life.

The terminal values are calculated using the undepreciated value of capital costs at the end of the assessment period. They reflect a conservative estimate of the net market benefits arising after that period.

Consistent with the PACR, the central NPV assessment applies a real, pre-tax discount rate of 7 per cent.

## 4.4. Approach to estimating option costs

Transgrid has estimated capital costs based on a defined scope of works, supported by historical project experience, current market data and the MTWO estimating database. As the scope was refined, Transgrid conducted market testing to gain Class 2 estimates.<sup>3</sup>

Transgrid has estimated its construction labour, materials costs and expenses through a request for tender for delivery and its engineering partners for HV equipment. This has given it a fixed price quote for construction labour, materials costs and expenses for delivering Option 1 (the preferred option).

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<sup>3</sup> Namely, costs with a range between +/- 10 per cent.

Transgrid's internal cost estimates for the Project were developed using a structured, bottom-up methodology. Its internal cost forecast has been prepared to address the resource requirements to support the scope of work that will be provided by our delivery partners. Its resource requirements principally reflect the internal labour required for designing the project and ensuring delivery of the project in accordance with the project schedule.

Transgrid has estimated its internal labour costs using its estimating tool 'MTWO'. The MTWO cost estimating database reflects actual outturn costs built up over more than 10 years from labour quantities from recently completed projects. MTWO includes rates and cost information developed from period order agreements, supplier pricing, labour productivity data, recent tenders, contract rates and completed project outcomes.

The MTWO estimating database is reviewed annually to reflect the latest outturn costs and confirm that estimates are within their stated accuracy range and represent the most likely expected cost of delivery (P50 costs). As part of this annual review, Transgrid benchmarks the outcomes against independent estimates provided by various engineering consultancies.

For this MCC Assessment, the cost estimate for Option 1 has been 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. Construction labour, materials costs and expenses 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. Internal labour costs have been re-estimated to obtain P50 costs, derived based on a detailed design and robust scope of works. 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 AACE classification system.

## 4.5. Scenario and sensitivity analysis

On the basis that market benefits and avoided risk cost benefits were not considered material for this RIT-T because there is only one credible option and it is a reliability corrective action, Transgrid assessed one reasonable scenario based on the central assumptions used in this analysis that is summarised in Table 6 below.

Table 6 Summary of the scenario

| Variable/Scenario               | Central                                                                        |
|---------------------------------|--------------------------------------------------------------------------------|
| Scenario weighting              | 100%                                                                           |
| Discount rate                   | 7.0%                                                                           |
| Network capital costs           | P50 estimate                                                                   |
| Operating and maintenance costs | Not applicable                                                                 |
| ISP scenario                    | Expected most likely scenario for the 2026 ISP, being the Step Change scenario |

Transgrid has not undertaken sensitivity testing on account of it not being proportionate, i.e., given there is only one credible option for this reliability corrective action RIT-T, sensitivity testing will not inform the identification of the preferred option.

## 5. NPV assessment

The NPV results (which determine which option is preferred) are presented below. Option 1 remains the preferred option, despite its NPV falling from -\$39.6 million in the PACR to -\$63.5 million in this MCC Assessment. Compared to the PACR, the net economic benefit decreased due to increased capital costs. The NPV results presented within the PACR, and those from this MCC Assessment, are shown in Table 7 below.

Table 7 NPV of economic benefits relative to the base case (\$m, 2024/25), as presented in this MCC Assessment compared to the PACR

| Assessment                           | Weighted scenario NPV (\$2024/25) | Preferred Option |
|--------------------------------------|-----------------------------------|------------------|
| Original (PACR March 2025)           | -\$39.6 million                   | Option 1         |
| Revised (MCC Assessment August 2026) | -\$63.5 million                   | Option 1         |

A reliability corrective action RIT-T differs from a 'market benefits'-driven RIT-T because the preferred option may have negative net economic benefits where the investment is required to meet an externally imposed obligation on the network service provider.

Although the revised NPV is lower than the NPV reported in the PACR, Option 1 enables Transgrid to meet its obligations under the NER and remains the only credible option capable of meeting the identified need. The revised NPV therefore does not change the identification of Option 1 as the preferred option.

## 6. Conclusion of the MCC Assessment

This MCC Assessment has considered the effects of the revised scope, increased capital cost and updated delivery schedule for Option 1.

The increase in the estimated capital cost and revision to the scope and delivery schedule change key inputs to the economic assessment. However, they do not change the identified need at the affected substations, the set of credible options or the preferred option (Option 1) to meet the identified need. The assessment confirms that:

- the identified need has not changed, which is to ensure forecast fault levels remain within equipment ratings at affected substations in Southern NSW;
- the revised scope of Option 1 continues to address the identified need, given the works undertaken on the Wagga 330 kV substation as part of HumeLink;
- no alternative credible option has emerged;
- Option 1 remains technically and commercially feasible; and
- while the revised delivery schedule delays full delivery of Option 1 to July 2029, Transgrid's investigations have confirmed that there is no alternative technically or commercially feasible option that could be implemented in a shorter time period.

Given the identified need remains the same, and that the preferred option (revised scope) identified in the PACR continues to meet that need and remains the preferred option, Transgrid has concluded that an MCC event has not occurred. Therefore, it is recommended that Transgrid continue to deliver Option 1:

upgrade transmission assets at the affected Southern NSW substations to ensure forecast fault levels remain within equipment ratings.