AER Determination

Transgrid's Victoria to NSW Interconnector West Stage 1 Early Works Contingent Project Application

6 May 2024

AUSTRALIAN ENERGY REGULATOR

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Executive Summary

This document sets out our decision on Transgrid's stage 1 contingent project application (CPA) for the Victoria to New South Wales Interconnector West (VNI West). On 22 December 2023, Transgrid submitted its stage 1 early works contingent project application for $1,096.3 million ($Real 2022–23) in capital expenditure (capex).[1] This application relates to the New South Wales portion of the project.

The VNI West project

VNI West is an electricity transmission line interconnector between Victoria and NSW. The total costs for VNI West are estimated at $3,963.6 million ($Real 2022–23),[2] with the costs split about 50/50 between the Victorian component and the NSW component, delivered by Transmission Company Victoria and Transgrid, respectively.[3]

The identified need for the VNI West project is to facilitate the efficient development and dispatch of generation in areas with high quality renewable resources in Victoria and NSW.[4] The preferred option 5A in the Regulatory Investment Test for Transmission Project Assessment Conclusions Report involves constructing a 500 kV double-circuit overhead transmission line between Victoria and NSW, connecting the Western Renewables Link (at Bulgana, Victoria) with Project EnergyConnect (at Dinawan, NSW) via a new Kerang substation (Victoria).[5]

VNI West is included in the Australian Energy Market Operator's (AEMO) draft 2024 Integrated System Plan (ISP) as an 'actionable project' under the optimal development path (ODP).[6] VNI West has remained an actionable ISP project since the 2020 ISP. In the 2022 ISP, VNI West was a staged actionable project with the following stages:

- Stage 1 early works expected to be completed in 2026
- Stage 2 implementation with a target delivery date of 2031, brought forward to 2028 with support from the Commonwealth Government and Victorian State Government.[7]

In the draft 2024 ISP, VNI West is an actionable project without staging.[8]

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1 Unless otherwise stated, all dollar figures referred to in this document are in $ Real 2022–23.

2 AEMO, *Feedback loop notice – VNI West early works*, December 2023.

3 AEMO Victorian Planning (AVP) and Transgrid, *RIT-T PACR – VNI West - Volume 1*, May 2023, p. 48.

4 AEMO, *Integrated system plan 2022*, June 2022; and, AEMO, *Integrated system plan draft 2024 - Appendix A5 – Network investments*, December 2023.

5 AVP and Transgrid, *RIT-T PACR – VNI West - Volume 1*, May 2023, p. 15.

6 AEMO, *Integrated system plan draft 2024*, December 2023, p. 12.

7 Commonwealth Government and Victorian Government, *Joint media release: Rewiring the nation to supercharge Victorian renewables*, October 2022.

8 AEMO, *Integrated system plan draft 2024 - Appendix A5 – Network investments*, December 2023, pp. 35–36.

Transgrid's stage 1 application for VNI West

Transgrid's application states that:[9]

> "achieving the 2028 target delivery date is subject to undertaking early works activities to obtain the necessary planning and environmental approvals, secure land and easements, progress detailed design, establish biodiversity stewardship sites and engage with the community and landholders. These activities are expected to take around two to three years to complete."

Transgrid's application states it is undertaking early works and part of the design and construction to:[10]

- determine the stage 2 delivery cost by refining the project scope through further detailed design activities.
- identify, explore and manage the project risks to mitigate and/or diversify the project's risks to minimise residual risks.
- progress the pre-construction activities and community engagement to ensure construction can commence as soon as possible following the stage 2 application.
- realise investment synergies by undertaking design and construction works associated with the integration of VNI West with HumeLink and Project EnergyConnect.

In December 2023, Transgrid submitted a contingent project application to amend its 2023–28 revenue determination under clause 6A.8.2 of the National Electricity Rules (NER). Transgrid proposed $1,096.3 million in capex for stage 1 of VNI West and $213.4 million in incremental revenue in the 2023–28 period.

Transgrid's stage 1 contingent project application included a variety of cost categories. These costs are for pre-construction development costs, procuring long lead equipment, stakeholder engagement and social licence, land-use planning and approvals, land and easement acquisition, biodiversity offset costs, and two design and construction packages. Transgrid acknowledged that some of these costs are not typically included within a stage 1 early works contingent project application, particularly the design and construction costs. However, it states that there are cost saving benefits to bringing forward these costs.[11]

Transgrid also proposed changes to the treatment of other parts of its proposal relating to depreciation and the application of incentive schemes.[12] For depreciation, Transgrid proposed to apply an 'as-incurred' depreciation approach to all depreciable asset classes associated with the VNI West Stage 1 project, instead of our standard 'as-commissioned' approach for transmission assets. Transgrid proposed this approach due to concerns with financeability. Transgrid also proposed introducing a new 'Biodiversity offsets costs' asset class to enable the depreciation of these costs over the weighted average of the standard

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9 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 4.

10 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, pp. 4–5.

11 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 7.

12 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, pp. 2, 12–13.

asset lives of all other depreciating assets. For incentive schemes, Transgrid proposed to not apply the Capital Expenditure Sharing Scheme (CESS) stating:[13]

> "…we do not support the application of the CESS to AEMO's ISP projects. This is because in an inflationary and uncertain operating environment with high value, complex and specialised projects, these incentive schemes introduce an asymmetric risk."

Our role in assessing actionable ISP projects

Contingent projects are significant network augmentation projects that may arise during a regulatory control period but the need and or timing is uncertain. While the expenditures for such projects do not form part of the total forecast expenditure in a revenue determination, the project costs may ultimately be recovered from customers if the requirements of the NER are met.

For actionable ISP projects such as VNI West, our role is to first assess whether the trigger event for an actionable ISP project has been satisfied. If we assess the trigger event for the actionable ISP project has been satisfied, we must then determine the incremental revenues that will be added to Transgrid's revenue allowance, reflecting the forecast prudent and efficient capital expenditure and operating expenditure required to deliver the contingent project.[14]

Under the NER, the four criteria set out under clause 5.16A.5 (also called the 'trigger event') must be met for an actionable ISP project and the project costs must exceed a materiality threshold. If we are satisfied the trigger event has been met, our role is then to determine the expenditure reasonably required for the project and the incremental revenue.[15]

The four criteria are:

- Transgrid must issue a Regulatory Investment Test for Transmission (RIT-T) project assessment conclusions report (PACR) that meets the requirements of clause 5.16A.4 and which identifies a project as the preferred option (which may be a stage of an actionable ISP project if the actionable ISP project is a staged project)[16]
- Transgrid must obtain written confirmation from AEMO that the preferred option addresses the relevant identified need specified in the most recent ISP and aligns with the ODP referred to in the most recent ISP;[17] and, the cost of the preferred option does not change the status of the actionable ISP project as part of the optimal development path as updated in accordance with clause 5.22.15 where applicable.[18,19]

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13 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 12.

14 NER, cl. 6A.8.2(e)(1).

15 NER, cl. 6A.8.2(e).

16 NER, cl. 5.16A.5(a).

17 NER, cl. 5.16A.5(b)(1).

18 NER, cl. 5.16A.5(b)(2).

19 This process is the 'ISP feedback loop'.

- No dispute notice has been given to the Australian Energy Regulator (AER) under rule 5.16B(c) or, if a dispute notice has been given, then in accordance with rule 5.16B(d), the dispute has been rejected or the project assessment conclusions report has been amended and identifies that project as the preferred option.[20]
- The cost of the preferred option set out in the contingent project application must be no greater than the cost considered in AEMO's ISP feedback loop assessment.[21]

Our decision on VNI West stage 1

We are satisfied that all four criteria in the trigger event have been met and that the project capex exceeds the threshold.[22] As such, we must make a determination on Transgrid's contingent project application for: the expenditure reasonably required for the purpose of undertaking the contingent project; the likely commencement and completion dates for the project; and the incremental revenue.[23]

We are satisfied with Transgrid's proposed timing for completing stage 1 in 2025–26 as this aligns with the stage 1 timing in the 2022 ISP.[24]

Table 1 sets out the forecast prudent and efficient capital expenditure required to deliver the project, the estimated impact on the transmission component of residential customer electricity bills in New South Wales, and the incremental revenues that will be added to Transgrid's revenue in the 2023–28 regulatory control period (2023–28 period).

Table 1 VNI West stage 1 contingent project – Assessment of forecast expenditure, revenues and bill impact

	Transgrid's application	AER's determination
Total capex ($2022–23) to be commissioned for VNI West stage 1 in years 2022–23 to 2025–26	$1,096.3 million	$948.8 million
Stage 1 indicative average annual increase in residential electricity bills in NSW over 2025–26 to 2027–28	$7 p.a.	$6 p.a.
Total incremental revenue to be recovered from customers over 2025–26 to 2027–28 ($ nominal, smoothed)	$213.4 million	$164.2 million[A]

Source: Transgrid application and AER analysis.
(A) Incremental revenues are calculated based on the 2024–25 return on debt update post-tax revenue model.

20 NER, cl. 5.16A.5(c).

21 NER, cl. 5.16A.5(d).

22 NER, cl. 6A.8.1(b)(2)(iii). The project capex of $1,096.3 million exceeds the threshold of $46.2 million, calculated as the higher of $30 million or 5% of the maximum allowable revenue in the first year of the 2023–28 regulatory control period.

23 NER, cl. 6A.8.2(e).

24 AEMO, *Integrated system plan 2022*, June 2022, p. 74. The 2025–26 date is determined from the expenditure profile in: Transgrid, *VNI West stage 1 CPA - A.5 Capex forecast model*, January 2024.

Our alternative estimate of prudent and efficient costs for stage 1

Our decision is to not accept Transgrid's proposed capex of $1,096.3 million and instead substitute an alternative estimate of $948.8 million to ensure consumers pay no more than necessary for progressing stage 1 of the project. We have undertaken a detailed review of cost categories to ensure the proposed costs comply with the NER and found that much of Transgrid's forecast was prudent and efficient. However, we found the estimates for contingency costs, biodiversity offset costs, and social licence were not justified and we have substituted an alternative estimate for these categories.

We are satisfied the proposed costs for those cost components that would usually be included as part of stage 1 early works reasonably reflect prudent and efficient costs and are reasonably required for progressing stage 1. In forming this view, we examined Transgrid's supporting documentation and responses to our information requests and verified the proposed volumes and unit costs. Our decision to accept these costs will enable Transgrid to:

- procure various materials and long lead equipment (steel, conductor, transformers, reactors, and power flow controllers) by placing orders and securing production slots early to reduce overall costs for materials and equipment.
- undertake pre-construction development for substations and transmission lines, including progressing the detailed design, resource planning and specification for equipment, plant and materials in preparation for stage 2 implementation.
- value and acquire land and easements for where substations will be located and where transmission lines will traverse in preparation for construction in stage 2.
- fulfil the internal labour and indirect costs (overheads) relating to project development, community and stakeholder engagement, land and environment planning, regulatory approvals, and other support costs such as consultants, governance and contract management.

Our alternative estimate also includes capex proposed by Transgrid for design and construction costs for the PEC Enhancement and Gugaa substation integration.[25] While construction costs are not typically included within stage 1 applications, we recognise the benefit in undertaking the works concurrently with the PEC and HumeLink projects. Undertaking these design and construction works in stage 1 lowers the overall costs across stages 1 and 2. It does so by reducing construction complexity in completing the works concurrently (rather than piecemeal) and avoiding undertaking the upgrades on brownfield sites with associated costs such as planned outages, re-negotiating contracts, re-mobilising labour and equipment, and traffic management.

However, we are not satisfied that Transgrid has established all its proposed cost components are efficient and prudent or reasonably required for the purposes of undertaking stage 1 of the project.

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[25] Gugaa substation is being built near Wagga Wagga as part of HumeLink. The Gugaa substation integration is part of the VNI West scope with the purpose of connecting the PEC Enhancement to the Gugaa substation at 500 kV.

Firstly, we substituted an alternative estimate for the contingency costs associated with the design and construction costs included within VNI West stage 1 relating to the Project EnergyConnect and HumeLink projects. We consider a portion of the contingency costs proposed by Transgrid are already sufficiently addressed in these related projects and there is not a greater level of risk requiring additional funding. Further, a number of the identified risks are reasonably within Transgrid's control to manage, such that consumers should not bear these risks. Otherwise, we have found the remainder of the contingency costs reasonably reflected prudent and efficient costs and are consistent with the expectations as set out in our Guidance Note on the Regulation of actionable ISP projects.[26] However, Transgrid could improve in how it follows the guidance, principles, and expectations set out in our Guidance Note. For example, by submitting the supporting information with the application (for example, risk registers)[27] and specifically identifying risks and controls rather than broad percentage contingency allowances.[28]

Secondly, we reduced Transgrid's biodiversity offset costs for the VNI West corridor because they were not at a stage of sufficient planning and approvals to be included in stage 1. We did not accept the amounts that were not sufficiently certain at this stage, such as the payments into the Biodiversity Conservation Fund. However, we did accept the proposed labour and indirect costs and the establishment of Biodiversity Stewardship Agreements to enable Transgrid to progress the required environmental studies, planning and approvals. Accepting the costs for establishing Biodiversity Stewardship Agreements also allows for a more cost-effective way of acquitting the biodiversity liability and acknowledges the longer lead time to undertake this approach. We would expect Transgrid to complete the necessary environmental studies, planning and approvals prior to submitting its stage 2 application so that the cost estimates are more refined and certain.

We have not accepted the proposed biodiversity direct non-labour costs relating to the PEC Enhancement because Transgrid has not satisfied us that these costs are reasonably required because they are not additional to the expenditure and revenue previously approved in the PEC CPA.[29]

Thirdly, while we have accepted the proposed costs for stakeholder engagement, we have not accepted a portion of the proposed social licence costs for activities. This is because we do not consider Transgrid has yet undertaken sufficient community engagement to support the proposed activities as part of a stage 1 application. Some of the costs may be more suitable for the stage 2 application when the activities are better informed following further meaningful engagement with the local communities. The funding provided as part of this decision will enable Transgrid to undertake high quality engagement with affected communities in the lead up to its stage 2 application.

Our decision on depreciation and application of incentive schemes

We do not accept Transgrid's proposed as-incurred depreciation approach for all depreciable assets associated with the VNI West stage 1 project, except for the biodiversity offset costs.

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26 AER, *Guidance note - Regulation of actionable ISP projects*, March 2021.

27 AER, Guidance note - Regulation of actionable ISP projects, March 2021, p. 38.

28 AER, Guidance note - Regulation of actionable ISP projects, March 2021, pp. 16–21.

29 AER, *Final decision – Transgrid – Project EnergyConnect contingent project*, May 2021.

We have applied our standard as-commissioned depreciation approach to the asset classes for 'Transmission lines' and 'Substations' to reflect the nature of these assets. However, we consider depreciating biodiversity offset costs on an as-incurred basis better reflects the nature of these costs.

We will determine the application of the CESS at the stage 2 contingent project application. This is consistent with our treatment of the HumeLink project. We do not consider it is appropriate to make a decision on the application of the CESS until the full costs of the project have been assessed, which will occur at stage 2.

Next steps

Following this decision and by the operation of the NER, Transgrid's revenue determination is now amended such that the incremental revenues we have approved in this determination will be added to Transgrid's total maximum allowed revenues for the 2023–28 period. This follows the process set out in clause 6A.8.2 of the NER.

The increase in allowed revenues will be reflected in customer bills over the remaining three years of the 2023–28 period (2025–26 to 2027–28).

The next stage of the VNI West project is for Transgrid to submit its stage 2 application for the remainder of the project costs. As AEMO has provided feedback loop confirmation on the whole project, Transgrid will not be required to go through the feedback loop process again unless the total costs have increased from when the project first went through the feedback loop.[30]

The incremental revenue approved in stage 1 will enable Transgrid to progress the early works to obtain more accurate cost estimates, undertake high quality community engagement, and progress the necessary environmental planning and approvals. We consider that it would be optimal from an assessment perspective if the stage 2 contingent project application could be lodged after the appropriate environmental planning and approvals have been obtained.

[30] AER, *Guidance note - Regulation of actionable ISP projects*, March 2021, pp. 27, 29.

Contents

1 VNI West stage 1 contingent project

VNI West is a planned transmission line interconnector between Victoria and NSW. The total costs for VNI West are estimated at $3,963.6 million,[31] with the costs split about 50/50 between the Victorian component and the NSW component, delivered by Transmission Company Victoria and Transgrid, respectively.[32]

The identified need for the VNI West project is to facilitate the efficient development and dispatch of generation in areas with high quality renewable resources in Victoria and NSW.[33] The preferred option 5A in the Regulatory Investment Test for Transmission (RIT-T) project assessment conclusions report (PACR) involves constructing a 500 kV double-circuit overhead transmission line between Victoria and NSW, connecting the Western Renewables Link (at Bulgana, Victoria) with Project EnergyConnect (at Dinawan, NSW) via a new Kerang substation (Victoria).[34]

AEMO has identified VNI West as an actionable ISP project since 2020 and its status has not changed in the 2022 ISP and draft 2024 ISP ('the most recent ISP'). At the time of the ISP 2022, two stages were considered for VNI West: stage 1 early works and stage 2 implementation. In the draft 2024 ISP, the VNI West project is no longer staged.[35]

AEMO provided feedback loop confirmation on 21 December 2023 for the VNI West project as a whole (NSW and Victoria).[36] As staging has been removed in the draft 2024 ISP, AEMO's assessment of the 'cost cap' was for the overall project, rather than the first stage.

Transgrid expects to complete stage 1 in 2025–26. The Commonwealth Government has committed $750 million concessional finance to bring forward the complete delivery of VNI West from 2031 to 2028.[37] The Commonwealth Government has also underwritten funds to construct the transmission line section of Project EnergyConnect (PEC) between Dinawan and Wagga Wagga at 500 kV rather than 330 kV.[38]

On 22 December 2023, Transgrid submitted its stage 1 early works contingent project application (CPA) for $1,096.3 million ($Real 2022–23) in capex to the AER.[39] This represents 55% of the total expected costs for the NSW portion of costs. The stage 1 application involves costs for pre-construction development activities, procuring long lead

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31 AEMO, *Feedback loop notice – VNI West early works*, December 2023.

32 The cost split is set out in: AVP and Transgrid, *RIT-T PACR – VNI West - Volume 1*, May 2023, p. 48.

33 AEMO, *Integrated system plan 2022*, June 2022; and, AEMO, *Integrated system plan draft 2024 - Appendix A5 – Network investments*, December 2023.

34 AVP and Transgrid, *RIT-T PACR – VNI West - Volume 1*, May 2023, p. 15.

35 AEMO, *Integrated system plan draft 2024 - Appendix A5 – Network investments*, December 2023, pp. 35–36.

36 AEMO, *Feedback loop notice – VNI West early works*, December 2023.

37 Commonwealth Government and Victorian Government, *Joint media release: Rewiring the nation to supercharge Victorian renewables*, October 2022.

38 Commonwealth Government, *Government supporting delivery of critical transmission infrastructure in southwest NSW*, September 2021.

39 Unless otherwise stated, all dollar figures referred to in this document are in $ Real 2022–23 terms.

equipment, stakeholder engagement and social licence, land-use planning, approvals and acquisition, biodiversity offset costs, and two design and construction packages.

2 Summary of NER requirements

For an actionable ISP project, a transmission network service provider (TNSP) may submit a contingent project application to the AER if the trigger event under clause 5.16A.5 of the National Electricity Rules (NER) has occurred.[40] The information that a TNSP is required to include in its application is set out under clause 6A.8.2(b). Transgrid submitted its application on 22 December 2023 as described in section 1.

As soon as practicable following receipt of the application, we must publish the application and invite submissions on the application.[41] We must consider any written submissions on the application in making our determination and we must make our decision within 40 business days from the later of the date we receive the application and the date we receive any information required by us under clause 6A.8.2(h1).[42] We published the application on 5 February 2024 and sought submissions. Submissions closed on 1 March 2024 and we received one written submission. We issued four notices under clause 6A.8.2(h1) and Transgrid's final response was received on 11 April 2024.

If we are satisfied the trigger event has occurred, the forecast total capital expenditure in the application exceeds the threshold in clause 6A.8.1(b)(2)(iii), and AEMO has provided written confirmation requested under clause 5.16A.5(b),[43] we must then:

- determine the capital expenditure (capex), incremental operating expenditure (opex) and incremental revenue reasonably required for the purposes of undertaking the project, and the likely commencement and completion dates for the project.[44]
- determine the estimate of incremental revenue likely to be required in each remaining regulatory year as a result of the project.[45]
- amend the relevant revenue determination in accordance with clause 6A.8.2(h).[46]

We discuss our assessment of the trigger event and cost threshold in section 4.

In making the determinations required under clause 6A.8.2(e)(1), we must accept the relevant amounts and dates in the application if we are satisfied that:

- the forecast of the total capex for the project meets the threshold in clause 6A.8.1(b)(2)(iii)[47]

40 NER, cl. 6A.8.2(a)(2).
41 NER, cl. 6A.8.2(c).
42 NER, cl. 6A.8.2(d).
43 6A.8.2(e).
44 6A.8.2(e)(1).
45 6A.8.2(e)(2).
46 6A.8.2(e)(3).
47 6A.8.2(f)(1).

- the capex and opex in the application reasonably reflects the capex and opex criteria required to achieve the capex and opex objectives,[48] taking into account the capex and opex factors[49, 50]
- the estimates of incremental revenue and the dates are reasonable.[51]

Our decision focuses on the assessment of prudent and efficient capex because Transgrid's application does not include an amount for incremental opex.[52]

In making the determinations under 6A.8.2(e)(1) and determining whether to accept the amounts and dates in the application, we must have regard to the matters under clause 6A.8.2(g).[53] Having regard to the matters under clause 6A.8.2(g), if we are then satisfied of the matters in clause 6A.8.2(f), we must accept the amounts and dates proposed in the application. If we are not satisfied, then we must determine the amounts and dates.

We are not satisfied that Transgrid's estimate of capex reasonably reflects the prudency and efficiency criteria. Therefore, we are required to determine an alternative estimate of capex that is reasonably required for the purposes of undertaking the contingent project.[54] We set out our overall determination on the amounts and dates in section 3, our alternative estimate of capex in section 5, and the corresponding incremental revenue in section 6.

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48 The capex and opex criteria are set out in NER clauses 6A.6.7(c) and 6A.6.6(c), respectively. The capex and opex objectives are set out in NER clauses 6A.6.7(a) and 6A.6.6(a), respectively.

49 The capex and opex factors are set out in NER clauses 6A.6.7(e) and 6A.6.6(e), respectively.

50 6A.8.2(f)(2).

51 6A.8.2(f)(3) and (4).

52 The only opex in Transgrid's application relates to debt-raising costs following a standardised estimation methodology.

53 6A.8.2(g).

54 NER, cl. 6A.8.2(e)(ii).

3 Our contingent project determination

Under clause 6A.8.2(a) of the NER, Transgrid may apply to amend its existing revenue determination to increase allowed revenues for a contingent project. However, we are only required to determine the incremental revenues required to deliver the contingent project if we are satisfied that the actionable ISP project trigger event has occurred, and the project exceeds a cost threshold.[55]

As set out in section 4, the VNI West stage 1 CPA meets the criteria under clause 6A.8.2(e) required for us to make a determination because:

- we are satisfied that each element of the actionable ISP project trigger event for this project has occurred[56]
- we are satisfied that the proposed capex amount of $1,096.3 million exceeds the applicable materiality threshold of $46.2 million (5% of the maximum allowable revenue in year one of the 2023–28 period).[57]

We have made a determination on Transgrid's CPA in accordance with clause 6A.8.2 of the NER, which specifies the process we must undertake and the determinations we must make on a CPA.

In accordance with clause 6A.8.2(e)(1) of the NER, we have determined:

- the total capex that is reasonably required for the project and the amount of capex for each remaining year of the regulatory control period (see section 5).[58]
- the incremental revenue which is likely to be required by Transgrid for each remaining regulatory year as a result of the efficient capex for the contingent project (see section 6), and
- that the project has commenced and stage 1 is aimed to be completed in 2026. The target date for completing all stages of the project is 2028.

Prior to making our determination, we were required to publish Transgrid's application and invite interested parties to make written submissions.[59] We sought submissions on Transgrid's application, which closed on 1 March 2024.[60] We are required to consider any

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55 NER, cl. 6A.8.2(e).

56 The criteria for actionable ISP project trigger events are set out in clause 5.16A.5 of the NER.

57 NER, cl. 6A.8.1(b)(2)(iii).

58 Transgrid's application does not include any additional operating expenditure beyond its opex forecast included in the 2023–28 Determination. However, Transgrid's application includes debt raising costs using a standard estimation approach calculated within the PTRM.

59 NER, cl. 6A.8.2(c).

60 We received one submission as published on the AER website.

written submissions made and make our decision on Transgrid's application within statutory timeframes.[61]

In making our determination, we must accept Transgrid's proposed amounts and dates in the application if we are satisfied the proposed expenditure meets the relevant threshold, the proposed expenditure reasonably reflects the expenditure criteria, the incremental revenue is reasonable, and the dates are reasonable.[62] If we are not satisfied, we must determine these amounts and dates.

Based on our review of Transgrid's application, we do not accept Transgrid's forecast $1,096.3 million for capex for stage 1 incurred, or to be incurred, in years 2017–18 to 2025–26. Our alternative estimate of stage 1 capex is $948.8 million, which is $147.5 million (13.5%) lower than Transgrid's forecast. We discuss our reasons in section 5.1. As discussed in section 6, our decision is for Transgrid to recover incremental revenue of $164.2 million over the remaining three years of the 2023–28 period (2025–26 to 2027–28).

We are satisfied with Transgrid's proposed timing for completing stage 1 in 2025–26 as this aligns with the stage 1 timing in the 2022 ISP.[63]

We do not accept Transgrid's proposed as-incurred approach for depreciating forecast capex allocated to the transmission lines and substations asset classes. Instead, we applied the as-commissioned approach to these asset classes. However, we accept the proposed as-incurred approach for depreciating forecast capex associated with biodiversity offsets. We discuss our reasons in section 6.1.

We also do not accept Transgrid's proposal to not assign a standard tax asset life for costs associated with payments made directly into the Biodiversity Conservation Fund and other indirect costs. We consider a standard tax asset life of 50 years should be assigned for tax depreciation purposes for these costs. However, we accept the proposal to not assign a standard tax asset life for costs associated with biodiversity stewardship sites. We discuss our reasons in section 6.2.

We have published on our website a supporting post-tax revenue model (PTRM) for the 2023–28 period which sets out the updated annual revenues and X-factors for the 2023–28 period after including the contingent project amount. We have also published a supporting regulatory asset base (RAB) roll forward model which sets out the updated opening RAB value as at 1 July 2023 after including the contingent project amount for the 2018–23 period.

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61 NER, cl. 6A.8.2(d). We are required to make a decision within 40 business days from the later of the date we receive the application and the date we receive any information required by us under clause 6A.8.2(h1). On 11 April 2024, we received Transgrid's final response to the information we requested under clause 6A.8.2(h1).

62 NER, cl. 6A.8.2(f).

63 AEMO, *Integrated system plan 2022*, June 2022, p. 74. The 2025–26 date is determined from the expenditure profile in: Transgrid, *VNI West stage 1 CPA - A.5 Capex forecast model*, January 2024.

4 Project trigger and expenditure threshold

Under clause 6A.8.2(e) of the NER, we are required to determine the expenditure reasonably required and the incremental revenues necessary to deliver the contingent project if we are satisfied that a specific trigger event has occurred, and that the project exceeds a cost threshold.

4.1 Assessment of trigger event

The criteria for trigger events for actionable ISP projects are set out in clause 5.16A.5 of the NER.

Table 2 sets out the required elements of the actionable ISP project trigger event (as per NER 5.16A.5 and our assessment against each trigger event. We are satisfied that each element of the trigger event has occurred.

Table 2 Actionable ISP project trigger event (NER 5.16A.5)

Description of trigger event element	Assessment
(a) The RIT-T proponent must issue a RIT-T project assessment conclusions report that meets the requirements of clause 5.16A.4 and which identifies a project as the preferred option (which may be a stage of an actionable ISP project if the actionable ISP project is a staged project).	Transgrid published a RIT-T PACR for VNI West in May 2023 that meets the requirements of clause 5.16A.4, and which identified the preferred option to be a new 500 kV double circuit transmission line connecting the high voltage electricity grids in NSW and Victoria (option 5A).
(b) The RIT-T proponent must obtain written confirmation from AEMO that:[64] • the preferred option addresses the relevant identified need specified in the most recent ISP and aligns with the optimal development path referred to in the most recent ISP; and • the cost of the preferred option does not change the status of the actionable ISP project as part of the optimal development path as updated in accordance with clause 5.22.15 where applicable.	Transgrid received written feedback loop confirmation from AEMO on 21 December 2023 that the entire VNI West project meets the identified need in the most recent ISP, this being the draft 2024 ISP, and that the total VNI West project costs remain part of the optimal development path at an updated total cost of $3,963.6 million ($2022–23) for both the NSW and Victorian components.
(c) No dispute notice has been given to the AER under rule 5.16B(c) or, if a dispute notice has been given, then in accordance with rule 5.16B(d), the dispute has been rejected or the project assessment conclusions report has been amended and identifies that project as the preferred option.	On 26 June 2023, we received a dispute notice from Moorabool and Central Highlands Power Alliance (MCHPA) under rule 5.16B(c).[65] In October 2023, we rejected this dispute notice in accordance with rule 5.16A(d).[66]

64 This is the 'ISP feedback loop'.

65 MCHPA, *Dispute notice – VNI West project assessment conclusions report*, June 2023.

66 AER, *Determination of dispute – application of the regulatory investment test for transmission – VNI West*, October 2023.

Description of trigger event element	Assessment
(d) The cost of the preferred option set out in the contingent project application must be no greater than the cost considered in AEMO's assessment in requirement 2 above.	Transgrid's proposed Stage 1 capex of $1,096.3 million ($2022–23) is no greater than the $3,963.6 million total project costs considered in the AEMO's feedback loop confirmation.

Source: AER analysis.

4.2 Assessment of expenditure threshold

As required under clause 6A.8.2(e)(1B) of the NER, we are satisfied that the proposed capex amount of $1,096.3 million exceeds the applicable materiality threshold of $46.2 million (5% of the maximum allowed revenue in year one of the 2023–28 period). This is calculated from the updated post tax revenue model for the 2023–28 regulatory period following our decisions for HumeLink stage 1 part 1 and stage 1 part 2.[67]

[67] AER, *Final decision HumeLink stage 1 (part 2) – post-tax revenue model*, August 2023.

5 Prudent and efficient project expenditure

In making our determination we have had regard to the specific matters under clause 6A.8.2(g) of the NER. This section outlines how we have considered these matters and our assessment of the prudent and efficient costs for Transgrid's VNI West stage 1 contingent project application. Transgrid proposed incremental capex associated with the project and did not propose any incremental operating expenditure.

5.1 Forecast capital expenditure

Our alternative estimate is $948.8 million, which is $147.5 million (or 13.5%) lower than Transgrid's proposed forecast capex of $1,096.3 million for its stage 1 CPA. In assessing capex, we developed an alternative estimate because we did not consider Transgrid's proposed capex was prudent and efficient and reasonably required for the purposes of undertaking the project. In assessing the scope of the project that is reasonably required, we had regard to:

- the scope of works described within the 2022 ISP, the RIT-T PACR and the draft 2024 ISP.[68] We considered that the early works described in the 2022 ISP provides a reasonable basis for the potential early works activities, though this is not a binding requirement. We also noted the draft 2024 ISP no longer includes staging for the VNI West project.
- whether the costs were sufficiently certain to be included stage 1 and whether the costs would be more suitable in a subsequent stage 2 contingent project application after progressing the early works activities.
- the expectations and guidance set out in our Cost Benefit Analysis Guidelines and our Guidance note on the regulation of actionable ISP projects.[69]

Table 3 sets out our determination on the total capex reasonably required for the project compared to Transgrid's proposal, including actual capex incurred in the 2018–23 period and forecast capex in the first three years of the 2023–28 period.

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68 AEMO, *Integrated system plan 2022*, June 2022, p. 75; AVP and Transgrid, *RIT-T PACT – VNI West Volume 1*, May 2023, pp. 113–116; and AEMO, *Integrated system plan draft 2024 - Appendix A5 – Network investments*, December 2023, pp. 35–36.

69 AER, *Guidance note - Regulation of actionable ISP projects*, March 2021 and AER, *Cost benefit analysis guidelines*, October 2023.

Table 3 AER's determination on VNI West stage 1 capex ($ million, $2022–23)

	2018–23 Actual	2023–24 Forecast	2024–25 Forecast	2025–26 Forecast	Total
Transgrid's application	77.1	499.7	450.1	69.4	1,096.3
AER's determination	38.2	476.5	369.9	64.2	948.8
Difference ($)	**-38.9**	**-23.2**	**-80.2**	**-5.2**	**-147.5**
Difference (%)	**-50.5%**	**-4.6%**	**-17.8%**	**-7.5%**	**-13.5%**

Source: AER analysis of Transgrid's revised capex model submitted in response to information requests 02 and 03.

Note: Numbers may not add up due to rounding. Excludes equity raising costs. Capex in 2022–23 is updated for actual capex.

Table 4 summarises our determination against the components of Transgrid's proposed forecast capex by category.

Table 4 AER's determination compared with Transgrid's application ($ million, $2022–23)

Capex category	Transgrid's application	AER's determination	Difference ($)	Difference (% of total capex)
Pre-construction development costs	49.4	49.4	0.0	0.0%
Long lead equipment	228.9	228.9	0.0	0.0%
Project EnergyConnect Enhancement[A]	345.6	309.7	-35.9	-3.3%
HumeLink substation (Gugaa) integration works[B]	169.0	131.1	-37.9	-3.5%
Land acquisition	30.7	30.7	0.0	0.0%
Biodiversity offsets	67.1	10.0	-57.1	-5.2%
Labour	65.2	64.2	-1.0	-0.1%
Indirect non-labour	140.4	125.5	-14.9	-1.4%
Subtotal capex	**1,096.3**	**949.5**	**-146.8**	**-13.4%**
Modelling adjustments		-0.6		
Total capex	**1,096.3**	**948.8**	**-147.5**	**-13.5%**

Source: Transgrid, *VNI West stage 1 Early works Contingent Project Application*, January 2024 and AER analysis.

Note: Numbers may not add up due to rounding. Excludes equity raising costs. Modelling adjustment aligns the inflation series to our 2023–28 Determination for Transgrid. Transgrid claimed confidentiality over further cost breakdowns:
(A) Including costs for: contract costs, property compensation costs, biodiversity offset costs, contingency costs.
(B) Including costs for: contract costs, contingency costs, storage and land purchase costs.

In making our decision, we have had regard to the range of supporting documents Transgrid submitted, including a breakdown of the project cost elements, a capex forecasting methodology, cost models, and an independent engineering verification and assessment of

its capex forecast. Transgrid also responded to all four of the information requests we issued under clause 6A.8.2(h1), which we have used in forming our decision and alternative estimate of capex. We have also had regard to the written stakeholder submission received.

Context for our stage 1 assessment

AEMO's 2022 ISP described the early works activities that may be included for VNI West:[70]

- "Project initiation – scope, team mobilisation, service procurement.
- Stakeholder engagement – with local communities, landowners and other stakeholders.
- Land-use planning – identify and obtain all primary planning and environmental approvals, route identification, field surveys, geotechnical investigations, substation site selection and easement acquisition.
- Detailed engineering design – transmission line, structure and substation design, detailed engineering design and planning.
- Cost estimation – finalisation, including quotes for primary and secondary plant.
- Strategic network investment – an uplift to the delivered capacity of PEC between Dinawan and Wagga Wagga."

Our Cost benefit analysis (CBA) Guidelines and our Guidance Note on the regulation of actionable ISP projects set out our expectations on, and the objectives of, early works and project staging in contingent project applications in detail.[71] Following the Australian Energy Market Commission's (AEMC) Transmission Planning and Investment Review (TPIR), we updated our CBA Guidelines to include further guidance on early works and clarify that early works activities are prior to the construction of the preferred option.[72] As the CBA Guidelines were updated subsequent to the PACR for VNI West being published, we have not applied this amended guidance on early works.

Transgrid's stage 1 application represents 55% of the total expected costs for the NSW component of VNI West. This is a significant amount of capex for a stage 1 application. The high proportion of stage 1 costs reflect that Transgrid has, in large part, brought forward costs that would typically be included in a stage 2 application.[73] We would not typically include construction costs within a stage 1 CPA decision as early works are intended to be activities prior to construction. However, given the timing of when our CBA Guidelines were amended and the likely lower overall cost of delivering these projects by undertaking the PEC Enhancement and Gugaa substation scope of works concurrently in PEC and HumeLink, we have included the proposed capex (except for the contingency costs).

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70 AEMO, *Integrated system plan 2022*, June 2022, p. 75.

71 AER, *Cost benefit analysis guidelines*, October 2023, pp. 47–48; and AER, *Guidance note - Regulation of actionable ISP projects*, March 2021, pp. 25–31.

72 AER, *Cost benefit analysis guidelines*, October 2023, pp. 47–48.

73 For example, the design and construction costs amount to $514.6 million, which accounts for 47% of the $1,096.3 million in the stage 1 application.

For costs relating to contingencies, social licence, and biodiversity, we are not satisfied that the proposed costs are prudent and efficient for a stage 1 application. As discussed further in this section:

- The magnitude of the contingency costs relating to the design and construction are in large part due to bringing forward costs from stage 2. In this case, we consider it is reasonable to bring forward parts of the design and construction to reduce overall costs and align the construction timing with PEC and HumeLink. However, based on the information provided in Transgrid's risk register, we found the amount of risk costs were likely overstated and not prudent and efficient. Our alternative estimate includes capex for specific risk costs that meet the expectations in our Guidance note on the regulation of actionable ISP projects. We have excluded risk costs where additional expenditure is not reasonably required beyond what is included in the related PEC and HumeLink projects and where the risks are reasonably within Transgrid's control. We discuss this further in section 5.1.2.
- A portion of the costs for social licence and biodiversity offsets would be more suitable for the stage 2 application where there will be better information to support the costs. The case would be better supported following further community engagement to justify social licence activities and further progressing environmental studies and planning approvals for biodiversity offset costs. We have provided sufficient capex to enable Transgrid to progress these. The efficiency and prudency of these costs would need to be justified by Transgrid and assessed by us at stage 2. We discuss our assessment of biodiversity offset costs and social licence in section 5.1.3 and section 5.1.4, respectively.

Subsequent to the submission of Transgrid's VNI West stage 1 contingent project application, the AEMC introduced a definition of early works contingent project applications into the NER recognising that these types of applications are for activities undertaken prior to construction of the preferred option.[74] Any future staged contingent project applications with early works will need to reflect the definitions and guidance applicable at that time for that project, such as that in the NER and our Guidelines. As such, our decision contained within may not necessarily be entirely applicable to future contingent project decisions due to the various proposed AEMC rule changes following the TPIR relating to early works, staging, and related processes for the ISP, RIT-T, AEMO feedback loop confirmation, and our assessment of contingent project applications.

Our overall conclusion on Transgrid's proposed capex

Based on our review of the available information, we do not accept Transgrid's proposed capex for VNI West stage 1. Instead, we have substituted an alternative estimate of $948.8 million, which is $147.5 million (or 13.5%) lower than Transgrid's application.

We found that:

- We were satisfied the typical costs components included within stage 1 early works reasonably reflect prudent and efficient costs and are reasonably required for progressing

[74] NER Chapter 10 Glossary for "early works contingent project application" - An application by a *Transmission Network Service Provider* to amend its *revenue determination* in respect of the costs of activities undertaken in respect of an *actionable ISP project* prior to construction of the *preferred option*.

stage 1. This includes costs for: procurement of various materials and long lead equipment (steel, conductor, transformers, reactors, and power flow controllers); pre-construction development for substations and transmission lines; land and easement acquisition; and the internal labour resource requirements and indirect costs.[75]

- Compared to the RIT-T PACR, Transgrid brought forward a variety of costs (such as power flow controllers, biodiversity offset costs, and Gugaa substation integration) that significantly increased the proportion of stage 1 early works expenditure compared to the total project expenditure. In some cases, we found these costs have been reasonably justified, will be offset from stage 2 costs, and will contribute to lowering the overall project costs across the stages. Our decision includes the cost estimates for the PEC Enhancement and Gugaa substation integration as these were largely based on contracts with pre-agreed variations, though we reduced the amount for contingency costs in our alternative estimate (see below).
- Contingency costs relating to design and construction packages and land acquisition contributed 11.5% to the total capex. We undertook a detailed review of these contingency costs and found Transgrid had not established that many of the proposed amounts for addressing risk were greater than the risks already addressed in the PEC CPA and the HumeLink stage 2 CPA. Further, several contingency costs are reasonably within Transgrid's control to manage and mitigate. Therefore, these components of the contingency costs are not reasonably required for the project. Our alternative estimate is based on our bottom-up review of Transgrid's risk register, applying the expectations outlined in our Guidance note on the regulation of actionable ISP projects.
- Biodiversity offset costs contributed 9% to the total capex. Transgrid submitted biodiversity offset costs for two areas: one for the VNI West transmission line corridor and one for the PEC Enhancement. For the VNI West corridor, Transgrid provided good reasons to bring forward some of the biodiversity costs to enable more cost-effective solutions to be available (through Biodiversity Stewardship Agreements that have long lead time to implement). We consider the Biodiversity Stewardship Agreement establishment costs and the labour and indirect costs to progress environmental studies, planning approvals, and related costs are reasonably required for stage 1. For the PEC Enhancement biodiversity offset costs, we have accepted the labour and indirect costs but not the direct non-labour costs because Transgrid has not established that incremental revenue is required to meet the regulatory obligations beyond that already approved in the PEC CPA. Overall, our alternative estimate will enable Transgrid to develop more refined and certain estimates for biodiversity offset costs to include in its stage 2 application.
- Social licence costs were generally justified. We have provided Transgrid with the full amount for its proposed community and stakeholder engagement and expect Transgrid to undertake high quality engagement with this funding. We also have accepted a portion of the social licence activities (beyond engagement activities) that have been reasonably justified based on engagement with the affected communities. Conversely, we have not accepted some costs where we do not consider Transgrid has yet undertaken sufficient

[75] Transgrid proposed a variety of cost subcategories for project development, community and stakeholder engagement, land and environment, regulatory approvals, and other support costs.

community engagement to support the proposed activities in a stage 1 application. We consider these costs may be more suitable for the stage 2 application when the activities are better informed following further engagement with the local communities.

We discuss our decision on the key cost categories in more detail below.

5.1.1 Design and construction costs for PEC Enhancement and Gugaa substation integration

Our decision

We have included Transgrid's estimates for the design and construction costs for the PEC Enhancement and the HumeLink (Gugaa) substation integration in our alternative estimate. The costs were predominantly based on pre-agreed contract variations with the existing PEC contractor and the HumeLink delivery partner. These scopes of work included within the VNI West application are an expansion of design and construction funded and delivered by the related PEC and HumeLink projects. We found these scopes were additional to the scope and associated costs included in the PEC and HumeLink projects and are therefore not duplicative.

We consider the PEC Enhancement and Gugaa substation integration are important scopes of work as they enable the connection of PEC, VNI West and HumeLink to each other at 500 kV. Addressing these upgrades in stage 1 allows for concurrent investment while PEC and HumeLink are being built to derive investment synergies. This will lower the overall costs compared to undertaking the upgrades only a few years later.

However, there are two cost components for contingencies and biodiversity offset costs as part of the PEC Enhancement and Gugaa substation integration that we reduced as part of our alternative estimate of capex. We discuss these in section 5.1.2 and section 5.1.3.2, respectively.

Transgrid's proposal

Transgrid submitted two design and construction scopes of work within its stage 1 application. The scopes relate to expanding the capacity of a transmission line being built as part of PEC and a substation being built as part of HumeLink.

The PEC Enhancement is one of two design and construction packages submitted in the VNI West stage 1 CPA. The PEC Enhancement is required for uplifting the delivered capacity of the PEC transmission line between Dinawan and Wagga Wagga from 330 kV to 500 kV. The proposed works involve constructing a 500 kV double circuit line instead of the initial 330 kV scope for the PEC transmission line previously approved.[76] The total cost submitted with the VNI West stage 1 application for the PEC Enhancement is $357.0 million, comprising: $345.6 million for direct non-labour costs, and $11.4 million for labour and indirect costs.

The second design and construction package are for the Gugaa substation integration works associated with HumeLink ($169.0 million). Transgrid submitted these costs as they are

[76] This will uprate the line capacity from 800 MVA to 3,200 MVA.

required to integrate the 500 kV PEC enhancement with the Gugaa 500/330 kV substation being built as part of HumeLink. Transgrid states that it submitted the Gugaa integration costs as part of VNI West stage 1 instead of stage 2 to meet the required timing for HumeLink (2026) and to enable a positive final investment decision by securing revenue sooner.[77]

Our assessment

"Early works" do not typically include design and construction costs as acknowledged by Transgrid.[78] Our current Cost Benefit Analysis Guidelines note that early works are activities undertaken prior to construction.[79] The stage 1 proportion of total costs is about 55%, compared to 18% in the RIT-T PACR, largely driven by including these design and construction costs in stage 1.

We have considered the overall project in determining whether to include the proposed PEC Enhancement and Gugaa substation costs within stage 1 instead of stage 2. AEMO's draft 2024 ISP removed the staging of VNI West so the previous distinction of stage 1 early works and stage 2 implementation in the 2022 ISP has been superseded. We are required to determine the prudent and efficient costs reasonably required for undertaking the contingent project and we have considered the overall context of the project in whether to include these design and construction costs in stage 1. We consider there are benefits in undertaking these works in stage 1 and we note that the costs included in stage 1 will be offset from the costs within stage 2. Further, this would lower the overall costs across stage 1 and stage 2 for VNI West.

We are satisfied the proposed scope and costs for the PEC Enhancement and Gugaa integration are additional to the costs previously approved in the PEC CPA and HumeLink stage 2 CPA currently being assessed. In response to our information requests, Transgrid provided further information on the scope of works for the PEC Enhancement and the Gugaa substation integration including updated descriptions, schematics, and cost breakdowns of pre-agreed contract variations to demonstrate the incremental nature of the capex.[80]

We agree investment synergies arise from undertaking the upgrades concurrently with the PEC and HumeLink construction that will reduce costs for consumers. However, we do not agree with Transgrid's proposed counterfactuals and the estimated amount of cost saving benefits totalling $787 million for bringing forward these design and construction costs from stage 2 to stage 1 as follows:[81]

- For the PEC Enhancement, Transgrid's proposed counterfactual considers avoiding costs of constructing duplicate transmission lines: one line initially at 330 kV and a

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77 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 6.

78 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 3.

79 AER, *Cost benefit analysis guidelines*, October 2023, pp. 47–48.

80 Transgrid, *Response to AER information request 02 - Q6*, 19 February 2024; and Transgrid, *Response to AER information request 01 - Q1.6*, 9 February 2024.

81 Transgrid claims the proposed PEC Enhancement would provide a cost saving of $697 million and the Gugaa substation integration would save $90 million. Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 7.

second at 500 kV (within two years).[82] It is debatable what the alternative state of the world would be for constructing PEC at 500 kV rather than 330 kV, considering the concessional loans and government underwriting since 2021 to enable building the transmission line between Dinawan and Wagga Wagga at 500 kV upfront rather than initially at 330 kV then upgrading to 500 kV in future.[83] We also question the magnitude of the proposed cost saving benefits derived by comparing the real pre-agreed contract variation from the PEC contractor against the hypothetical 'current market pricing' from equivalent HumeLink costs.[84]

- For Gugaa substation, the proposed benefits of reducing costs associated with working on a brownfield site 1–2 years later are reasonable in principle, though we question the magnitude of those cost saving benefits proposed by Transgrid as these have simply been presented as percentage increases for brownfield allowance and contractor preliminaries not included in the pre-agreed variation.

Notwithstanding the above comments on the proposed counterfactuals and cost saving benefits, we agree there would be net cost savings associated with the concurrent investment and avoiding duplication cost increases associated with undertaking works later on brownfield sites.

In addition, we sought confirmation from Transgrid that no further costs would be expected regarding the scope of the PEC Enhancement and Gugaa substation integration, to ensure that customers would not pay twice.

For the PEC Enhancement, Transgrid indicated that no further costs are expected to be included in CPA stage 2, stating the "PEC Enhancement scope of works and associated costs is included in its entirety in this CPA1 submission."[85] However, Transgrid stated there is some additional scope for surge arresters and line reconfigurations in stage 2, though this is not required under the PEC Enhancement scope of works. Surge arresters will be installed on one circuit between Dinawan and Wagga Wagga and there will be some line reconfiguration works, with these costs included in the stage 2 CPA.[86]

For Gugaa substation, Transgrid has indicated that:

- the Gugaa substation is likely to be substantially complete by the end of 2025 under the HumeLink delivery, though there will be some "additional works required to facilitate the upgrade from 330 kV to 500 kV, requiring design, construction of new transmission line spans, testing and commissioning which will be included within CPA-2."[87]
- there is a new 500 kV double circuit transmission line being constructed and delivered through HumeLink, with the costs split between the projects: HumeLink CPA stage 2

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82 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 36.

83 Commonwealth Government, *Government supporting delivery of critical transmission infrastructure in southwest NSW*, September 2021; and, Commonwealth Government and Victorian Government, *Joint media release: Rewiring the nation to supercharge Victorian renewables*, October 2022.

84 Transgrid, *Response to AER information request on the draft application - Q7*, December 2023.

85 Transgrid, *Response to AER information request 01 - Q1.4*, February 2024.

86 Transgrid, *Response to AER information request on the draft application - Q4*, December 2023.

87 Transgrid, *Response to AER information request on the draft application - Q4*, December 2023.

includes costs for building the line at 330 kV, then VNI West CPA stage 1 includes the incremental costs for building this line at 500 kV.[88] There is an existing 330 kV transmission line (TL51) from Wagga Wagga substation that will connect to Gugaa substation, so there are some costs expected within VNI West CPA stage 2 to cut TL51 into Gugaa substation and rebuild TL51 between Wagga Wagga and Gugaa as a 330 kV double circuit transmission line.

Beyond the design and construction scope included in this stage 1 application and the abovementioned expected costs for stage 2 (which we would need to assess the prudency and efficiency of as part of our stage 2 assessment) , we do not consider that it is reasonable for Transgrid to make further requests on the two scopes of work for the PEC Enhancement and Gugaa substation integration in its stage 2 application. This is to ensure customers do not pay twice for these scopes of work.

In making our decision, we have considered the overall costs of the interrelated projects and their associated expected delivery timeframes of PEC in 2026 and HumeLink in 2026–27. As discussed further in section 5.1.2 below, our primary concern with the prudency and efficiency of the cost estimates relates to including substantial contingency costs.

5.1.2 Contingency costs

Our decision

Our alternative estimate for contingency costs is $61.9 million. This is $64.5 million lower than Transgrid's proposed contingency costs of $126.4 million. Our decision reflects that:

- We have not accepted the full amount for the contingency costs associated with the design and construction of the PEC Enhancement and the Gugaa substation integration. Transgrid's application submitted broad percentage allowance for contingencies, which we do not consider is appropriate justification. Our alternative estimate is based on a bottom-up review of Transgrid's risk register.[89] We accepted $61.1 million for risks costs where we were satisfied the risk costs met our expectations set out in our Guidance note on the regulation of actionable ISP projects. In contrast, we excluded several risks that are either already included within the PEC CPA and the HumeLink CPA, or that are reasonably within Transgrid's control to mitigate and manage.
- We have not accepted the proposed $3.9 million contingency costs for labour and indirect costs because we are not satisfied that an increase in direct costs would incur proportionate increases in labour and indirect costs. The drivers of direct costs are often different from the drivers of indirect costs. Because of this, we have assessed the labour and indirect contingency as part of the total design and construction packages contingency.

88 Transgrid, *Response to AER information request 01 - Q1.3*, February 2024.

89 Transgrid, *Response to AER information request 02 - Q13 (Confidential)*, February 2024.

- We have accepted the proposed $0.8 million contingency for land access and acquisition as the costs are reasonably justified based on historical costs and Transgrid's consultant's advice.

Transgrid's proposal

Transgrid proposed contingency costs to allow it to address unexpected expenses or risks that may arise during the project's implementation and thereby facilitate the smooth execution of the project.[90] These cover the expected cost increases to construction activities, such as material prices and labour costs during delays. These contingency costs comprise:[91]

- $125.6 million for the design and construction packages for the PEC Enhancement and Gugaa substation. This includes $121.7 million contractor's contingency and owner's contingency on the direct construction costs, and $3.9 million labour and indirect costs contingencies.
- $0.8 million for land access and acquisition. Transgrid determined this amount based on historical costs and advice from a consultant.

Transgrid's proposed contingency costs for the PEC Enhancement and Gugaa Substation works were based on broad percentage allowances for risk and uncertainty determined by Transgrid's consultant, Fission. Fission's advice highlights the early development stage and estimate uncertainty as justification for the contingency costs. The $121.7 million contingency on the direct construction costs cover costs which are not included in contract costs that Transgrid considers may be incurred in the construction of the contracted PEC Enhancement and Gugaa Substation works.

Transgrid also applied $3.9 million of contingencies to the PEC enhancement and Gugaa integration labour and indirect costs. Transgrid included these labour and indirect contingencies proportionately to the contingencies on the direct costs of the design and construction packages.

Transgrid proposed an additional $27.4 million for biodiversity contingency, which is discussed in section 5.1.3.

Our assessment approach

Our Guidance Note on the regulation of actionable ISP projects sets out our assessment approach and expectations on the supporting information accompanying a CPA.[92]

When accounting for project risks, we do not provide a project risk allowance that completely covers all potential cost impacts to the project.[93] We expect that most projects have symmetrical risk distributions, meaning that the likelihood of projects being over or under-budget is approximately equal. In those cases, we would expect a network service provider to balance the over and under-budget programs in its portfolio. Our contingent project determination is not intended to completely de-risk the project, as investment projects are

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90 Transgrid, *VNI West stage 1 CPA - A.2 Direct Capex Forecasting Methodology*, December 2023 p. 18.

91 Transgrid has largely claimed confidentiality of further breakdowns of these contingency costs.

92 AER, *Guidance note - Regulation of actionable ISP projects*, March 2021.

93 AER, *Guidance note - Regulation of actionable ISP projects*, March 2021, p. 17

inherently uncertain and financing arrangements account for this. However, it may be prudent to include specific and appropriate contingency costs for asymmetric risks, where the likelihood of programs being over-budget is greater than the likelihood of being under-budget.[94]

We have assessed each of Transgrid's proposed contingency costs against the "project risks" section of our guidance note on the regulation of actionable ISP projects.[95] The guidance note outlines the information and justification we expect to accept a risk cost as prudent and efficient. In summary, our guidance note states that we can accept risk costs in a contingent project determination if the network service provider:

- comprehensively and transparently identifies and defines the different project risks
- identifies and justifies reasonable and realistic potential cost impacts (including potential cost reductions) and likelihoods of occurrence, accounting for controls or mitigations
- shows that the residual consequential cost is weighted to reflect the likelihood of occurrence
- shows why the risk cannot be efficiently transferred, avoided or mitigated (or included in cost pass through events)
- shows that the cost of mitigation measures exceeds the expected weighted cost impact should the risk eventuate
- shows that risk will be allocated to the party that is best placed to manage that risk.

We consider the contingency costs in this VNI West contingent project application are similar in nature to the "other construction costs" Transgrid proposed in the contingent project applications for Project EnergyConnect and HumeLink stage 2, as they cover construction risks which are not included in the contracted works. A key difference is that the contingency costs in this VNI West contingent project application cover incremental scopes of work relating to other projects. As described in section 5.1.1, the PEC Enhancement and Gugaa substation works included in the VNI West contingent project application are variations on works already being performed in the PEC and HumeLink contingent project applications, respectively.

We will only consider contingency costs for risks that are genuinely incremental to the scope of works being performed under this contingent project application, that are not otherwise sufficiently addressed in the other related PEC and HumeLink projects. As such, where the risks included in the VNI West application are not materially different to the existing level of risk under the PEC and HumeLink contingent project applications, we have excluded them from the VNI West alternative capex estimate. This is to ensure consumers do not pay twice for addressing the same level of risk so they pay no more than necessary. We only approve the incremental revenue for the expenditure reasonably required for the project by an efficient and prudent operator managing and mitigating the identified risks.[96]

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94 AER, *Guidance note - Regulation of actionable ISP projects*, March 2021, pp. 16–17.

95 AER, *Guidance note - Regulation of actionable ISP projects*, March 2021, pp. 16–21.

96 NER, cl. 6A.8.2(g)(4).

Our assessment of contingency costs

In accordance with our guidance note, we consider that actionable ISP projects can include specific provisions for risks costs in the forecast for asymmetric risks provided there is sufficient justification that meets the expectations of our guidance note. Transgrid's application submitted contingency costs based on broad percentage allowances for risk and uncertainty as advised by its consultant, rather than transparently assessing individual specific risks. Transgrid's application included a table summarising its alignment with our guidance note.[97] However, we did not consider that Transgrid's application met the expected information set out in the guidance note. In particular, Transgrid had not consistently quantified the costs in a probabilistic way by assessing both the cost of the identified consequence and the likelihood of the cost being incurred. We subsequently issued information requests to understand the risks further.

A key part of Transgrid's information request response provided a risk register spreadsheet containing risk costs associated with the relevant section of PEC and Gugaa substation by applying an applicability factor to the related VNI West project scope of works.[98] The risk register identified 60 risks in total, including 15 risks for the PEC Enhancement and 45 risks for the Gugaa substation. We reviewed these bottom-up risk costs against our guidance note and used this information to inform our alternative estimate. Of these identified risks:

- Twenty-three relate to risks that we consider are already addressed in the PEC and HumeLink projects. Therefore, we have reduced these risk costs to zero for VNI West because additional expenditure is not reasonably required for addressing these risks. This reflects that the VNI West risk register was derived from the pre-existing PEC and HumeLink risk registers and applied to VNI West. For example, we have excluded the contingency costs relating to industrial action and exceptional events, as these risks are not materially different for the additional VNI West scope of works.
- Nine relate to risks that are reasonably within Transgrid's control to manage and mitigate. For example, we have not accepted risks relating to labour and indirect costs, interfacing with contractors, and social licence. We considered the labour and indirect cost contingencies in context of the total labour and indirect costs proposed by Transgrid. We consider that accepting Transgrid's labour and indirect costs forecast will allow Transgrid to sufficiently manage the risk of project delays and scope changes within its reasonable control and deliver VNI West stage 1 without the need for additional contingencies.
- The remaining 28 risks were reasonably justified and we consider are prudent and efficient, in line with the guidance note expectations. This amounts to $61.1 million of incremental contingency costs for the VNI West works. We have included some of the risk costs relating to delays due to approvals, conditions, materials, and worker safety. We have allowed these risk costs following a detailed analysis of the risk register because Transgrid presented sufficient justification to demonstrate these would likely be asymmetric risks relating to the incremental works for this project. The risk register information satisfied the guidance note expectations for each of these risks by providing reasonable potential causes, controls, and residual risk with probability distributions and

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97 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 55.

98 Transgrid, *Response to AER information request 02 - Q13 (Confidential)*, February 2024.

magnitude of consequences. In these cases, we are satisfied that Transgrid has justified that it may be reasonably subjected to these material cost impacts outside of its control.

In addition to the above factors, we note that the proposed contingency costs were higher than we would expect for design and construction projects that are expected to be incurred in FY2024 (59%) and FY2025 (38%). Further, design and construction works are typically submitted in stage 2 applications and are therefore at a further stage of project development and maturity. The PEC Enhancement and Gugaa integration are closely related to the PEC project (currently under construction) and the HumeLink project (currently in a stage 2 contingent project assessment) which are further developed. As such, we do not agree with Transgrid's position that these works being in stage 1 necessitates higher contingencies.

We consider that our alternative estimate provides sufficient capex for Transgrid to complete the works if some additional costs are incurred during construction, while not transferring all potential risks to consumers.

5.1.3 Biodiversity offset costs

We do not accept Transgrid's total biodiversity capex of $99.3 million for VNI West and the PEC Enhancement. Table 5 sets out our total alternative biodiversity capex estimate of $30.0 million compared with Transgrid's proposed costs.[99]

[99] The PTRM total for our decision on biodiversity asset classes is $29.8 million. The difference from the $30.0 million is explained by the combination of Transgrid's approach to apportioning labour and indirect costs across the PTRM asset classes and some minor adjustments to labour and indirect cost contingencies. For simplicity, we refer to the changes to the inputs, rather than the PTRM outputs.

Table 5 AER's alternative estimate of total biodiversity capex compared with Transgrid's application ($million, $2022–23)

Biodiversity cost category	Transgrid's application	AER's determination	Difference ($)	Difference (%)
VNI West total	**84.1**	**27.0**	**-57.1**	**-67.9%**
Direct Non-labour	67.1	10.0	-57.1	-85.1%
BSA - land	10.0	10.0	0.0	0.0%
BSA - land management in perpetuity	10.0	10.0	0.0	0.0%
less: residual Total Fund Deposit or BSA establishment cost	-10.0	-10.0	0.0	0.0%
Residual BCF credits	29.8	0.0	-29.8	-100.0%
Contingency	27.4	0.0	-27.4	-100.0%
Labour	4.6	4.6	0.0	0.0%
Indirect non-labour	12.3	12.3	0.0	0.0%
PEC Enhancement total	**15.2**	**3.1**	**-12.1**	**-79.6%**
Direct Non-labour	12.1	0.0	-12.1	-100.0%
Labour	0.8	0.8	0.0	0.0%
Indirect Non-labour	2.2	2.2	0.0	0.0%
Total biodiversity costs	**99.3**	**30.0**	**-69.3**	**-69.8%**

Source: Transgrid application and AER analysis.

Note: Numbers may not add up due to rounding.

Overall, our decision on the prudent and efficient costs for biodiversity offsets in stage 1 is:

- the capex for the Biodiversity Stewardship Agreements (BSAs) is prudent and efficient as it is a lower cost option and is suitable for an early works application as it requires a longer lead time.
- the labour and indirect costs relating to biodiversity are prudent and efficient to enable Transgrid to progress the relevant planning and approvals to minimise project delays and appropriately manage biodiversity impacts.
- the proposed payment into the Biodiversity Conservation Fund (BCF) for VNI West is not prudent at this time, as this is not expected to be due until 2 years after development approval has been granted. This is expected to be between late 2027 and early 2028. We expect Transgrid to propose capex for this, if it is required, in its stage 2 CPA.
- the contingency amount to mitigate the risk of Transgrid not fully realising the expected Biodiversity Stewardship sites/options is not prudent, whereby a larger amount would be required to be paid into the BCF for VNI West. This risk exposure does not apply for the early works period covered by a stage 1 CPA.
- the additional capex for any biodiversity impacts attributable to an increase in the easement for Line 5 of PEC East (part of the PEC Enhancement) is not efficient as we assess that sufficient funding has already been provided in the PEC CPA decision.[100]

[100] AER, *Final decision – Transgrid – Project EnergyConnect contingent project*, May 2021, pp. 23–29.

Our decision in relation to the biodiversity capex for VNI West and the PEC Enhancement is set out in section 5.1.3.1 and section 5.1.3.2, respectively.

5.1.3.1 VNI West biodiversity offset costs

Our decision

We do not accept Transgrid's proposed $67.1 million for direct non-labour biodiversity costs for VNI West. We do not consider that it is prudent and efficient to include the full amount in early works where the appropriate environmental studies, planning and approvals have not yet been undertaken. We have included $10.0 million for biodiversity costs in our alternative estimate. Based on the timing of the obligations and the uncertainty of forecasts, the remaining biodiversity costs should not be included as part of early works.

Transgrid's proposal

Transgrid is required to estimate the likely biodiversity ecosystem and species credit requirements to offset the impacts of its construction of VNI West. To do this Transgrid undertook a desktop assessment of the ecosystems and species that are likely to be impacted along the transmission line corridor. Transgrid engaged a consultant, WSP, to estimate the biodiversity credit requirements associated with the identified ecosystems and species based on WSP's experience with PEC. The credit requirement is calculated by applying the PEC credit per hectare liability to VNI West. This is on the basis that the PEC and VNI West areas share common ecosystems and species.[101] WSP has undertaken limited field work to validate its desktop assessment, due to land access restrictions and seasonal limitations. Transgrid estimated that to offset its construction impacts on biodiversity, 12,228 ecosystem credits are required and it estimated the value of the fauna and flora species credits required at 20% of the cost of the ecosystem credits.[102]

Transgrid's estimated credit liability is able to be acquitted through a mixture of:

- Retirement of credits generated through the establishment of BSAs[103]
- Retirement of credits purchased from the market for biodiversity credits. These are credits which have already been created and registered
- Retirement of credits that have been generated and registered by Transgrid from other project BSAs (e.g. Project EnergyConnect West or Project EnergyConnect East)
- Payment into the BCF.

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101 Transgrid, *Response to AER information request 03 – Q13–14*, March 2024.

102 Transgrid, *VNI West stage 1 CPA - A.6 Direct non-labour model*, January 2024, tab 'Biodiversity Offsets'.

103 Retiring credits refers to the process of a credit owner removing credits from the market so they can no longer be traded – for example, to meet an offset obligation. A biodiversity credit created on a biodiversity stewardship site is registered by the NSW Department of Planning and Environment (DPE). An entity who owns biodiversity credits may apply to the NSW DPE to retire the credits to satisfy its biodiversity liability under the Biodiversity Offsets Scheme (*Biodiversity Conservation Act 2016 (NSW)* s. 6.27).

Transgrid has proposed capex of $67.1 million to offset its credit liability. Transgrid plans to use two offset options: establish BSAs and make payments into the BCF.

Transgrid submitted that there is a trade-off between cost and certainty for the two proposed offset options. There is an approximate two-year lead time between either securing an option for the establishment of a BSA with a landholder or purchasing the property and registering credits with the Biodiversity Conservation Trust for acquittal. In addition to this establishment time is the search and negotiation time for potential BSAs. However, the costs associated with generating the credits from a BSA are significantly cheaper than the costs of paying into the BCF.[104]

Given this, Transgrid has proposed funding for the establishment of BSAs to generate some of the required credits,[105] which it will retire to partially meet the credit obligation. Transgrid stated that to meet its 2028 delivery timeline it has included costs for land that it purchases or options to establish BSAs.[106] Transgrid submits that this will minimise offset costs. It also states that the BSAs are required prior to construction commencing.[107]

Transgrid advised that it has purchased one property and is currently considering further potential BSA properties to purchase.[108] It submits that it is necessary to secure funding under its stage 1 CPA so that it can opportunistically secure property either by purchase or entering into a binding option as it becomes available.

Transgrid also included $10.0 million for the in-perpetuity management cost of the Biodiversity Stewardship sites,[109] which are each covered by a BSA, that it expects to purchase or option. This amount is forecast to be $2,500/hectare, also based on PEC costs. These costs are established by the Biodiversity Conservation Trust and depend on the BSA specifics. However, on the basis of WSP's advice, this $10.0 million was deducted off the total cost build-up to reflect that "only the cost for the BSA (opportunity cost/land purchase cost) payment would be required prior to approval within the EIS budget, leaving the residual TFD[110] or BSA establishment cost until after approval".[111]

For the residual credits, which it cannot create through BSAs, Transgrid has proposed to make a $29.8 million payment into the Biodiversity Conservation Fund.[112]

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104 Transgrid, *VNI West stage 1 CPA - A.2 Direct Capex Forecasting Methodology*, January 2024, p. 23.

105 Typically, securing biodiversity by purchasing land or entering into options for land and entering into agreements with local landholders for land management with relevant flora and fauna.

106 This is to be able to retire credits created on land which is subject to a Biodiversity Stewardship Agreement. Transgrid is able to purchase the land and register the credits or it is able to enter into an option to purchase the credits generated on another landholder's BSA.

107 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 15.

108 Transgrid, *Response to AER information request 03 - Q15*, March 2024.

109 Transgrid, *VNI West stage 1 CPA - A.6 Direct non-labour model*, January 2024, tab 'Biodiversity Offsets'.

110 Total Fund Deposit (TFD) is the payment required to be lodged with the NSW Biodiversity Conservation Trust. It funds annual payments to the landholders undertaking the management requirements set out in the BSA over their land. It seeks to maintain the ecosystem or species habitat for which credits were generated on the land.

111 Transgrid, *VNI West stage 1 CPA - A.6 Direct non-labour model*, January 2024, tab 'Biodiversity Offsets'.

112 Making payments directly into the BCF to meet the liability. The $29.8 million estimate comprises $7.0 million for ecosystem credits and $22.8 million for species credits.

Transgrid also added a contingency amount of 20% of the estimated total BCF payment,[113] an amount of $27.4 million, to manage the risk of not being able to establish as many BSAs as planned, and therefore having to pay a higher amount into the BCF.

Transgrid also proposed $4.6 million and $12.3 million for labour and indirect capex, respectively. These are for costs associated with securing BSAs and undertaking the environmental approvals required to proceed to construction. This includes funding of the preparation of the Environmental Impact Statement (EIS), the preceding survey work, the biodiversity consultants, and Transgrid's biodiversity and environmental staff.[114]

Our assessment

In assessing Transgrid's proposed biodiversity capex we have assessed whether the proposed capex meets the capital expenditure criteria.[115] This includes assessing whether Transgrid's proposed biodiversity capex is prudent and efficient in achieving the capital expenditure objectives.

We consider that the biodiversity capex is required to meet a regulatory obligation created by the *Biodiversity Conservation Act 2016* (NSW), the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), and associated regulations.[116] These Acts and regulations require Transgrid to estimate their expected environmental impact on ecosystems and species and offset them as part of the development approval process.[117] Transgrid is required to submit an EIS,[118] which is then subject to approval by the NSW Department of Planning and Environment, prior to development approval being granted.[119]

In assessing whether the proposed capex for the offset strategy is prudent and efficient, we have assessed the accuracy of Transgrid's biodiversity cost estimate and the likely timing of when the costs will be incurred. Our assessment of each of these aspects is set out below.

With respect to Transgrid's estimate of the likely biodiversity ecosystem and species credit requirements, we acknowledge that there is likely to be considerable variation in the estimate of credits required as the project progresses due to project design changes, including to avoid or mitigate biodiversity impacts. The final biodiversity offset liability will be determined

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113 This is an estimate of the total amount that would need to be paid into the BCF ($136.8 million) if this were the only offset option pursued.

114 Transgrid, *VNI West stage 1 CPA - A.7 Labour and overhead costs*, January 2024.

115 We are required to make this assessment under cl. 6A.8.2(f)(2) of the NER. The capex criteria are set out in cl. 6A.6.7(c).

116 Compliance with regulatory obligations or requirements is a capital expenditure objective: cl. 6A.6.7(a)(2).

117 See Parts 5 to 7 of the *Biodiversity Conservation Act 2016* (NSW), Parts 5 to 7 of the *Biodiversity Conservation Regulation 2017* (NSW) and Chapters 2 to 4 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). Transgrid, *VNI West stage 1 CPA - A.6 Direct Non-Labour Model*, January 2024, tab 'Biodiversity Offsets'; Transgrid, Victoria to New South Wales Interconnector West (VNI West) (NSW), Preferred Route Report – NSW, March 2024, p.37.

118 The Biodiversity Development Assessment Report sets out the consideration of the biodiversity impacts in the EIS.

119 See Part 5 of the *Environmental Planning and Assessment Act 1979* (NSW).

using a field validated data set which confirms the on the ground conditions just prior to construction.[120]

We consider that it is reasonable to have considerable uncertainty in the credit requirement estimate at this point in the project's development. We consider that Transgrid has provided the best estimate available to it, of the number and type of credits required, at this stage.

In relation to Transgrid's approach to acquitting its estimated credit liability, we consider that Transgrid's approach to offsetting as many of its credits as possible via establishing BSAs is the most efficient option.

Assessment of BSA expenditure

We consider that funding the BSAs in stage 1 provides Transgrid with the maximum flexibility to purchase land/enter options to generate the greatest number and range of ecosystem and species credits possible. Seeking to meet as many credit requirements as possible through BSA establishment is likely to significantly reduce the overall biodiversity costs, reflecting the most efficient strategy possible. We assess that the financing costs associated with the arguably early provision of BSA establishment costs is likely to be considerably less than missing opportunities and having to pay a higher amount for credits into the BCF.

Transgrid's BSA land purchase or option cost estimates are based on PEC costs of $2,500/hectare. We consider that these are reasonable on the basis of land sales data provided by Transgrid which had land values ranging between $1,623/hectare and $2,912/hectare.[121]

For this reason, we consider it prudent and efficient to include $10.0 million in capex for the purchase or optioning of BSAs for least cost credit generation to offset as much of Transgrid's biodiversity liability for VNI West as possible.

We have not included any amount for Total Fund Deposit (TFD) payments (for the in-perpetuity management cost of the Biodiversity Stewardship sites) in our alternative estimate for biodiversity capex.[122] This is because, while Transgrid included $10.0 million for TFDs, it subsequently deducted off this amount, on the basis of WSP's advice that "only the cost for the BSA (opportunity cost/land purchase cost) payment would be required prior to approval within the EIS budget, leaving the residual TFD[123] or BSA establishment cost until after approval".[124]

Biodiversity acquittal timing

We assessed the likely timing of when the residual BCF payment and contingency that Transgrid proposed would be payable relative to the early works timeframe of stage 1. The

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120 This is an ongoing process throughout the construction process.

121 Transgrid, *Response to AER information request 03 - Q16*, March 2024.

122 Transgrid, *VNI West stage 1 CPA - A.6 Direct non-labour model*, January 2024, tab 'Biodiversity Offsets'.

123 TFD is the payment required to be lodged with the NSW Biodiversity Conservation Trust. It funds annual payments to the landholders undertaking the management requirements set out in the BSA over their land. It seeks to maintain the ecosystem or species habitat for which credits were generated on the land.

124 Transgrid, *VNI West stage 1 CPA - A.6 Direct non-labour model*, January 2024, tab 'Biodiversity Offsets'.

timing is influenced by Transgrid's ability to delay the acquittal date by providing surety to the NSW Government over the residual biodiversity liability, in the form of a bank guarantee.

While Transgrid included $29.8 million for payment for residual credits into the BCF in its forecast, Transgrid has also indicated that it will be pursuing the use of a bank guarantee to delay the requirement to pay into the BCF if it has not secured sufficient credits generated through BSAs to offset its liability. This is expected to provide two years' post project approval to acquit its biodiversity liability.[125] This is consistent with Transgrid's experience with PEC and HumeLink.

If a bank guarantee were to be in place, the BCF payments will not be expected to be incurred in the early works period. Transgrid plans to commence construction in November 2025, which means that its biodiversity liability would be required to be acquitted in November 2027.[126] We therefore consider that the assessment of the prudency and efficiency of this cost can be deferred to the stage 2 CPA, which is scheduled for Q2 2025, where the liability will be significantly more certain.[127] We therefore have not included the $29.8 million in our alternative estimate.

Contingency cost

Transgrid also proposed a 20% contingency amount of $27.4 million for the risk of not establishing as many BSAs as forecast and so having to make a higher payment into the BCF. For the same reasons as rejecting the BCF payment, we have rejected this inclusion of a contingency. We therefore have not included the $27.4 million for the 20% contingency in our alternative estimate.

Labour and indirect costs

Transgrid proposed $4.6 million and $12.3 million for labour and indirect capex, respectively. We accept Transgrid's proposed labour and indirect costs for VNI West. This is because the early works period covers a considerable amount of the regulatory approval process for biodiversity. This requires consultants to carry out survey work, write the scoping report in preparation for the Secretary's Environmental Assessment Requirements and prepare the Biodiversity Development Assessment Report as part of the EIS. It is also when the bulk of the work is done to identify potential Biodiversity Stewardship sites and negotiate and execute the agreement to purchase or option the land. The amount proposed appears reasonable when benchmarked against the PEC costs.

Considerations for the stage 2 application

We encourage Transgrid to consider alternative acquittal options and the timing of the stage 2 application to follow environmental and planning approvals.

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125 Transgrid, *Response to AER information request 03 - Q12*, March 2024.

126 Transgrid, *VNI West stage 1 CPA - A.2 Direct capex forecast method - Confidential*, January 2024, p. 30.

127 Transgrid, *VNI West stage 1 CPA - A.2 Direct capex forecast method - Confidential*, January 2024, p. 30.

Alternative acquittal options

As noted above, Transgrid has proposed acquitting its biodiversity liability via a combination of credits generated through BSAs and payments into the BCF. While purchasing credits from the market is another alternative, Transgrid has indicated that there is limited availability. We consider that this option should be actively considered by Transgrid. We also note that there may be residual credits generated from the BSAs established for PEC that may be applied to VNI West.

Timing of the stage 2 application

The lack of certainty around the biodiversity costs poses a significant risk that consumers will bear the costs associated with this risk. The later in the approvals process the more information is gathered, the more refined is the construction plan and so the more certain the number and type of ecosystem and species credit required. We consider that it would be optimal from an assessment perspective if the stage 2 application could be lodged after the EIS and planning approval have been received.

5.1.3.2 PEC Enhancement biodiversity offset costs

Our decision

We do not accept Transgrid's proposed total amount of $15.2 million for the PEC Enhancement biodiversity offset costs. Our alternative estimate of $3.1 million reflects that we have accepted Transgrid's proposed labour and indirect costs of $3.1 million, except for the 20% contingency amount (see section 5.1.2). We do not accept Transgrid's proposed direct non-labour amount of $12.1 million. We do not consider Transgrid has provided evidence that the proposed costs for direct non-labour for biodiversity offset costs are incremental to the amount provided in our approval of the PEC CPA in May 2021.

Transgrid's proposal

Transgrid proposed $12.1 million for direct non-labour biodiversity costs for the PEC enhancement.[128] This is for the biodiversity credit liability that is estimated for the expansion of the L5 transmission line easement from 60 metres wide to 80 metres, a 33% increase.[129] The expansion is required to increase the capacity of the transmission line from 330 kV to a 500 kV.[130]

The $12.1 million consists of $10.1 million for direct non-labour biodiversity costs plus a 20% contingency of $2.0 million.

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128 Transgrid, *VNI West stage 1 CPA - A.5 Capex forecast model*, January 2024, tab 'Inputs'.

129 Transgrid, *VNI West stage 1 CPA - A.6 Direct non-labour model - Confidential*, January 2024, tab 'PEC Lines'.

130 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 7.

To calculate the direct non-labour biodiversity cost Transgrid proposed multiplying the L5 line kilometre share of the total PEC line (that is, PEC East and PEC West) kilometres by the 33% increase in the line easement by the total PEC biodiversity cost.

Our assessment of Transgrid's proposed incremental biodiversity offset costs

We do not accept Transgrid's proposed $12.1 million for direct non-labour biodiversity costs for the PEC enhancement as we do not consider that it is prudent and efficient. This is because we assess that the amount that was provided in the PEC CPA is sufficient to cover any potential increase in impacts associated with the expanded easement on the L5 transmission line.

We do not accept Transgrid's proposed method for calculating the direct costs on the basis that it is not reasonable to expect homogeneity of the biodiversity impacts along the PEC transmission line as ecosystem and species populations will vary along the line.

We asked Transgrid to provide information on the actual difference in the biodiversity impact for the L5 line between the PEC CPA assessment and this VNI West stage 1 application. It submitted that "[a] retrospective analysis of L5 330kV vs 500kV easements, set against current resolution of biodiversity values within the disturbance footprint, is a detailed GIS and computational exercise that has not previously been undertaken and cannot be easily resourced by the project".[131] Transgrid proposed an alternative methodology of using the increased easement area as a proportion of the total impacted area. Transgrid calculated that this reduced its estimated liability from $10.1 million to $6.8 million. We consider that this method similarly does not take into account the difference in impacts on specific ecosystems and flora and fauna species that are likely to exist across the PEC transmission lines. We therefore do not consider that this method provides a reasonable estimate.

We also asked Transgrid for information on the expenditure required to meet its biodiversity offset strategy for PEC West, which was required to be finalised on 31 December 2023, and the amount of expenditure expected to meet the biodiversity strategy for PEC East, which is to be finalised by 1 September 2024. Transgrid reported that the combined actual cost for PEC West and the estimate of the PEC East cost of meeting its biodiversity liability is $84.8 million ($2023–24). We compared this to the amount that we approved for Transgrid's PEC CPA, that is $125 million ($2017–18) (or $144.5 million ($2023–24)).[132] Given the considerable head room between the allowed amount of $144.5 million in the CPA and the current estimate provided by Transgrid of $84.8 million we consider that it would be inefficient to provide an allowance for any increase in credit liability caused by the increase in easement for L5 on PEC East. We consider that it would amount to an over recovery of costs from consumers for PEC East. This is not consistent with the requirement that we consider only the reasonable incremental revenue required.[133] We have therefore not made any allowance for direct non-labour biodiversity costs for the PEC Enhancement.

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131 Transgrid, *Response to AER information request 04 - Q5*, April 2024.

132 AER, *Final decision – Transgrid – Project EnergyConnect contingent project*, May 2021, p. 23.

133 NER, cl. 6A.8.2(f)(3).

Transgrid proposed applying a 20% contingency to the direct non-labour biodiversity cost based on advice from Fission.[134] We consider there is considerable head room between Transgrid's current estimate of liability for PEC West and East and the allowance that has already been provided under the PEC CPA, such that no additional increment is required. We therefore have not included any contingency in our alternative estimate.

5.1.4 Social licence costs

Our decision

We have included $28.6 million in social licence related costs in our alternative estimate. This is $11.9 million less than Transgrid's proposed social licence related costs of $40.5 million. As discussed in this section, we make the distinction between social licence engagement and subsequent activities following on from the engagement. We have accepted Transgrid's proposed capex for engagement. In contrast, we have not accepted a portion the proposed capex for activities because Transgrid has not undertaken adequate engagement with the affected VNI West communities at this stage to justify this portion of costs.

We consider the $28.6 million expenditure included in this decision is sufficient to conduct high quality engagement, which should be the primary focus of early works. The onus is on Transgrid to effectively engage, monitor and deliver to the affected VNI West communities' expectations.

Transgrid's Proposal

Transgrid proposed $19.4 million capital expenditure within the Community and Stakeholder Engagement (CSE) cost category. Based on our engagement and information requests with Transgrid,[135] Transgrid has classified social licence costs as those only included in the CSE cost category.[136]

Transgrid submitted the CSE cost category recognising that communities along the VNI West corridor will be hosting new transmission infrastructure and are concerned about the environment, rural amenities, and primary production industries. To minimise the risk of project delays and the associated costs, Transgrid has acknowledged the need to retain and improve its social licence to operate. To do this Transgrid is required to undertake early and effective engagement with local communities, landowners, and First Nations people.[137]

In developing its strategy to undertake early and effective engagement, Transgrid has sought feedback across its major projects. It has also appointed its Community and Landowner

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134 Transgrid, *VNI West stage 1 CPA - A.6 Direct non-labour model - Confidential*, January 2024, tab 'PEC Lines'.

135 Transgrid, *Response to AER information request on the draft application - Q15-24*, December 2023; Transgrid, *Response to AER information request 01 - Q1-2,13 – Confidential*, February 2024.

136 We note that since these are still general costs, a small portion of these costs may not necessarily be wholly related to social licence. Transgrid could not provide a more precise disaggregation of costs.

137 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 25.

Advocate to undertake a review of the HumeLink project.[138] Using this approach, Transgrid identified four non-negotiable pillars for understanding the preferences and priorities of its stakeholders. The four pillars are: landowner engagement, community engagement, social legacy, and indigenous engagement.

Transgrid notes the four pillars form the foundation of its strategy to retain and improve its social licence to operate. To obtain social licence, Transgrid has proposed costs for engagement and undertaking social legacy activities such as scholarship programs, regional telecommunications, and community grants.[139] Some of these activities have been informed by the HumeLink social licence program.

Our assessment of social licence costs

We have viewed social licence costs broader than what Transgrid identified in its application. We have identified $40.5 million capital expenditure that we consider is for the purposes of social licence. This includes $14.2 million for social licence engagement and $26.3 million for social licence activities.

We recognise that Transgrid will incur costs to build and maintain social licence during the early works and construction of new transmission lines. We have considered the prudency and efficiency of costs to achieve social licence, along with other elements of transmission development and operation activities. As part of its contingent project application, the onus is on Transgrid to establish how each element of the proposed social licence costs contributes to the delivery of the overall project in a prudent and efficient manner. Therefore, social licence costs must be specific to, and should be shaped by, the needs of the affected communities.

As stated in our Directions paper, we approach social licence costs in two parts. These are an assessment of Transgrid's:[140]

- effective **engagement** approach to build and maintain social licence
- **activities** in response to engagement feedback to build and maintain social licence.

When we refer to effective engagement, we mean engagement that facilitates collaboration and a dialogue between landholders, communities, the broader consumer base, and Transgrid. Effective engagement provides us the evidence to be satisfied that the proposed activities are in response to the feedback received during the engagement and meet the needs of the specific communities.

Social licence activities refer to actions proposed or undertaken by Transgrid to assist with building and maintaining social licence with affected communities in relation to the VNI West project. These activities must be in response to the engagement.[141] For example, social licence activities may include an increase in amenity responding to community needs, or a change in the planned route following engagement with affected landholders.

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138 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 25.

139 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 27.

140 AER, *Directions paper – Social licence for electricity transmission infrastructure*, October 2023, p. 17.

141 AER, *Directions paper – Social licence for electricity transmission infrastructure*, October 2023, p. 20.

We expect that costs related to social licence in the early works phase would be primarily for engagement, as Transgrid would have limited information on which to base an assessment of expenditure for social licence activities.

We recognise that this area of social licence is still developing, and Transgrid may interpret social licence costs differently to how we have defined them in our assessment.

Using our approach discussed above and our Directions Paper, we have assessed the scope of Transgrid's social licence program and determined the prudency and efficiency of social licence engagement and social licence activities as part of early works. Below we set out our assessment approach, and our assessment of the prudent and efficient costs for the proposed social licence engagement and social licence activities.

Assessment criteria and approach

In assessing social licence costs, we considered the criteria in our Directions Paper published in October 2023[142] and community engagement expectations under the NER.[143] Given the timing of the proposal and our Directions Paper, we acknowledge Transgrid may have had limited scope to incorporate the principles from the Directions Paper into this current contingent project application.

In assessing the proposed expenditure, we need to be satisfied that Transgrid has identified the prudent and efficient expenditure to gain social licence. For clarity, we are not assessing each individual social licence engagement and activity, but rather we assess the overall method as a package. In particular, we consider the costs associated with social licence engagement and activities can be prudent and efficient if they are shaped by the feedback from the engagement with affected communities.

In addition, the social licence engagement and activities must be specific to the delivery of the transmission service, in this case the VNI West project. This is consistent with the NER which requires transmission expenditure to relate to the provision of prescribed transmission services.[144]

Broadly, to demonstrate the prudency and efficiency, social licence costs must:[145]

- clearly relate to actions that go beyond existing ongoing engagement but are attributable and proportionate to the particular project
- Clearly relate to the stakeholder feedback for the specific project corridor and the provision of prescribed transmission services
- be justified to be prudent and efficient using a transparent assessment framework, such as a "but for" test or any other qualitative and quantitative measures, to ensure energy consumers are paying no more than necessary.

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142 AER, *Directions paper – Social licence for electricity transmission infrastructure*, October 2023, pp. 18–20.

143 NER, cl. 5.10.2.

144 NER, cl. 6A.6.7(a) sets out the capital expenditure objectives for providing prescribed transmission services.

145 AER, *Directions paper – Social licence for electricity transmission infrastructure*, October 2023, pp. 5, 10, 17–21.

A "but for" test is not an intended to be a strict binary test. Rather, we would expect Transgrid to provide available evidence and justification to reasonably show that the VNI West project cannot be prudently and efficiently delivered *but for* the social licence expenditure proposed.

Our assessment of the proposed engagement

We have accepted Transgrid's proposed $14.2 million for social licence engagement costs. We are satisfied this expenditure is related to the affected VNI West stakeholders and is required for effective engagement. In accepting this expenditure, we encourage Transgrid to conduct high quality engagement and collaborate with the VNI West communities as per its proposed strategy.

We consider social licence engagement as actions that facilitate collaboration and a dialogue between landholders, communities, the broader consumer base, and Transgrid. In this case, this would include engagement with the affected communities along the VNI West project corridor and other associated stakeholders. We expect that expenditure proposed for social licence engagement will be supported by an engagement plan, which identifies the process Transgrid will follow and the outcomes to be achieved.

Transgrid's proposed engagement costs are contained in the CSE labour cost category and as a small proportion of indirect costs. We are satisfied that Transgrid's proposed engagement strategy does seek to actively consult and collaborate with the VNI West communities. Transgrid's Community and Stakeholder Engagement Plan broadly outlines its overall engagement strategy for major projects, including VNI West. Transgrid's engagement approach considers learning from its 2021 HumeLink engagement process.[146]

We note that targeted engagement within Transgrid's proposed strategy is required to adequately address communities' concerns. We received one written submission suggesting there has been inadequate engagement with some affected VNI West communities to date.[147] The stakeholder is not satisfied with Transgrid's consultation on the proposed route.[148] While we support the need for Transgrid to appropriately engage on route selection, the AER does not participate in route selection as this is the role of the transmission network service provider. The onus is on Transgrid to undertake effective engagement with the communities during its route selection process and refine the route as required. Given the project is at stage 1 early works, Transgrid has the opportunity to understand the views of stakeholders and make sure it undertakes high quality engagement in the lead up to its stage 2 application.

Our assessment of the proposed social licence activities

We have included $14.4 million capital expenditure out of Transgrid's proposed $26.3 million for social licence activities in our alternative estimate. We have not included $11.9 million capital expenditure in stage 1, as this proposed expenditure does not adequately relate to or respond to Transgrid's VNI West engagement to date.

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146 Transgrid, *Review of HumeLink engagement process, Findings of the Review – Landholder and Community Advocate*, July 2021.

147 R B Crawford & JA Crawford, *VNI West CPA Stage 1 submission – draft route report*, 25 March 2024.

148 Transgrid, *VNI West preferred route report – NSW*, March 2024.

As discussed above, social licence activities must clearly address community and landholder concerns along the proposed route and be specific to VNI West Project. This is consistent with the NER which requires transmission expenditure to relate to the provision of prescribed transmission services.

Therefore, Transgrid must reasonably establish that the project cannot be prudently or efficiently achieved in the absence of incurring the proposed expenditure for each social licence activity.

Using the definition of social licence activity expenditure set out above, we consider Transgrid's $26.3 million capital expenditure relates to activities for building community acceptance. This comprises $11.9 million within the CSE and Other Support Costs categories. The remaining $14.4 million costs include:

- Land access consent payments to maintain community expectations
- Route deviations in response to stakeholder feedback
- Legal fees allocated to social licence issues.

We have accepted the proposed $14.4 million for activities relating to land access, route deviation and the associated fees that may arise from these activities. Even though Transgrid has not explicitly applied the 'but for' test, we are satisfied that these activities meet our assessment criteria summarised above. Specifically, the land consent payments and route deviation are responding to either community expectations in that region from previous projects or Transgrid's ongoing engagement with VNI West communities. These activities also relate to the delivery of VNI West project. Therefore, we are satisfied that these costs would need to be incurred by Transgrid in order to gain community acceptance and relate to the VNI West project.

In contrast, we have not included $11.9 million capital expenditure for the remaining social licence activities in our alternative estimate. These activities, consisting of establishing a training hub, scholarships, community grants and regional telecommunications, are not demonstrated to be responding to the engagement feedback from affected VNI West communities. Rather, these activities are extrapolated from Transgrid's engagement with HumeLink stakeholders and have also been included in Transgrid's HumeLink stage 2 CPA.

Transgrid's supporting information relating to the activities described above does not meet our expectations set out in the Directions Paper and is unlikely to be prudent because it is not based on the feedback from affected communities.

Transgrid has an opportunity during stage 1 to adequately consult with the affected stakeholders and include community endorsed activities as part of later CPAs. As mentioned above, we have accepted Transgrid's proposed labour and indirect costs for community engagement to allow it to undertake high quality and targeted consultation to identify prudent and efficient activities within VNI West communities. The prudent and efficient costs of these activities can be funded as part of its stage 2 CPA.

5.1.5 Minor adjustments for capex modelling

In addition to our alternative estimates across the above-described capex categories, we have made some minor capex modelling adjustments. These include:

- Factoring in Transgrid's response to information request 03 to update for actual capex spent in 2022–23 and the corresponding adjusted forecast for 2023–24.[149] This is described further in section 6.3. The overall effect of this update reduced the total capex by $1.5 million.
- Minor variations to the formulae Transgrid used to apportion labour and indirect non-labour costs based on the amount of direct non-labour capex for the respective asset classes. We have treated biodiversity offset costs separately from this apportioning and held those costs constant to reflect our acceptance of the proposed labour and indirect forecast (less the 20% contingency for the PEC Enhancement). We have then allowed the remaining labour and indirect costs to apportion to the PTRM asset classes consistent with Transgrid's proposed approach (except for excluding biodiversity from the calculation). This has no effect on the total capex, only the apportionment to the respective PTRM asset classes.
- Minor modifications to inflation assumptions. Transgrid applied a June inflation series for historical inflation up to 2023. We have substituted this for a December series consistent with our 2023–28 Determination for Transgrid. This reduced total capex by $0.6 million.

5.2 Application of expenditure incentive schemes

We will decide the application of the Capital Expenditure Sharing Scheme (CESS) to VNI West at the time of the stage 2 application.

Transgrid proposed to not apply the CESS for the following reasons:[150]

- There is an asymmetric risk due to "labour shortages, increasing materials costs and supply chain disruption, and other unquantifiable costs that will arise in a project such as this, given the operating environment and the unique characteristics of ISP projects including their size and scale"
- Contractors are unable or not willing to enter into fixed price contracts, and require some costs components to be variable in the contract to safeguard against potential losses.

Transgrid suggests this means the probability of overspending the capex forecast is greater than the probability of underspending it.

We do not consider Transgrid has justified not applying the CESS for the proposed capex for stage 1. Transgrid also sought to address the asymmetric risk by submitting material contingency costs in its application as described in section 5.1.2. Compared with typical stage 1 activities that are low risk and least regret, these contingency costs are related largely to the costs that Transgrid has nominated to bring forward from stage 2 to stage 1.

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149 Transgrid, *Response to AER information request 03 - Q17*, March 2024.

150 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 12.

We consider there is close relationship between the contingency costs and the application of the CESS. Our alternative estimate has included about 49% of these proposed contingency costs where they have been adequately justified. Further, we do not consider it is appropriate to determine the application of the CESS at the time of a stage 1 contingent project. Rather, it is appropriate to determine the application of the CESS when the total costs of the project have been considered and assessed at stage 2. This is consistent with our treatment of HumeLink.

6 Calculation of incremental allowed revenues

This section sets out our calculation of the incremental revenue that Transgrid would recover from customers over the 2023–28 period to account for our determination of efficient project costs. We have applied an annual building block revenue approach, in accordance with clause 6A.8.2(h) of the NER. Transgrid's application is based on this approach.

Table 6 shows Transgrid is to recover $164.2 million ($ nominal) in additional revenues for VNI West stage 1 from customers over the 2023–28 period.

As a result of recovering these revenues, we estimate that the transmission component of an average residential electricity bill in New South Wales would increase by $6 per year over the remaining three years of the 2023–28 period (2025–26 to 2027–28).

Table 6 Incremental revenue calculation ($ million, nominal)

	2023–24	2024–25	2025–26	2026–27	2027–28	Total
Return on capital	2.2	31.0	55.3	61.2	62.6	212.3
Return of capital[A]	–1.1	–13.2	–17.9	–8.3	–7.9	–48.4
Straight-line depreciation[B]	0.0	2.5	9.9	22.1	22.7	57.2
Less: inflation indexation on opening RAB	1.1	15.8	27.8	30.3	30.6	105.6
Operating expenditure	0.0	0.3	0.5	0.5	0.5	1.8
Revenue adjustments	-	-	-	-	-	-
Net tax amount[C]	0.0	–0.3	–1.2	–2.6	–2.2	–6.3
Annual building block revenue requirement (unsmoothed)	1.1	17.7	36.8	50.8	53.0	159.4
Annual expected maximum allowed revenue (MAR – smoothed)	**–**	**–**	**25.6**	**53.8**	**84.8**	**164.2**
Increase to annual expected MAR (smoothed) (%)	–	–	2.6%	5.2%	7.9%	3.3%

Source: AER analysis.

(A) Regulatory depreciation (return of capital) consists of straight-line depreciation net of indexation of the RAB. The negative incremental regulatory depreciation is a result of a higher growth in the RAB and the consequent increase in the indexation of the RAB exceeding the increase in the straight-line depreciation.

(B) Based on as-commissioned capex.

(C) The negative incremental net tax amount in this decision is due to the growth in tax expenses, primarily the tax depreciation, being higher than the incremental increase in taxable income as a result of VNI West stage 1.

Table 7 provides the effect of the resultant incremental increase in revenues on Transgrid's total annual building block revenue requirement (unsmoothed), expected maximum allowed revenues, and the X-factors over the 2023–28 period.

Table 7 Indicative annual building block revenue requirement, expected MAR and X-factors ($ million, nominal)

	2023–24	2024–25	2025–26	2026–27	2027–28	Total
Annual building block revenue requirement (unsmoothed)	865.6	965.3	1,055.6	1,127.8	1,140.6	5,154.9
Annual expected MAR (smoothed)	924.0	959.7	1,021.2	1,086.6	1,156.2	5,147.6
X-factors	n/a	–0.92%	–3.39%	–3.39%	–3.39%	n/a

Source: AER analysis.

6.1 As-incurred depreciation and financeability

Transgrid proposed to apply an 'as-incurred' depreciation approach for all depreciable asset classes associated with the VNI West stage 1 project (including transmission lines, substations and biodiversity offsets). This is a change from our standard 'as-commissioned' depreciation approach under the AER's regulatory models for transmission networks. Financeability concerns were Transgrid's principal justification for its proposal to use as-incurred depreciation. It noted that financeability of VNI West remains a key challenge and it has been working with the Clean Energy Finance Corporation (CEFC) to develop a concessional financing package via the Rewiring the Nation program. However, Transgrid proposed that receiving depreciation on its assets on an as-incurred basis would also assist in addressing the cash-flow issues of financing the VNI West project.

As part of our pre-engagement with Transgrid on its VNI West proposal, we asked Transgrid to provide further detail on its proposal to apply as-incurred depreciation to all of the ISP project related expenditure. Transgrid submitted that the NER already allows the AER to depreciate transmission assets on an as-incurred basis, including for ISP projects. It stated that the depreciation framework that the AER is required to apply to distribution and transmission assets is substantively the same and does not specifically provide for or prevent depreciation to be recovered on an as-incurred basis.[151] It also submitted that the nature of early works expenditure would support an as-incurred approach to depreciation because it provides benefits to customers in terms of improving the project cost estimates and ensuring that the project can be delivered on time. It submitted that these benefits begin to accrue as the expenditure takes place, not when the actionable ISP project is commissioned.[152]

The NER require that the depreciation schedules use a profile that reflects the nature of the assets or categories of assets over their economic life.[153] While the relevant rule drafting on

151 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 59.

152 Transgrid, *VNI West stage 1 CPA - A.1 Principal application*, January 2024, p. 60.

153 NER, cl. 6A.6.3(b)(1).

depreciation is broadly the same for distribution[154] and transmission[155] in the NER, our regulatory models for transmission differs from distribution in terms of when the depreciation of an asset should commence due to the following reasons:

- We consider the nature of transmission assets is that there is generally significant time gap during construction between when costs are incurred and when the assets are commissioned. In 2007 when the AER developed the transmission regulatory models under chapter 6A, we took the view that the as-commissioned approach (depreciation of an asset starts when the asset is commissioned) was the preferred interpretation of the NER. We considered that customers should not have to pay for the return of capital until the assets were providing transmission service (commissioned).[156] Since 2007, we have consistently applied the as-commissioned depreciation approach for transmission.
- For distribution assets, they usually have a much shorter build timeframe compared to transmission assets and are typically put into use at a time closer to when the expenditure is incurred. As such, applying an as-incurred approach (depreciation commences when costs are incurred) better reflects the nature of distribution assets. Since 2009, we have consistently applied the as-incurred depreciation approach for distribution using the regulatory models developed under chapter 6.

Therefore, while our standard approach for transmission assets is to provide depreciation on an as-commissioned basis, it may be appropriate to begin depreciation for some assets on an as-incurred basis. However, for us to approve depreciation schedules using an as-incurred approach, we must be satisfied that this depreciation profile reflects the nature of the assets over the economic life of the assets.[157] The exceptions to this are:

1. for assets valued over $20 million that are dedicated to a single user or small group of users[158]
2. for assets that form part of an actionable ISP project where the TNSP has submitted a financeability request to the AER following the commencement date of the *National Electricity Amendment (Accommodating financeability in the regulatory framework) Rule 2024* on 29 March 2024 which does not relate to an early works contingent project application.[159]

Transgrid's VNI West stage 1 early works CPA proposal does not meet either of these exceptions to the depreciation clause. Transgrid also submitted its CPA prior to the commencement date of the *Accommodating financeability in the regulatory framework*

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154 NER, cl. 6.5.5(a)-(b).

155 NER, cl. 6A.6.3(a)-(b).

156 AER, *Final decision: Electricity transmission network service providers, Post-tax revenue model*, September 2007, pp. 6–7.

157 Under NER cl. 6A.8.2(b)(7)(iv), contingent project applications must estimate the incremental revenue in accordance with the requirements for depreciation referred to in clause 6A.6.3. NER cl. 6A.6.3(b)(1) requires that depreciation schedules use a profile that reflects the nature of the assets or categories of assets over their economic life.

158 NER, cl. 6A.6.3(c).

159 NER, cl. 6A.6.3A.

amending rule, therefore it was ineligible to submit a financeability request as part of its CPA.[160]

We do not agree with Transgrid that the nature of its VNI West early works expenditure on physical assets is of a different nature to other capital expenditure on physical assets. The ability to stage projects and allow for early works CPAs separate to the stage 2 CPA was itself a means to reduce uncertainty around cost estimates.[161] Therefore, the staging of VNI West already provides for some degree of earlier recovery of depreciation by Transgrid through 'partial commissioning' of the costs of early works capex. We do not consider there are any further benefits realised by consumers by beginning depreciation of all costs when they are incurred that are not already provided for in the staging of VNI West. As such, we consider that applying the fully as-incurred approach to all assets does not provide for depreciation schedules that reflect the nature of transmission assets and is therefore inconsistent with the NER requirements.

However, we consider depreciating biodiversity offset costs on an as-incurred basis better reflects the nature of these biodiversity offset 'assets'. The nature of biodiversity offset costs is that they relate to intangible assets (such as biodiversity credits). Unlike the physical transmission assets, biodiversity credits will be acquired and retired during the ISP project construction stage. Therefore, the amortisation (depreciation) of these assets should commence at the time the costs are incurred.

As noted above financeability concerns were a principal justification for Transgrid's proposal to use as-incurred depreciation. The AEMC's *Accommodating financeability in the regulatory framework* rule change which commenced on 29 March 2024 allows TNSPs to submit a financeability request to amend depreciation profiles to assist with financeability. Although Transgrid's VNI West stage 1 CPA does not meet the criteria to submit a financeability request to adjust depreciation profiles, for completeness we have considered Transgrid's claims regarding its financeability issues.

As part of this consideration, any additional financial support received from the CEFC is relevant to our assessment of any financeability issues. Transgrid submitted that it has been negotiating a concessional loan to support VNI West stage 1 from the CEFC. Transgrid noted that adjustment mechanisms to ensure there is no over-recovery resulting in it earning more than the regulated return have also been included in the arrangements. To properly assess Transgrid's proposal we issued a request for further information regarding its arrangements with the CEFC, including commitment letters and any models supporting this agreement.

In its response, Transgrid arranged a meeting with us to present details of its concessional financing arrangements with the CEFC, and provided some of the presented material. This material included high-level summary of its arrangements with CEFC. Transgrid did provide further confidential written information shortly before the release of this decision consistent with the presentation, however the specific terms and details of the agreement, or any supporting models related to this agreement have not been provided as requested.

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160 AEMC, *Rule determination Financeability of ISP projects*, 21 March 2024, p. i.

161 AEMO, *2022 Integrated System Plan*, June 2022, pp. 83–85.

Based on the information provided we assessed the impact of VNI West stage 1 on Transgrid's benchmark cash flow metrics after adjusting for its share of concessional finance. The results did not show any demonstrable financeability issues associated with VNI West stage 1, using an as-commissioned approach for physical assets.[162] On the basis of the material before us and the requirements of the NER, we are not satisfied that Transgrid has demonstrated any financeability issues with VNI West stage 1.

Transgrid also raised concerns that if the AER only provided depreciation on an as-commissioned basis, there would be no certainty that it would recover this expenditure. We do not consider that the as-commissioned approach prevents Transgrid from recovering its efficient capex incurred for stage 1 in full. This is because the commissioning date for VNI West stage 1 capex is independent of the commissioning date for stage 2 of the project. This means that Transgrid will start to receive regulatory depreciation once the early works are expected to be completed (from 2026–27) even if VNI West stage 2 does not proceed. This reflects the intention of the ISP's Optimal Development Path providing for the staging of VNI West.[163]

6.2 Biodiversity offset costs asset classes and asset lives

As part of its VNI West stage 1 CPA, Transgrid proposed a new asset class for 'Biodiversity offsets' costs. It has assigned a standard asset life of 45.6 years for regulatory depreciation for this asset class, and no standard tax asset life for tax depreciation purposes.

We note that the biodiversity offset costs that Transgrid will incur are related to the following cost categories:

1. Land purchases for establishing the biodiversity stewardship sites: This includes the purchase of land and the management of the land in perpetuity.
2. Direct payments: This includes market purchases of biodiversity credits and payments into the Biodiversity Conservation Fund.
3. Other costs: This includes costs for bank guarantee, independent expert biodiversity panel, labour costs and indirect non-labour costs.

In this determination, we:

- accept the proposed standard asset life of 45.6 years for regulatory depreciation for all cost categories of the biodiversity offsets costs
- accept the proposal not to assign a standard tax asset life for costs associated with land purchases for establishing the biodiversity stewardship sites (category 1 above)
- reject the proposal not to assign a standard tax asset for costs associated with direct payments and other costs (categories 2 and 3 above). We consider a standard tax asset life of 50 years should be assigned for tax depreciation purposes for these costs.

We are satisfied that Transgrid's proposed standard asset life of 45.6 years for regulatory depreciation of biodiversity offset costs is reasonable. This is because it reflects the weighted

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162 The biodiversity offset costs were depreciated on an as-incurred basis.

163 AEMO, *2022 Integrated System Plan*, June 2022, pp. 83.

average of the standard asset lives for all depreciating assets associated with VNI West stage 1. We consider that biodiversity offset costs are inextricably linked to the project life as the biodiversity credits are used to offset the project's biodiversity obligation. For this reason, the costs of establishing the biodiversity credits should be depreciated over the weighted average life of the project.

For tax depreciation purposes, we do not agree with Transgrid's proposal of not assigning a standard tax asset life for all cost categories of the biodiversity offsets costs.

We agree with Transgrid that costs associated with land purchases for establishing the biodiversity stewardship sites are not subject to tax depreciation, consistent with the *Income Tax Assessment Act 1997*. Therefore, no standard tax asset life is applicable for these costs.

However, we consider that costs which are not related to land purchases should still be subject to tax depreciation. In its response to our information request, Transgrid stated that direct payments (such as payments into the Biodiversity Conservation Fund) represent a capital cost to be incurred in developing the transmission network. It stated that such costs should therefore be included in the cost base of the relevant capital asset—that is, the transmission line which gave rise to the biodiversity offset obligation.[164] We note that the standard tax asset life for the transmission line asset class is 50 years. Therefore, we consider it is appropriate to assign the same life for tax depreciation purpose as the 'Transmission lines' asset class.

For the purposes of the roll forward model (RFM) and the PTRM, we have split the 'Biodiversity offsets' asset class into the following two asset classes to reflect our approach on tax depreciation:

- Biodiversity offsets (Stewardship sites): Not assign a standard tax asset life.
- Biodiversity offsets (Direct payments & other costs): Assign a standard tax asset life of 50 years.

In its response to our information request, Transgrid agreed with this approach.[165]

6.3 Update for 2022–23 actual capex

We have updated the 2022–23 as-incurred capex for VNI West stage 1 with the actual amount incurred for this year for RAB roll forward purposes. In its response to our information request, Transgrid agreed with this update.[166]

Transgrid adopted an estimated as-incurred capex amount for 2022–23 of $66.6 million ($ nominal) in its VNI West stage 1 CPA.[167] However, the actual as-incurred capex amount for this year is $28.8 million ($ nominal) which is now available. Therefore, we have updated the opening RAB value as at 1 July 2023 in the RFM to reflect the actual capex for 2022–

164 Transgrid, *Response to AER information request 03 - Q18*, March 2024.

165 Transgrid, *Response to AER information request 03 - Q18*, March 2024.

166 Transgrid, *Response to AER information request 03 - Q17*, March 2024.

167 Transgrid, *VNI West – CPA 1 – RFM*, January 2024.

23.[168] We note that the reduced 2022–23 capex reflects a change of timing in capex. The resulting difference of $37.8 million ($ nominal) between actuals and estimate in 2022–23 will be reflected in the forecast capex for 2023–24.[169]

[168] We have also updated the debt raising costs input in the PTRM to reflect the updated opening RAB value at 1 July 2023.

[169] Transgrid, *Response to AER information request 03 - Q17*, March 2024.

Shortened forms

Term	Definition
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
BCF	Biodiversity Conservation Fund
BSA	Biodiversity Stewardship Agreement
capex	capital expenditure
CBA	Cost benefit analysis
CEFC	Clean Energy Finance Corporation
CESS	Capital Expenditure Sharing Scheme
CPA	contingent project application
CSE	Community and Stakeholder Engagement
EIS	Environmental Impact Statement
ISP	Integrated System Plan
MAR	maximum allowed revenue
MCHPA	Moorabool and Central Highlands Power Alliance
NER	National Electricity Rules
NSW DPE	New South Wales Department of Environment and Planning
ODP	Optimal Development Path
opex	operating expenditure
PACR	Project Assessment Conclusions Report
PEC	Project EnergyConnect
PTRM	post-tax revenue model
RAB	regulatory asset base
regulatory control period	period
RFM	roll-forward model
RIT-T	regulatory investment test for transmission
TFD	Total Fund Deposit
TPIR	transmission planning and investment review
VNI West	Victoria to New South Wales Interconnector West