Transgrid - Meeting system strength requirements in NSW

Determination of dispute - application of the regulatory investment test for transmission

December 2025

AUSTRALIAN ENERGY REGULATOR

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Contents

Executive Summary

This document sets out the Australian Energy Regulator's (AER) determination on a dispute, brought by the Centre for Independent Studies (CIS), of Transgrid's regulatory investment test for transmission (RIT-T) project assessment conclusions report (PACR) for Transgrid's Meeting system strength requirements in NSW project.[1]

The RIT-T is an economic cost benefit analysis that is used by transmission businesses to assess and rank different electricity investment options. The AER's RIT-T application guidelines provide guidance on the application of the RIT-T and outline how the AER expects a RIT-T proponent to undertake the cost benefit analysis expected in the RIT-T. The AER is responsible for assessing RIT-T disputes raised by disputing parties following the conclusion of the RIT-T process as set out in rule 5.16B of the National Electricity Rules (NER).[2] Under this framework, a party listed in NER clause 5.16B(a) may raise a dispute challenging conclusions made by the RIT-T proponent (in this case, Transgrid) in its PACR in relation to the application of the RIT-T.[3]

Transgrid initiated the Meeting system strength requirements in NSW RIT-T consultation process in 2022 in respect of its identified need of using reasonable endeavours to take actions to meet system strength requirements in NSW from 2 December 2025, and as forecast out to 2032–33.

Transgrid published its PACR for the Meeting system strength requirements in NSW RIT-T on 14 July 2025. The PACR identifies portfolio option 2 as the preferred option, which includes 3 synchronous condensers in Transgrid's network in 2028–29 and a further 7 in 2029–30, as well as battery energy storage systems (BESS) with grid forming inverters, upgrades to synchronous generation and re-dispatch of synchronous generation.[4] The portfolio cost is estimated to be $6.3 billion and is expected to deliver approximately $8.8 billion in net benefits over the assessment period.[5]

On 13 August 2025, the AER received a notice of dispute from the CIS disputing the conclusions of Transgrid's PACR. The CIS raised the dispute on multiple grounds including that it considers Transgrid did not comply with specific provisions of the NER concerning the application of the RIT-T. Section 5 of this document outlines each ground for the dispute and the AER's assessment.

After considering the grounds for the dispute raised by the CIS, the AER determines that, based on the grounds of the dispute, Transgrid will not be required to amend the Meeting system strength requirements in NSW PACR.

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1 NSW Electricity Networks Operations Pty Limited ACN 609 169 959 as trustee for NSW Electricity Networks Operations Trust ABN 70 250 995 390 trading as 'Transgrid'.

2 NER, r. 5.16B

3 NER, cl. 5.16B(a)

4 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.3.

5 Transgrid, *HoustonKemp NPV modelling outcomes*, July 2025; Transgrid, *Project Assessment Conclusions Report*, July 2025, p.65.

1 The AER's role in this process

The Australian Energy Regulator (AER) is the economic regulator for electricity transmission and distribution services in the National Electricity Market (NEM). Our network electricity-related powers and functions are set out in the National Electricity Law (NEL) and the National Electricity Rules (NER).

We are responsible for developing, publishing and maintaining the regulatory investment test for transmission (RIT-T) and the RIT-T application guidelines.[6] The RIT-T is an economic cost benefit analysis that is used by transmission businesses to assess and rank different electricity investment options.[7] The purpose of the RIT-T is to identify the credible option which maximises the present value of the net economic benefit to all those who produce, [8] consume and transport electricity in the market (the preferred option).[9] The RIT-T application guidelines provide guidance on the operation and application of the RIT-T.[10]

Transmission businesses must apply the RIT-T to proposed transmission investments, except in the circumstances specified in clause 5.16.3(a) of the NER.[11] The RIT-T aims to promote efficient transmission investment decision-making in the NEM and provide greater consistency, transparency and predictability.

The AER is also responsible for assessing RIT-T disputes raised by disputing parties following the conclusion of the RIT-T process as set out in rule 5.16B of the NER. Under this framework, a party listed in NER clause 5.16B(a) may raise a dispute challenging conclusions made by the RIT-T proponent in its PACR in relation to the application of the RIT-T (see clause 5.16B(a)(1)). As set out in section 5.4 of the RIT-T application guidelines, the AER considers the dispute notice and any other relevant information and must either reject the dispute or make and publish a determination.[12]

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6 NER, r. 5.15A and cl. 5.16.2

7 The current RIT-T, version 6.0, was published by the AER on 21 November 2024.

8 A credible option is defined in NER, cl. 5.15.2(a) as an investment option that (1) addresses the identified need; (2) is (or are) commercially and technically feasible; and (3) can be implemented in sufficient time to address the identified need. A credible option is also an option that is identified as a credible option in accordance with paragraphs (b) or (d) of cl. 5.15.2 (as relevant).

9 NER, cl. 5.15A.1(c)

10 The current version of the *Regulatory Investment Test for Transmission application guidelines* was published by the AER in November 2024.

11 NER, cl.5.16.3(a). Rule 5.16 of the NER applies to the application of the RIT-T to RIT-T projects that are not actionable ISP projects.

12 AER, *Regulatory Investment Test for Transmission application guidelines*, November 2024, pp 78–79.

2 Background

2.1 System strength shortfall declared by AEMO

The Australian Energy Market Operator's (AEMO) 2022 *System Strength Report* identified system strength shortfalls at Newcastle and Sydney West system strength nodes from 1 July 2025 to 1 December 2025.[13] A system strength shortfall, or a fault level shortfall, is defined under clause 11.143.1 of the NER as a shortfall in the 3 phase fault level typically provided at a system strength node in a region (having regard to typical patterns of dispatched generation in central dispatch) compared to the minimum 3 phase fault level most recently determined by AEMO for the system strength node in the system strength requirements.[14] A key cause of the projected system strength shortfall was the planned early retirement of Eraring Power Station (Eraring) in August 2025. In December 2022, AEMO gave notice to Transgrid under clause 11.143.14(d) of the NER of the projected system strength shortfall.[15] Under clause 11.143.15(b) of the NER, Transgrid must make system strength services available to address the expected system strength shortfall identified by AEMO in its notice.[16]

In May 2024, the NSW Government announced the extension of Eraring by 2 years.[17] AEMO's 2024 *System Strength Report* identified the extension of Eraring would defer the projected system strength shortfalls at the Sydney West and Newcastle system strength nodes until 2027–28.[18]

2.2 AEMC system strength rule change

The Australian Energy Market Commission (AEMC) amended the NER commencing from December 2022 to support the efficient provision of system strength.[19] This rule change seeks to ensure the stability and security of the power system as it decarbonises, facilitate easier and faster connections to the grid, and limit the need for costly interventions in the market, lowering costs to consumers.[20]

This rule change has 3 core components, relating to the supply, demand and coordination of system strength.[21] In relation to the supply component, the new system strength standard must be met by a subset of Transmission Network Service Providers (TNSPs), identified as

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13 AEMO, *2022 System Strength Report*, December 2022, p. 79.

14 NER, cl.11.143.1

15 NER, cl.11.143.14(d); Transgrid, *Project Specification Consultation Report*, December 2022, p.3.

16 NER, cl.11.143.15(b)

17 NSW Government, *NSW Government secures 2-year extension to Eraring Power Station to manage reliability and price risks*, 23 May 2024.

18 AEMO, *2024 System Strength Report*, February 2025, p.4.

19 AEMC, *Efficient management of system strength on the power system*, 21 October 2021.

20 AEMC, *National Electricity Amendment (Efficient management of system strength on the power system) rule 2021*, 21 October 2021, p. i.

21 AEMC, *National Electricity Amendment (Efficient management of system strength on the power system) rule 2021*, 21 October 2021, p. ii.

System Strength Service Providers (SSSPs). Under clause S5.1.14(b) of the NER, a SSSP must use reasonable endeavours to plan, design, maintain and operate its transmission network, or make system strength services available to AEMO, to:

- maintain the 3-phase fault level requirement specified by AEMO at each node in the system strength standard specification for the *relevant year*[22] as specified by AEMO (the 'minimum' level of system strength)
- achieve stable voltage waveforms for the level and type of inverter-based resources (IBR) connections forecast by AEMO for each system strength node in the relevant year in steady conditions and following any credible contingency event (the 'efficient' level of system strength).[23]

Clause S5.1.14(a) provides that the forecast system strength requirements for the system strength node are determined by AEMO for the relevant year 3 years prior. In practice, this means that SSSPs are required to meet the system strength standard specifications in 3 years' time through the planning, design, maintenance and operation of its network.[24] The AEMC considered 3 years to be the shortest period possible to allow SSSPs to appropriately consider all potential solutions to meeting system strength requirements while also providing investment certainty in the ever-changing environment of forecasts.[25] As this rule change came into effect on 1 December 2022, SSSPs must plan to provide the efficient level of system strength by 2 December 2025 at the latest and, in future, by 2 December of the third year following AEMO's publication of its latest annual system strength report. Clause 5.20C.3 of the NER identifies Transgrid as the SSSP for NSW.[26]

2.3 The Meeting system strength requirements in NSW RIT-T

Transgrid initiated the RIT-T process with the publication of the project specification consultation report (PSCR) on 16 December 2022 to assess options that would address the system strength shortfall projected by AEMO in the second half of 2025 and meet system strength requirements in NSW. [27]

The 2022 and 2024 ISPs identify the maintenance of system strength as critical to the security of the NEM power system.[28] Though not identifying an actionable project, this

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22 Clause S5.1.14(a) defines *relevant year* as each period of 12 months commencing 2 December.

23 AEMC, *National Electricity Amendment (Efficient management of system strength on the power system) rule 2021*, 21 October 2021, p. ii; NER, cl. S5.1.14(b)

24 AEMC, *National Electricity Amendment (Efficient management of system strength on the power system) rule 2021*, 21 October 2021, p.17.

25 AEMC, *National Electricity Amendment (Efficient management of system strength on the power system) rule 2021*, 21 October 2021, p.17.

26 AEMC, *National Electricity Amendment (Efficient management of system strength on the power system) rule 2021*, 21 October 2021, p.2; NER, cl. 5.20.C3; Transgrid, *Project Assessment Conclusions Report*, July 2025, p.1.

27 Transgrid, *Project Specification Consultation Report*, December 2022.

28 AEMO, *2022 Integrated System Plan*, June 2022, p. 22-23; AEMO, *2024 Integrated System Plan*, June 2024, p.38.

recognition in conjunction with the system strength shortfall identified in AEMO's 2022 *System Strength Report* and the incoming system strength requirements highlighted the importance of this RIT-T process.[29]

The project assessment draft report (PADR) was released on 17 June 2024. It identified a preferred "portfolio of solutions" which considered over 100 individual options due to the complexity and scale of meeting system strength requirements.[30] Portfolio option 1 was identified out of the 4 portfolio options as the most credible in the PADR as it was considered to represent the most realistic set of assumptions regarding the timing of when synchronous condensers could be available.[31] During consultation on the PADR, Transgrid sought modelling from proponents and stakeholders to assess and confirm the technical feasibility of the options, submissions from proponents on contract costs and general feedback on assumptions.[32]

On 17 October 2024, Transgrid published a supplementary report to the PADR which provided an update on 3 key developments since the completion of the PADR modelling that could have an impact on the composition of the preferred option.[33] Specifically, these updates included an extension of Eraring, a revised timetable for the completion of the New England Renewable Energy Zone (REZ) Network Infrastructure Project and the publication of the 2024 Integrated System Plan (ISP). Based on the sensitivity analysis undertaken, a new optimal portfolio was identified which added a synchronous condenser to Transgrid's transmission network from 2028–29 and seven synchronous condensers to the Central West Orana REZ (stage 2) and the New England REZ by 2032–33.[34]

Transgrid published the PACR for Meeting system strength requirements in NSW on 14 July 2025.[35] The PACR identified portfolio option 2, a new option following further modelling and updates to assumptions, as the preferred option. This option involves:

- Commissioning 3 synchronous condensers in Transgrid's network 2028–29 and another 7 in 2029–30.
- Bringing forward one synchronous condenser to be available in 2029–30, when compared to other options. This synchronous condenser would be in Transgrid's network rather than the New England REZ.
- Procuring non-network solutions, provided they meet the criteria for efficient and prudent expenditure, including grid-forming battery energy storage system (BESS).[36]

The PACR estimates the cost of portfolio option 2 to be $6.269 billion.[37] Transgrid's modelling indicates that the preferred option is expected to close the risk of system strength

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29 Transgrid, *Project Specification Consultation Report*, December 2022, p.9.

30 Transgrid, *Project Assessment Draft Report*, June 2024, p.3.

31 Transgrid, *Project Assessment Draft Report*, June 2024, pp 82–83.

32 Transgrid, *Project Assessment Draft Report*, June 2024, p.36 and 65–66.

33 Transgrid, *Supplementary Report to the Project Assessment Draft Report*, October 2024, p.2.

34 Transgrid, *Supplementary Report to the Project Assessment Draft Report*, October 2024, p.9.

35 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.3.

36 Transgrid, *Project Assessment Conclusions Report*, July 2025, pp 62–63.

37 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.65.

gaps in 2029–30, reduce the risk of system strength gaps to 1.5% of the time in 2028–29, 2% of the time in 2027–28 and increase system strength robustness in 2028–29.[38] The PACR estimates that option 2 would deliver net market benefits of $8.842 billion.[39]

2.4 The dispute

On 13 August 2025, the AER received a notice of dispute from the CIS, which the CIS has since stated was on behalf of end users in the NEM and in its own capacity as a consumer, disputing the conclusions of the Transgrid's PACR in relation to the application of the RIT-T.[40] The dispute was therefore raised under clause 5.16B(a)(1) of the NER.

The CIS has raised the dispute regarding Transgrid's PACR on 4 grounds. These are set out in its notice to the AER and its response to our request for additional information.[41] In summary, the CIS claims that:

1. The Meeting System Strength Requirements in NSW RIT-T and PACR does not comply with clause 5.15.2(a) of the NER because:
    a) the identified credible options do not adequately address the identified need, in that:
        i) all options retain some risk of system strength gaps
        ii) all options constitute a breach of AEMO's minimum system strength standards.
    b) the identified credible options are not commercially and technically feasible, in that:
        i) they rely on unrealistically high levels of gas re-dispatch for system security
        ii) they rely on grid-forming BESS to contribute to the minimum fault level from 2032–33. Transgrid did not comply with clause 5.15.2(b) of the NER.
2. That Transgrid has not complied with clause 5.15.2(b) of the NER, because:
    a) Transgrid has not considered all options that could reasonably be classified as credible options
    b) Transgrid has not identified a credible option which: involves the extension of coal generation, does not include BESS, and does not include non-network solutions.
3. That Transgrid has not complied with paragraph 3(b) of the RIT-T because: [42]

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38 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.8.

39 Transgrid, *HoustonKemp NPV modelling outcomes*, July 2025.

40 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW,* 13 August 2025.

41 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW,* 13 August 2025; CIS, *Response to AER request for additional information,* 2 October 2025.

42 The CIS originally raised this ground with respect to clause 5.15A.2(b)(1) of the NER. However, this clause is not applicable to the RIT-T proponent (rather, it applies to the AER in its development and publication of the RIT-T instrument). The AER has considered this ground with respect to paragraph 3(b) of the RIT-T instrument, which reflects the wording of clause 5.15A.2(b)(1), stating (a proponent) "*must base its cost benefit analysis on an assessment of reasonable scenarios for future supply and demand if each credible option were implemented compared to the situation where no option is implemented"*.

a) it has chosen a non-viable base case which does not consider the extension of coal generation

b) the benefits arising from comparison against the base case would never arise in any real-life scenario.

4. That Transgrid has not complied with clause 5.16.4(a), and specifically in relation to clauses 5.16.4(j), 5.16.4(k), and 5.16.4(q) because:

   a) The preferred solution changed materially from the PADR to PACR, but these were not foreshadowed in the PADR or Supplementary PADR (which explicitly stated the preferred portfolio remained unchanged). Stakeholders were thus denied the opportunity to submit on the actual configuration now proposed.

2.5 Structure of this document

This document sets out our determination on the dispute, including the reasons for the determination.

The determination is structured as follows:

- Chapter 3 sets out our dispute resolution process and how it relates to the present dispute.
- Chapter 4 sets out our approach to how we assessed the dispute.
- Chapter 5 sets out our assessment of the grounds of dispute raised by the CIS regarding the Meeting system strength requirements in NSW RIT-T.
- Chapter 6 sets out our determination on the Meeting system strength requirements in NSW RIT-T dispute.

3 Our dispute resolution process

The AER is responsible for determining RIT-T disputes raised by parties following the conclusion of the RIT-T consultation process as set out in the NER. In accordance with clause 5.16B(c) of the NER, certain parties may raise a dispute in relation to the conclusions made in the PACR by a RIT-T proponent by lodging a written notice to the AER within 30 days of the publication of the PACR.[43]

Clause 5.16B(a) of the NER identifies Registered Participants, the AEMC, Connection Applicants, Intending Participants, AEMO and 'interested parties' as parties eligible to lodge a dispute notice. A dispute may be raised about conclusions made by the RIT-T proponent in the PACR in relation to:[44]

- the application of the RIT-T
- the basis on which the RIT-T proponent has classified the preferred option as being for reliability corrective action
- whether the preferred option will have a material inter-network impact.

A dispute notice may not be raised about any issues in the PACR which the RIT-T treats as externalities or which relate to an individual's personal detriment or property rights.[45] The AER's RIT-T application guidelines provide a summary of the RIT-T dispute resolution process. This summary has been reproduced as Figure 1.[46] The RIT-T application guidelines also provide guidance on the information that should be included in a dispute notice.[47]

After considering the dispute notice and any other relevant information, we must choose whether to reject the dispute and whether to make and publish a determination. We can:

- reject the dispute by written notice to the disputing party if we consider that either
  - the party raising the dispute does not fall within one of the categories of persons that are listed in cl 5.16B(a) that may raise a dispute, or
  - the grounds for the dispute are misconceived or lacking in substance
- notify the RIT-T proponent that the dispute has been rejected.[48]

Alternatively, we must make and publish a determination that:

- directs the RIT-T proponent to amend the matters set out in the PACR and specifies a reasonable timeframe for the RIT-T proponent to comply with the AER's direction, or

43 NER, r. 5.16B(c)

44 NER, r. 5.16B(a)(1) – (3)

45 NER, r. 5.16B(b)

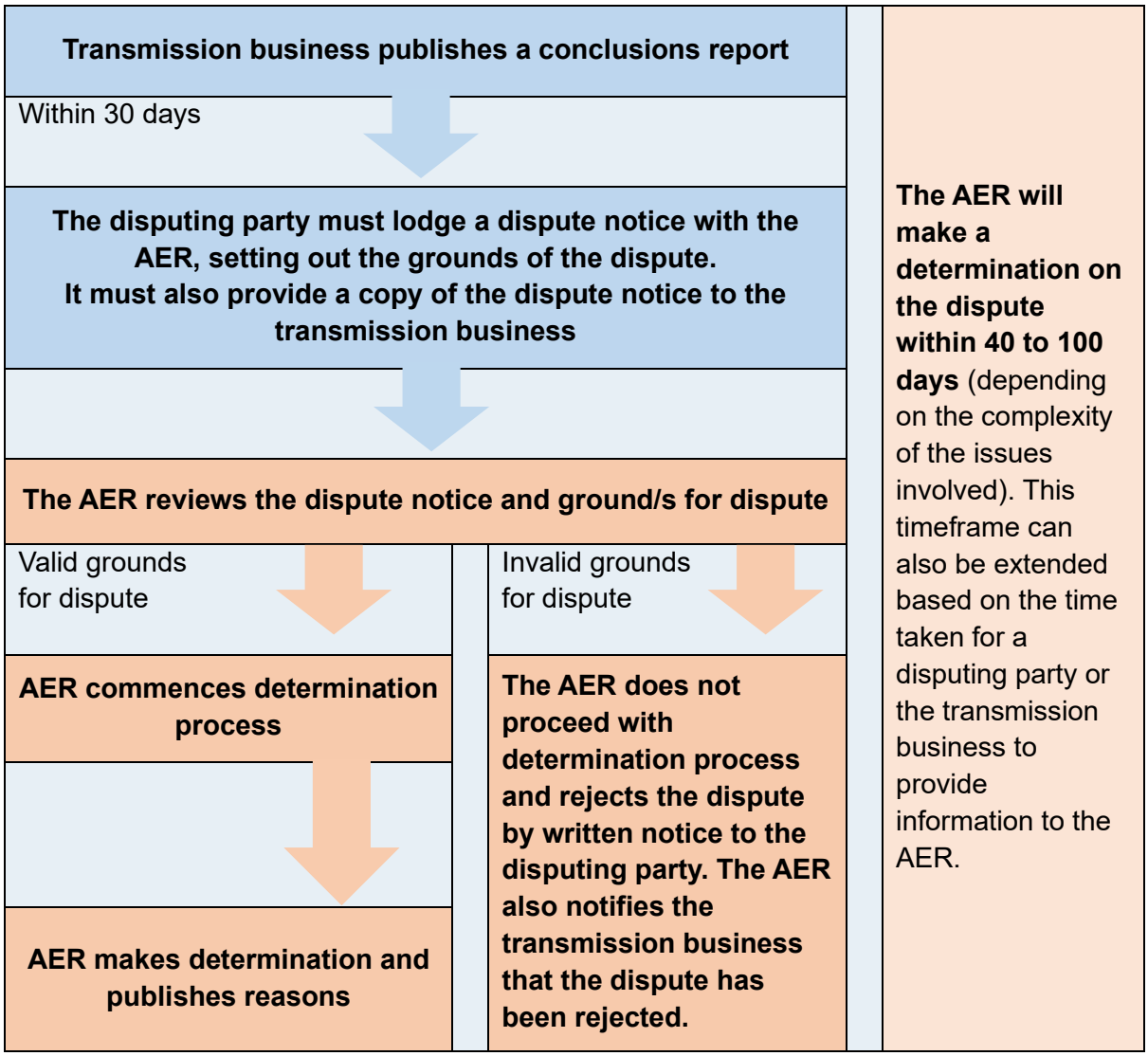
46 AER, *Regulatory Investment Test for Transmission application guidelines*, November 2024, p.78.

47 AER, *Regulatory Investment Test for Transmission application guidelines*, November 2024, p.77.

48 NER, r. 5.16B(d)(1) and (2)

- states that, based on the grounds of the dispute, the RIT-T proponent will not need to amend the PACR.[49]

Figure 1 Dispute resolution process



We must decide whether a dispute is valid and resolve the dispute within:

- 40 days of receiving the dispute notice
- an additional period of up to 60 days where we notify interested parties that additional time is required to make a determination because of the complexity or difficulty of the issues involved.[50]

[49] NER, r. 5.16B(d)(3)

[50] NER, r. 5.16B(d)

In making a determination on the dispute, we:

- must only take into account information and analysis that the RIT-T proponent could reasonably be expected to have considered or undertaken at the time it performed the RIT-T
- must publish our reasons for making the determination
- may disregard any matter raised by the disputing party or the RIT-T proponent that is misconceived or lacking in substance
- must specify a reasonable timeframe for the RIT-T proponent to comply with the AER's direction to amend the matters set out in the PACR.[51]

Under clause 5.16B(f)(3) of the NER, we may request additional information regarding the dispute from the disputing party and/or the RIT-T proponent. These parties must provide any additional information as soon as is reasonably practicable.[52]

A request for additional information automatically extends the period of time for making a determination by the amount of time it takes the relevant party to provide the requested information, provided that:

- we make the request for additional information at least seven business days prior to the expiry of the relevant period
- the RIT-T proponent or disputing party provides the information within 14 business days of receipt of the request.[53]

51 NER, r. 5.16B(f)

52 NER, r. 5.16B(h)

53 NER, r. 5.16B(i)

4 Application of our dispute resolution process

The AER received a written dispute notice from the CIS on 13 August 2025.[54] Clause 5.16B(c) of the NER requires a dispute notice to be provided to us within 30 days of the date of the publication of the PACR. As the PACR was published on 14 July 2025, the CIS met the deadline for raising a dispute.

On 8 September 2025, in accordance with clause 5.16B(d) of the NER, the AER decided that additional time was required to make a determination on the dispute due to the complexity of the issues raised and extended the time to make our determination by 60 days.[55]

On 12 September 2025, the AER sought further information from the CIS in accordance with NER clause 5.16B(f)(3), to request that the CIS justify its position as an 'interested party' consistent with the NER, and to clarify its grounds for the dispute. The CIS provided its response to our request on 2 October 2025. The timeframe for the AER to make its determination was extended by the period of time the CIS took to respond.

On 3 October 2025, the AER sought further information from Transgrid in accordance with NER clause 5.16B(f)(3), to seek additional context on the development of the PACR and to provide an opportunity for Transgrid to address and respond to the grounds and content of the dispute and provide any further clarification that they consider is relevant to our determination. Transgrid provided its response to our request on 22 October 2025. The timeframe for the AER to make its determination was extended by the period of time Transgrid took to respond.

These extensions under clauses 5.16B(d) and 5.16B(f)(3) of the NER mean the date by which the AER needed to make a determination on the dispute is 30 December 2025.

4.1 Our assessment approach

Our review of this dispute was an assessment against the RIT-T requirements, in light of the grounds raised. That is, a review of whether the grounds of the dispute identified, in respect of the conclusions in the Meeting system strength requirements in NSW PACR, a failure by Transgrid to apply the RIT-T in accordance with the NER and requirements set out in the RIT-T.[56] Our assessment has been performed taking into account the national electricity objective.

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54 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW,* 13 August 2025.

55 AER, *Meeting system strength requirements in NSW RIT-T dispute – extension of time, n.d.*

56 NER, r. 5.16B(a)

4.2 Consideration of whether the CIS is an 'interested party'

Registered Participants, the AEMC, Connection Applicants, AEMO, and interested parties may, by notice to the AER, dispute conclusions made by the RIT-T Proponent in the PACR, in relation to the application of the RIT-T, and other matters set out in NER clause 5.16B(a).[57]

In its response to the AER's request for additional information, the CIS claimed it met the definition of an 'interested party' as it provided the dispute notice on behalf of end users in the NEM and in its own capacity as an end user in the NEM.[58]

An 'interested party' is defined as a person including an end user or its representative who, in the AER's opinion, has the potential to suffer a material and adverse NEM impact from the investment identified as the preferred option in the project assessment conclusions report.[59]

The phrase 'material and adverse NEM impact' is not defined in the NER. The AER has provided guidance in our RIT-T application guidelines that, for the purposes of clause 5.15.1(a) of the NER, 'material and adverse NEM impacts' include impacts on: [60]

- a network operator or other stakeholders such as aggregators or energy service companies in the NEM that:
  - constrain the network operator's ability to fulfil functions mandated under the NER; or
  - undermine the stakeholder's ability to perform its operations to the extent that it can no longer operate or perform a particular function. This may result from physical obstruction or a substantial reduction in profitability; or
- an electricity consumer, in their role as a consumer of electricity, that reduce the quality or reliability of their electricity supply below what is required under the NER or reduce the sum of consumer and producer surplus.

For the AER to proceed with a decision on the dispute, it first must form the opinion that the CIS is an 'interested party' within the relevant definition in clause 5.15.1(a) of the NER, such that it has standing under clause 5.16B(a) of the NER to raise a dispute. This involves forming the opinion that:

1. The CIS is
   i. an end user, or
   ii. a representative of an end user; and
2. The CIS, or the end users that the CIS may represent, have the 'potential to suffer a material and adverse NEM impact' from the implementation of the preferred option in

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57 NER, r. 5.16B(a)

58 CIS, *Response to AER request for additional information*, 2 October 2025, p.3.

59 NER, r. 5.15.1(a)

Transgrid's PACR for the 'Meeting System Strength Requirement in NSW' RIT-T. In the RIT-T application guidelines, with respect to end users, the AER expresses the view that 'potential to suffer a material and adverse NEM impact' means:

i. an end user would have the potential to suffer an 'adverse NEM impact' from the investment identified as the preferred option if, as a consequence the end user:

   1. paid a higher price for electricity services, relative to some other option
   2. experienced a reduction in the quality, safety, reliability and security of supply of electricity, relative to some other option.

ii. the impact must be 'material'.

The CIS as an end user or a representative of an end user

The AER considers the CIS is both an end user with an office in NSW and may also represent other end users in the NEM.

The CIS claimed it is a representative of end users in the NEM because its energy research program advocates for low-cost electricity on behalf of its members, and more broadly, on behalf of all energy consumers in the NEM.

While the CIS did not specify the members it claims to represent in its submission and the AER considers it difficult to determine that the CIS represents all end users in the NEM, we accept that the CIS' membership is likely to include end users in New South Wales, across both residential and industrial classes of end users.

Potential to suffer an adverse NEM impact

In response to the AER's information request, the CIS submitted it is an end user, and a representative of end users, that has the 'potential to suffer a material and adverse NEM impact' from the implementation of the preferred option in the PACR because in its opinion implementing the preferred option will result in material increases in the cost of electricity and decreases in reliability below what is required in the NER.[61]

The CIS submitted that as a result of the preferred option in Transgrid's PACR being implemented, it would suffer a material and adverse NEM impact because in its opinion the preferred option:

- does not adequately address the identified need,
- is not commercially or technically feasible, and
- cannot be implemented in time to address the identified need.[62]

Specifically, the CIS argue that the RIT-T was not properly applied, and that if it were the result would be:[63]

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61 CIS, *Response to AER request for additional information*, 2 October 2025, pp 3–4.

62 CIS, *Response to AER request for additional information*, 2 October 2025, pp 3–4.

63 CIS, *Response to AER request for additional information*, 2 October 2025, pp 3–4.

- *'A decrease to the net economic benefit, since the proposed solution is both expensive and ineffective compared to the actually viable base case of coal extension.*
- *Decreases in reliability below what is required under the NER. As noted in the dispute notice, Transgrid's own modelling shows that, under this option:*
  - *The minimum level of system strength would not be met for up to 2% of time statewide in 2027–28;*
  - *Shortfalls of up to 1.5% statewide in 2028–29; and*
  - *The Armidale node could be below the standard for up to 10% of the year in 2028–29.*
  - *This is explicitly below AEMO's NSCAS Description and Quantity Procedure standard of 99.87%'*

The AER considers that the CIS or end users it may represent has the potential to be adversely impacted by the preferred option because in their opinion, the preferred option does not address the identified need, and there are alternative options that may improve the reliability or reduce the cost of electricity for the CIS and end users it may represent compared to the preferred option.

Standing of the CIS as a disputing party

After considering the information provided by the CIS, the AER is satisfied that, for the purposes of rule 5.16B of the NER, the CIS is an interested party outlined in NER clause 5.15.1(a). We consider that the grounds of dispute raised involve the potential for the CIS, or end users it may represent, to suffer a material and adverse NEM impact. As such, the AER is satisfied that the CIS is a disputing party under clause 5.16B(a) of the NER that can dispute the conclusions in Transgrid's Meeting system strength requirements in NSW RIT-T PACR.

5 Assessment of grounds of dispute

The CIS' notice of dispute set out that the CIS was disputing conclusions made by Transgrid in the PACR for the Meeting system strength requirements in NSW RIT-T, in relation to the application of the RIT-T. The dispute was therefore raised under clause 5.16B(a)(1) of the NER.

This section sets out our assessment of the grounds of dispute raised by the CIS regarding the Meeting system strength requirements in NSW RIT-T. The grounds of dispute are as set out in Section 2.4, and restated as relevant at the beginning of the assessment of each of the grounds in this section.

5.1 Ground 1: Compliance with NER cl. 5.15.2(a)

1. The CIS claims that Transgrid has not complied with clause 5.15.2(a) of the NER, because:
    a. the identified credible options do not adequately address the identified need, in that:
        i. all options retain some risk of system strength gaps, and
        ii. all options constitute a breach of AEMO's minimum system strength standards.
    b. the identified credible options are not commercially and technically feasible, in that:
        i. they rely on unrealistically high levels of gas re-dispatch for system security
        ii. they rely on grid-forming BESS to contribute to the minimum fault level from 2032–33.

Based on the matters raised by the CIS in this ground of dispute, the AER's assessment is that Transgrid has complied with the requirements of clauses 5.15.2(a)(1), (2) and, consequently, (3) of the NER. The AER determines that this ground does not establish a basis to require Transgrid to amend its PACR.

Our assessment in this section is structured as follows:

1. The identified need
2. The options identified by Transgrid
3. The credible options address the identified need
4. The credible options are commercially and technically feasible

1. The identified need

Clause 5.15.2(a)(1) of the NER requires credible options identified in a RIT-T to address the identified need. The 'identified need' is defined in the NER as:[64]

[64] NER, Chapter 10

'the objective a Network Service Provider seeks to achieve by investing in the network in accordance with the NER or an Integrated System Plan.'

By way of summary, Transgrid has described its identified need as using reasonable endeavours to take actions to meet system strength requirements in NSW from 2 December 2025, and as forecast out to 2032–33.[65] Transgrid refers to the system strength requirements as the 'minimum' level of system strength and the 'efficient' level of system strength referred to in clause S5.1.14(b) of the NER, noting that clause S5.1.14(b) is a compliance requirement that applies to Transgrid (as described in Section 2.2 of this determination).

2.The options identified by Transgrid

Transgrid set out analysis for 5 portfolio options in its PACR and deemed options 1 to 3 to be credible. Transgrid states that the portfolio options presented in the PACR present variations on the portfolio that was found to be optimal through combined system and economic modelling optimisation.[66]

The portfolio options (including the credible options) in Transgrid's PACR are made up of the following components: [67]

- *'re-dispatch' (increase in operating hours) of existing and future synchronous generators (hydro, gas, coal) especially for the next 5 years*
- *synchronous condensers form the core solution to meeting minimum levels of system strength*
- *grid-forming batteries as a cost-effective source of system strength to facilitate renewable generation and contribute to the efficient level of system strength*
- *grid-forming batteries and synchronous condensers form the core solution across all portfolio options to meet medium to long-term system strength needs.*

In considering the differences between the options identified as credible by Transgrid:

- Option 1 brings 3 synchronous condensers online in Transgrid's network in 2028–29 and another 6 in 2029–30.
- Option 2 (preferred option) also brings 3 synchronous condensers online in Transgrid's network in 2028–29 but brings another 7 online in 2029–30, bringing one forward from 2031–32 from the New England REZ project.
- Option 3 only considers synchronous condensers to be available from February 2030, bringing 4 synchronous condensers online in Transgrid's network from this time and then proceeds to align with Option 2 from 2030–31.

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65 In its PACR, Transgrid notes that a key assumption underpinning needs that has changed from the PADR is that the obligation on Transgrid to make system strength services available from 1 July to 1 December 2025 has been removed because of the deferral of shortfalls linked with the delayed retirement of the Eraring power station to August 2027. See: Transgrid, *Project Assessment Conclusions Report*, July 2025, p.27.

66 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.3.

67 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.4.

3. Credible options to address the identified need

The CIS states that the Meeting system strength requirements in NSW RIT-T PACR does not comply with clause 5.15.2(a)(1) of the NER. This is on the basis that:[68]

1. all options retain some risk of system strength gaps, and
2. all options constitute a breach of AEMO's minimum system strength standards.

Specifically, the CIS states:[69]

> *All PACR portfolios still have material system strength gaps…*
>
> *…The absence of any modelled network or non-network solution that avoids these forecast gaps means the PACR fails to identify a single option that is, in terms of AER's RIT-T guidelines under section 3.2.1, "highly likely" to meet the minimum level of system strength specified by AEMO under NER 5.1.14(b).*

In relation to AEMO's planning benchmark for system strength, the CIS states:

> *AEMO's NSCAS Description and Quantity Procedure applies a three-sigma (99.87th percentile) threshold when determining whether there is a system strength gap. This means the minimum three-phase fault level — pursuant to NER S5.1.14(b) — should be met for at least 99.87 % of the year, allowing no more than about 10 hours annually where the standard is not met…Transgrid's PACR preferred portfolio accepts up to 2% of the year (~175 hours) statewide below the minimum [three phase fault level] and up to 10% (~876 hours) at the Armidale node. From AEMO's perspective, these shortfalls would constitute a significant system strength gap requiring remediation; not a level to be tolerated.*

The following assessment considers whether the portfolio options presented in the PACR are credible options for the purposes of evaluating the specific grounds raised by the CIS.

All options retain some risk of system strength gaps

In reference to the first part of this ground for the dispute, being that 'all options retain some risk of system strength gaps', the AER's assessment is that the risk of the system strength gaps identified by Transgrid as part of its options in its PACR does not mean that the options identified by Transgrid are not credible options to address the identified need. As such, the first part of this ground does not establish a basis to require Transgrid to amend its PACR.

In its PACR, Transgrid acknowledged that risks of gaps in system strength remain in all options meaning that the persistent risk of system strength gaps under all credible options is not in contention.[70] The risk of gaps in system strength as presented by the PACR is for 2027–28 across all portfolio options, and extends into 2028–29 for Options 1 and 2 (the preferred option) and into 2029–30 in Option 3.[71]

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68 CIS, *Response to AER request for additional information*, 2 October 2025, p.4.

69 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW,* 13 August 2025, pp 1–2.

70 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.111.

71 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.8.

The AER notes that identifying a risk of system strength gaps in the PACR does not imply that an option will fail to meet AEMO's required level of system strength, at a relevant time, or that such a risk would necessarily continue when considering the total package of steps undertaken by Transgrid and AEMO in planning, designing, maintaining and operating the network. Rather, it means that system modelling has indicated that the level of system strength could be lower than the planning benchmark at times, if the future state of the network matches the set of modelling inputs and forecasts used in the analysis. The RIT-T did not and is not required to consider any operational measures that may be taken by AEMO to close any system strength gaps, including outage planning and operational directions to generators, consistent with the AER's guidance on this topic.[72]

Further, the AER notes that the identified need refers to using reasonable endeavours to take actions to meet system strength requirements in NSW from 2 December 2025, and as forecast out to 2032–33. In this context, when considering the relevance of the risk of system strength gaps on whether the options set out in Transgrid's PACR are credible options, the AER has considered the reasons why the risk of system strength gaps in the options occurs, and the steps Transgrid took in developing credible options with these risks in mind.

To identify solutions, Transgrid conducted an expression of interest (EOI) process in conjunction with the release of the PSCR and conducted a new EOI process following the publication of the PADR, explicitly requesting solutions to meet system strength requirements for the 2027–28 period because of risks of gaps in system strength it identified.

The AER understands that the identified risk of system strength gaps in the options occurs following the retirement of Eraring in August 2027.[73] Transgrid's assessment of the credible options concluded that there were not sufficient solutions currently available to eliminate the risk of system strength gaps entirely following this closure. Transgrid asserts that its "preferred credible portfolio identified in the PACR is made up of all available sources of system strength in NSW, and it is still unable to meet the need."[74] That is, Transgrid states that if all commercially and technically feasible solutions available to Transgrid were selected, there was still not sufficient system strength services available to eliminate the modelled risk of a gap in 2027–28.[75]

Overall, the AER understands that due to limited options and short time available to procure solutions to fill the gaps in 2027–28 and 2028–29, the analysis and assessments undertaken by Transgrid could not identify possible solutions that closed the risk of all system strength gaps for these years. In the context of:

- the identified need
- the reasons why the risk of gaps in system strength has arisen
- Transgrid's actions to identify possible solutions.

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72 AER, *The Efficient Management of System Strength Framework*, December 2024.

73 Transgrid, *Project Assessment Conclusions Report*, July 2025, p. 8.

74 Transgrid, *Transgrid response to AER information request on system strength dispute*, p. 15.

75 Transgrid, *Transgrid response to AER information request on system strength dispute*, p. 61.

The AER's assessment is that the risk of the system strength gaps identified by Transgrid in the options in its PACR does not mean that the options identified by Transgrid are not credible options that address the identified need as set out in clause 5.15.2(a)(1) of the NER.

For completeness, the AER notes that its assessment of this ground of the RIT-T dispute is not a conclusion that Transgrid has complied with its current or future obligations under clause S5.1.14(b) of the NER. In particular, the AER can assess Transgrid's compliance with the requirements of clause S5.1.14(b) separately to assessing Transgrid's compliance with its RIT-T obligations.

AEMO's planning benchmark for system strength

In relation to the second part this ground for the dispute, being that 'all options constitute a breach of AEMO's minimum system strength standards', the CIS identified AEMO's Network Support Control Ancillary Services (NSCAS) Description and Quantity Procedure (the NSCAS Procedure) as a standard that Transgrid's preferred option will breach. The NSCAS Procedure does not impose a regulatory obligation on Transgrid or other SSSPs that is relevant to the completion of RIT-Ts. Its purpose is to assist AEMO in determining the SSSP obligations outlined in the NER and provide last resort obligations and powers to AEMO to provide system strength. This standard applies only to AEMO in how they determine potential gaps.

It is the declared gaps outlined in the system strength report that apply to SSSPs, rather than anything set out in the NSCAS Procedure. Accordingly, Transgrid is not required to meet the metric used by AEMO in identifying NSCAS gaps, including the 3-sigma threshold that is given as an example of a general approach in AEMO's procedure.

The AER considers this part of the ground to be misconceived on the basis that this standard does not apply to Transgrid.

4. Credible options are commercially and technically feasible

The CIS has claimed that the identified credible options are not commercially and technically feasible because:[76]

1. The gas supply assumptions used in the PACR are unrealistically high.
2. All credible options identified in the PACR rely on grid-forming BESS to contribute to the minimum fault level from 2023–33 and there is no existing evidence to support that this technology is capable of doing this.

On the topic of gas supply assumptions, the CIS claims:[77]

> *It is difficult to understand why no sensitivity analysis was undertaken to test the effect of tighter gas conditions, given the PACR's own admission that modelled gas supply may be overstated, and the ISP Review's finding that the current ISP gas assumptions, applied in the PACR, may not be commercially deliverable.*

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76 CIS, *Response to AER request for additional information*, 2 October 2025, p.4.

77 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW*, 13 August 2025, p.4.

On the topic of grid-forming BESS, the CIS claims:[78]

> *…grid-forming batteries are effectively locked in as an essential long-term component of every portfolio option in the PACR; intended to take on part of the minimum level from 2032–33. Yet, by Transgrid's admission, they are not yet technically proven for that role — and may only "potentially contribute" after further testing and demonstration at scale…*

Section 3.2.2 of the RIT-T application guidelines outlines that an option can be considered commercially feasible if: [79]

> *a reasonable and objective operator, acting rationally in accordance with the requirements of the RIT-T, would be prepared to develop or provide the option in isolation of any substitute options.*

The RIT-T application guidelines outline that an option is technically feasible if:[80]

> *there is a high likelihood that it will, if developed, provide the services that the RIT-T proponent has claimed it could provide for the purposes of the RIT-T assessment.*

Gas supply assumptions in the PACR

In respect of the CIS's claim that the credible options are not commercially and technically feasible as 'they rely on unrealistically high levels of gas re-dispatch for system security', the AER's assessment is that Transgrid has relied on gas supply assumptions consistent with the requirements in the RIT-T. As such, this part of the ground for the dispute does not establish a basis to require Transgrid to amend its PACR.

For projects which are not actionable ISP projects, the RIT-T instrument requires RIT-T proponents to adopt the inputs and assumptions from AEMO's most recent Inputs, Assumptions and Scenarios Report (IASR), unless the RIT-T proponent provides demonstrable reasons why a variation is necessary.[81] The IASR provides the inputs, assumptions and future scenarios to be used in AEMO's ISP modelling.

In accordance with the 2024 ISP Methodology, Transgrid applied a daily NEM wide gas constraint in its PADR, PADR Supplementary Report and PACR market modelling. Between the publication of the PADR and the PACR, Transgrid also engaged a consultant to assess the feasibility of gas generators to provide system strength services through additional re-dispatch. This resulted in an additional pipeline constraint for 2 gas generators, limiting daily fuel supply based on the technical capacity of the pipeline, being applied in the PACR.[82] Transgrid noted in its PACR that the consultant acknowledged the current state of the gas market and raised concerns that a significant re-dispatch for system strength purposes could

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78 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW*, 13 August 2025, p.6.

79 AER, *Regulatory investment test for transmission application guidelines*, November 2024, p.17.

80 AER, *Regulatory investment test for transmission application guidelines*, November 2024, p.17.

81 AER, *Regulatory investment test for transmission instrument*, November 2024, p.3.

82 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.8 and 134.

have flow on effects for the gas market.[83] With consideration on this point, Transgrid presented that further modelling on gas supply constraints was not undertaken as it was:

- would be unproportionate to the identified need and the magnitude of the likely costs of the credible options
- would not materially impact the composition of the portfolio options or identification of the preferred option.[84]

The RIT-T instrument provides that, to depart from the IASR, the RIT-T proponent must provide demonstrable reasons for why an addition, omission or variation is necessary.[85] As such, without providing demonstrable reasons for why departing from the inputs and assumptions in the IASR is necessary (which could include clear evidence to the contrary being made available to Transgrid during the RIT-T process), Transgrid must adopt the most recent IASR parameters and may, in so far as practicable, adopt market modelling from the ISP in its PACR, including its gas supply assumptions. Where Transgrid determined it necessary to vary the inputs and assumptions from the IASR to adopting additional gas pipeline constraints as outlined above, it provided evidence and demonstrated reasoning. It also provided an explanation as to why it did not make further variations to gas supply assumptions.[86]

The CIS submitted evidence to support its opinion that there is a risk that gas availability will be tighter than assumed by Transgrid. However, the CIS did not provide evidence that this affects the commercial or technically feasibility of the credible options, or that the PACR otherwise does not comply with the requirements of the RIT-T.

Reliance on grid-forming batteries

In relation to the CIS's claim that Transgrid's options 'rely on grid-forming batteries to contribute to the minimum fault level from 2032–33', Transgrid confirmed that grid-forming batteries are not expected to contribute to meeting minimum system strength requirements in any credible option identified in the PACR in any year, including later than 2033.[87] This is due to minimum level requirements already being met in full by synchronous condensers.[88] Based on this clarification, the AER consider this part of the ground to be misconceived.

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83 Transgrid, *Project Assessment Conclusions Report*, July 2025, p. 134.

84 AER, *Regulatory Investment Test for Transmission application guidelines*, November 2024, p.19; AER, *The Efficient Management of System Strength Framework,* December 2024, p.28; Transgrid, *Project Assessment Conclusions Report*, July 2025, p. 134; Transgrid, *Transgrid response to AER information request on system strength dispute,* p. 68.

85 AER, *Regulatory investment test for transmission instrument*, November 2024, p.3.

86 Transgrid, *Project Assessment Conclusions Report*, July 2025, pp. 8 and 73–74.

87 Transgrid, *Transgrid response to AER information request on system strength dispute*, pp 19–20.

88 Transgrid, *Transgrid response to AER information request on system strength dispute*, p. 20.

5.2 Ground 2: Compliance with NER cl. 5.15.2(b)

2. That Transgrid has not complied with clause 5.15.2(b) of the NER, because:
    a. Transgrid has not considered all options that could reasonably be classified as credible options
    b. Transgrid has not identified a credible option which: involves the extension of coal generation, does not include BESS, and does not include non-network solutions.

Based on the matters raised by the CIS in this ground for the dispute, the AER's assessment is that Transgrid has complied with the requirements of clause 5.15.2(b) of the NER. The AER determines that this ground does not establish a basis to require Transgrid to amend its PACR.

Clause 5.15.2(b) of the NER requires the RIT-T proponent to consider all options that could reasonably be classified as credible. The NER specifies a range of factors RIT-T proponents must take into account when considering the classification of credible options, including:[89]

1. energy source
2. technology
3. ownership
4. the extent to which the credible option enables intra-regional or inter-regional trading of electricity
5. whether it is a network or non-network option
6. whether the credible option is intended to be regulated
7. whether the credible option has a proponent
8. any other factor that the RIT-T proponent reasonably considers should be taken into account.

Only items (1), (2) and (5) of clause 5.15.2(b) of the NER, which relate to energy source, technology, and whether something is a network or non-network option, respectively, have been considered in this analysis as these directly relate to the grounds raised by the CIS. The other items listed in clause 5.15.2(b) do not relate to the grounds raised by the CIS and their consideration is outside the scope of this determination.

Options that could reasonably be classified as credible options

The CIS claims that Transgrid has not complied with clause 5.15.2(b) of the NER because Transgrid did not consider all options that could reasonably be classified as credible. Further, it states that all options identified in the PACR do not vary in their technology mix and only differ in the timing of network synchronous condenser commissioning, and an obvious credible option has not been considered.[90]

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89 NER, cl. 5.15.2(b)

90 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW*, 13 August 2025, pp 7–8.

The CIS noted that:[91]

> *Given that Transgrid's PACR proposes more than $6 billion in total regulated expenditure over the assessment period, consumers would reasonably expect to see a broad range of materially different credible options tested — not a single composition varied only by delivery dates.*

The CIS also stated that:[92]

> *Staff would further object that 5.15.2(b) has not been satisfied, in that there is an obvious credible option which should be considered, which has not been. This comprises:*
>
> - *Acknowledging that the extension of coal generation is essential to ensuring adequate system security throughout the projected period, and hence modelling this to be extended to at least the minimum degree that is consistent with a low risk of any shortfall in security, or energy generation given what is technically and commercially feasible for the expansion of new renewable energy sources;*
> - *Utilising only technologies that are known now to be technically feasible, and can be readily and confidently assessed and quantified to meet the required need (i.e. synchronous condensers), rather than unproven technologies; and*
> - *Considering complete network ownership of these assets.*

The AER's RIT-T application guidelines and the Efficient Management of System Strength Framework outline that the number of credible options considered, and the analysis undertaken should be proportionate to the identified need and the magnitude of the likely costs of the credible options.[93] There is no requirement for the credible options considered to be exhaustive.[94]

Transgrid's PADR explains the approach taken in considering solutions to the identified need and forming portfolio options:[95]

> *Transgrid has adopted a 'portfolio optimisation' approach to form credible options for this RIT-T. This approach is a practical way of assessing and grouping the large number of individual solutions proposed in response to the EOI and PSCR, plus additional network solutions. It also recognises that no one solution can address the requirements in isolation.*

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91 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW,* 13 August 2025, p.8.

92 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW,* 13 August 2025, p.2.

93 AER, *Regulatory Investment Test for Transmission application guidelines*, November 2024, p.19; AER, *The Efficient Management of System Strength Framework,* December 2024, p.28.

94 AER, *The Efficient Management of System Strength Framework,* December 2024, p.28.

95 Transgrid, *Project Assessment Draft Report*, June 2024, p.34.

Transgrid has developed a robust power system and market modelling methodology to enable the identification of the optimal portfolio of solutions to meet the system strength requirements.

Transgrid noted in its PACR and throughout the RIT-T process that it considered over 100 individual (partial) solutions to meet the identified need.[96] The PADR provides a summary of these solutions and the key assumptions about how they were assessed.[97]

Transgrid undertook a portfolio optimisation approach, using market modelling to identify the optimal portfolio from the possible combinations of a large number of partial individual solutions to providing system strength. Using this approach means that options containing only one type of solution were considered, but not identified as the optimal portfolio, given the included inputs and assumptions in the market modelling. That is, the optimisation method to arrive at the portfolio options identified in the PACR implies that any different proportion of each system strength solution considered would be expected to result in a lower net economic benefit.

Energy source (Coal Generation)

The CIS claims that Transgrid does not consider the extension of coal generation as a credible option.

In defining scenarios and the base case, the RIT-T requires the RIT-T proponent to adopt assumptions from the latest IASR unless it identifies and demonstrates reasons for varying those assumptions. Transgrid used coal retirement dates reflecting the ISP Step Change retirement dates.[98] The AER does not consider that there was any basis to demonstrate any reason for departing from the assumptions in the IASR, as no coal generator asset owner had notified an intention to extend its operation beyond the dates in the latest IASR. The AER discusses these issues in further detail in its consideration of Ground 3 for the dispute (section 5.3).

Transgrid was required to consider coal extensions as a credible option or part of a credible option unless or until it did not meet the criteria of NER clause 5.15.2(a). In this case, there is evidence that coal extensions would be able to partially meet the identified need, are technically feasible and can be available in time to meet the identified need. Therefore, whether or not coal extensions are credible depends on an analysis of their commercial feasibility.

Transgrid included the operation of existing synchronous generators in the list of potential non-network options in the PSCR and sought solutions from industry operators that could have involved the extension of existing coal units. Between the PSCR and PADR, no owners of coal generators expressed their interest in extending operation. The AER therefore considers that it was open to Transgrid to find that while options for the extension of coal generation might satisfy some of the criteria to be credible, including technical feasibility, there was no option that was commercially feasible, and therefore no credible option.

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96 Transgrid, *Project Assessment Conclusions Report*, July 2025, p.54.

97 Transgrid, *Project Assessment Draft Report*, June 2024, pp 37–38.

98 Transgrid, *Transgrid response to AER information request on system strength dispute,* p. 23-24.

Transgrid confirmed it did not include coal extensions within its portfolio optimisation process for the PADR and the PACR because it found that an option involving extension of coal generation was not a credible option.

Technology (Synchronous Condensers)

The CIS states that Transgrid's PACR should consider, "*only technologies that are known now to be technically feasible, and can be readily and confidently assessed and quantified to meet the required need (i.e. synchronous condensers), rather than unproven technologies".* The AER presume 'unproven technologies' to refer to BESS in the context of the CIS's dispute notice.

The summary of assessed solutions provided in the PADR identifies that existing synchronous plant, new build gas and synchronous condensers were considered by Transgrid in its analysis.[99] This suggests a range of technologies other than BESS were considered in the RIT-T. Further, the range of portfolios considered through Transgrid's modelling methodology included options without BESS.

An option where Transgrid only commissions network solutions and technologies considered to be technically feasible in the context of the CIS' claim (only synchronous condensers, network solutions and existing synchronous machines) would, according to the AER's assessment, have a cost that is comparable to the costs of the preferred option under assumptions favourable to additional synchronous condenser installation which ignore supply chain constraints and geographic installation considerations. However, the market benefits associated with a synchronous condenser option would be materially lower when compared to the preferred option due to the loss of benefits provided by BESS through load shifting, frequency control ancillary services and otherwise supporting reliability in the NEM. Therefore, the AER considers total system costs in a counterfactual with synchronous condensers replacing BESS would be materially higher than the preferred option.

Whether it is a network or non-network option (Non-network Solutions)

The PSCR considers an option of 20 synchronous condensers and no supporting BESS required from 2 December 2025, growing to 29 by 2032–33 to represent an 'upper limit' of the scale of network solutions required. In practice, Transgrid expected non-network options to meet a sizeable portion of the preferred portfolio, notably in meeting the efficient level of system strength.[100]

This demonstrates that Transgrid did consider complete network ownership of assets in its assessment but considered these options to not be credible.

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99 Transgrid, *Project Assessment Draft Report*, June 2024, pp 37–38.

100 Transgrid, *Project Specification Consultation Report*, December 2022, p. 5.

5.3 Ground 3: Compliance with paragraph 3(b) of the RIT-T instrument

3. That Transgrid has not complied with paragraph 3(b) of the RIT-T instrument because:
    a. It has chosen a non-viable base case which does not consider the extension of coal generation
    b. The benefits arising from comparison against the base case would never arise in any real-life scenario.

The CIS claims that the Meeting system strength requirements in NSW RIT-T did not comply with clause 5.15A.2(b)(1) of the NER and section 3.3 of the AER's RIT-T application guidelines regarding the identification of the base case. As a starting point, the AER notes that clause 5.15A.2(b)(1) is not applicable to the RIT-T proponent (rather, it applies to the AER in its development and publication of the RIT-T), and section 3.3 of the AER's RIT-T application guidelines does not set out requirements. As such, the AER understands that the CIS is stating that Transgrid has not complied with paragraph 3(b) of the RIT-T instrument, which reflects the wording of clause 5.15A.2(b)(1). The rest of this section therefore refers to paragraph 3(b) of the RIT-T, rather than the provisions identified by the CIS.

Based on the matters raised by the CIS in this ground of dispute, the AER's assessment is that Transgrid has complied with paragraph 3(b) of the RIT-T. The AER determines that this ground does not establish a basis to require Transgrid to amend its PACR.

Requirements relating to the base case

Paragraph 3(b) of the RIT-T states that a RIT-T project that is not an actionable ISP project:[101]

> *must base its cost–benefit analysis on an assessment of reasonable scenarios for future supply and demand if each credible option were implemented compared to the situation where no option is implemented*

Section 3.3 of the RIT-T application guidelines 'characterising the base case', defines the base case as where:[102]

> *the RIT-T proponent does not implement a credible option to meet the identified need, but rather continues its 'BAU activities'*.

Further the RIT-T application guidelines relevantly state:[103]

> *Where the identified need for a credible option is to meet any of the service standards linked to the technical requirements of schedule 5.1 or in applicable regulatory instruments, the base case may reflect a state of the world in which those service standards are violated. (…) This is consistent with the requirement in NER*

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101 AER, *Regulatory investment test for transmission instrument*, November 2024, p.4.

102 AER, *Regulatory investment test for transmission application guidelines*, November 2024, p.21.

103 AER, *Regulatory investment test for transmission application guidelines*, November 2024, p.23.

clause 5.15A.2(b)(1) that the RIT-T be based on a cost benefit analysis that includes an assessment of a situation in which no option is implemented.

On the topic of the extension of coal generators, the CIS states: [104]

> *Transgrid have defined a base case with coal-fired generation closing on-schedule, resulting in a significant amount of load shedding due to system instability…*
>
> *…It is acknowledged that this case is not actually viable and would not be allowed to happen…*
>
> *…On 22 May 2024, the NSW government and Origin Energy agreed to extend the life of Eraring Power Station, thereby removing the system strength shortfall that AEMO had previously declared for July to December 2025. This therefore makes a 'coal-extension' base case entirely credible and indeed likely.*

Concerning the claim that the benefits arising from comparison against the base case would never arise in any real-life scenario, the CIS also raised that the base case includes unrealistic developments of renewable generation in line with the Federal Government's 82% renewable energy target.

On the topic of the Federal Government's 82% renewable energy target, the CIS claims: [105]

> *The PACR's specification of the identified need and its modelling of system strength gaps are based directly on the 2024 AEMO System Strength Report. That report in turn takes its inverter-based resource (IBR) connection forecasts from the 2024 Integrated System Plan (ISP) Step Change scenario, which is policy-constrained to meet the federal government's 82% renewables by 2030 target…*
>
> *…It has become increasingly clear that the target of 82% renewable energy by 2030 is unlikely to be achieved.*

The AER's assessment against each of the CIS' claims is set out below.

Base case does not consider the extension of NSW coal generators

The CIS has submitted that Transgrid has chosen a non-viable base case which does not consider the extension of NSW coal generators. The CIS claims that the value assigned to the 'benefit' of avoiding unserved energy dominates the cost benefit analysis and would not arise as a viable base case would consider coal extensions to avoid such a degradation in system strength.[106]

Transgrid has assumed that NSW coal generators retire as modelled in the 2024 ISP Step Change scenario, the central, or most likely scenario given by the ISP. At the time of the PACR's publication, there was not any known negotiations to extend coal generators in

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104 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW,* 13 August 2025, pp 10 –11.

105 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW,* 13 August 2025, pp 9–10.

106 CIS, *Response to AER request for additional information*, September 2025, p. 6–7.

NSW beyond their current assumed retirement date. Transgrid claims that an assumption of coal extension beyond the 2024 ISP Step Change retirement dates would have cascading impacts for the level of inverter-based resources (IBR) needed to address the efficient level of system strength and may result in a misalignment with AEMO's IBR forecasts.[107] Further, Transgrid considers an extension to a coal unit is not consistent with their 'BAU activities' and would incur additional costs.[108] Transgrid states a coal extension base case implements coal extensions as a certainty across all portfolio options, which would not enable an assessment of the expenditure to extend and continue operation of coal units against options with no extension to coal units.[109]

With respect to Transgrid's modelling of the unserved energy, the AER understands that although Transgrid's identified base case is not considered a viable option, nor expected to arise, it has been formulated as a means of comparing credible options.[110] The AER notes Transgrid compared all options against this base case with the majority of benefit for each credible option the result of avoiding unserved energy in a no action scenario.[111] Transgrid reduced the benefit of all credible options by the value of the smallest involuntary load curtailment benefit amongst the credible portfolio options (portfolio option 3). This will not change the incremental benefit between credible options relative to each other.[112] The AER understands Transgrid took this approach to avoid the comparison of net benefits between options being overshadowed by the significant benefit of avoiding unserved energy common to all options when compared to taking no action. Paragraph 3(b) of the RIT-T instrument provides that the base case should represent a no-action scenario. This is further supported by section 3.3 of the RIT-T application guidelines which states that the base case should represent the continuation of 'BAU activities'. The guidelines go on to clarify 'BAU activities' are ongoing, economically prudent activities that occur in the absence of a credible option being implemented." The AER considers that the assumption of extending coal generators would be a deviation from existing retirement plans that Transgrid must have regard to in the base case and therefore would not be reflective of what is currently expected to occur if no action were to be taken.

In considering the viability of the base case, when the identified need of a RIT-T is to meet the technical standards outlined in schedule 5.1 of the NER, the base case is permitted to be a violation of those technical standards and does not need to represent a viable option.[113] Since the identified need for this RIT-T refers to meeting the system strength requirements, Transgrid's base case represents a state of the world that would not eventuate in reality, but which is necessary to provide a sufficient point of comparison for credible options. Transgrid noted this in its PACR and acknowledged that its base case is not a state of the world it

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107 Transgrid, *Transgrid response to AER information request on system strength dispute*, October 2025, p. 26.

108 Transgrid, *Transgrid response to AER information request on system strength dispute*, October 2025, p. 34, 54.

109 Transgrid, *Transgrid response to AER information request on system strength dispute*, October 2025, p. 54.

110 Transgrid, *Project Assessment Conclusions Report*, July 2025, p. 146; AER, *Regulatory investment test for transmission application guidelines*, November 2024, p.23.

111 Transgrid, *Project Assessment Conclusions Report*, July 2025, pp 137–138.

112 Transgrid, *Project Assessment Conclusions Report*, July 2025, pp 137–138.

113 AER, *Regulatory investment test for transmission application guidelines*, November 2024, p.23.

expects to encounter and which the RIT-T was initiated specifically to avoid.

In respect of the CIS' claim that previous coal extensions 'makes a 'coal-extension' base case entirely credible and indeed likely', the AER notes that consideration of coal extensions would normally be through adopting a separate reasonable scenario or by considering coal extensions as an investment option. This is because the base case represents a case where no action is taken.

Further, a separate Orderly Exit Management Framework applies to the consideration of the extension or retirement of existing synchronous generation. The results of the RIT-T, for example the persistent risks of system strength gaps, may be informative for decisions made under that framework.

Base case developments in renewable generation that would not arise in reality

The CIS claims that the assumptions for renewables and gas used in Transgrid's base case are non-viable and unrealistic and therefore, do not provide a reasonable scenario for assessment.

RIT-Ts for projects that are not actionable ISP projects must adopt the inputs and assumptions from the most recent IASR. The 2023 IASR outlined that AEMO would model the 82% share of renewable generation by 2030 target across all scenarios in the ISP as it was considered to be a sufficiently developed policy and included in the 'targets statement'.[114] Given the RIT-T requires RIT-T proponents to adopt the inputs and assumptions from AEMO's most recent IASR, Transgrid has accordingly adopted the input of meeting the Federal Government's 82% renewable energy by 2030 target.[115]

The AER notes that the information the CIS included in its dispute notice, which consisted of several articles and publications to provide evidence as to why adopting the assumption the Federal Government's 82% renewable energy target will be met is unreasonable, was not provided to Transgrid during the RIT-T process. Section 4 of the RIT-T application guidelines outlines the process and expectations for consultation following publication of the PSCR and the PADR. Following these consultation processes, a RIT-T proponent must provide a summary of, and response to, the content of the submissions in the PADR and the PACR.[116] For this RIT-T, Transgrid provided detailed responses to points raised during consultation in Appendix D of its PACR.[117] As the evidence that CIS provided to the AER was not provided to Transgrid during the RIT-T process, Transgrid could not have responded to the CIS' evidence during the RIT-T process and could not be required to have regard to it.

On this basis, Transgrid's inclusion of developments of renewable generation in line with the Federal Government's 82% renewable energy target and the 2024 ISP Step Change Scenario in its base case is reasonable and consistent with the requirements of the RIT-T instrument.

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114 AEMO, *2023 Inputs, Assumptions and Scenarios Report*, July 2023, p. 7.

115 AEMO, *2023 Inputs, Assumptions and Scenarios Report*, July 2023, p. 7.

116 NER cl. 5.16.4; AER, *Regulatory investment test for transmission application guidelines*, November 2024, p.69, 70–71.

117 Transgrid, *Project Assessment Conclusions Report*, July 2025, pp 125–130.

5.4 Ground 4: Compliance with NER cl. 5.16.4(a)

4. That Transgrid has not complied with clause 5.16.4(a), and specifically in relation to clauses 5.16.4(j), 5.16.4(k), and 5.16.4(q) because:

    a. The preferred solution changed materially from the PADR to PACR, but these were not foreshadowed in the PADR or Supplementary PADR (which explicitly stated the preferred portfolio remained unchanged). Stakeholders were thus denied the opportunity to submit on the actual configuration now proposed.

The CIS states that the Meeting system strength requirements in NSW PACR did not comply with the consultation requirements as set out in clauses 5.16.4(a), (j), (k) and (q). In particular, the CIS states that: [118]

> *The PACR published by Transgrid on 14 July 2025 presents a materially altered preferred solution compared to the PADR released on 17 June 2024 and the Supplementary PADR released on 18 October 2024. Specifically, the preferred option in the PACR reduces the number of large synchronous condensers from 14 (as proposed in the PADR and Supplementary PADR) to 10, and increases the grid-forming battery capacity from 4.8 GW to approximately 5 GW. Additionally, the PACR introduces an unresolved sub-option involving either four smaller synchronous condensers or an additional 200 MW battery system in the Hunter-Central Coast region…*
>
> *… Despite the significant changes to the mix of proposed solutions presented in the PACR, Transgrid did not undertake a further round of stakeholder consultation prior to publishing the report… The lack of consultation on the materially revised proposal has denied stakeholders the procedural fairness expected under the RIT-T framework.*

Clause 5.16.4(a) of the NER sets out that a RIT-T proponent must consult interested parties in accordance with the clause. Paragraphs (j), (k) and (q) of clause 5.16.4 specifically relate to the PADR in that the RIT-T proponent must prepare a PADR within an identified timeframe, must include certain details within the report and must seek submissions from interested parties on the preferred option and the issues addressed in the PADR.

On 17 June 2024, Transgrid published its PADR setting out, among other matters, a description of each portfolio of solutions assessed and the preferred portfolio of solutions. Transgrid sought submissions by 2 August 2024 on the preferred option presented, and the issues addressed, in the PADR. The CIS did not make a submission to the PADR.

On 17 October 2024, Transgrid published a supplementary PADR to take account of key developments since the PADR, which included the identification of a new optimal portfolio option. Transgrid sought submissions by 15 November 2024. The CIS did not make a submission to the supplementary PADR.

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118 CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW*, 13 August 2025, pp 11–12.

On 14 July 2025, Transgrid published its PACR. In its PACR, Transgrid responded to submissions raised in response to the PADR and the supplementary PADR. The PACR refined the inputs and assumptions in the PADR using the latest information, including information received in submissions to the PADR and the supplementary PADR.

In the AER's view, Transgrid has followed the consultation requirements in clause 5.16.4 of the NER. As such, with respect to this ground for dispute, Transgrid has applied the RIT-T in accordance with the NER.

Based on our analysis, the AER considers that the changes to the preferred option between the PADR and the PACR were not so material so as to require Transgrid to undertake further consultation. The PACR preferred option included more (non-REZ) synchronous condensers, grid-forming BESS and upgrades to synchronous machines than any option considered in the PADR or supplementary PADR. However, these increases reflected more up-to-date information from the 2024 ISP and deferral of the closure of Eraring Power Station.

Transgrid appears to have applied the same methodology in the PADR and the PACR and then come to a preferred option that is defined in the same way in the PACR as it was in the PADR. Interested parties were consulted on this approach through the RIT-T process.

Given the above, the AER determines that this ground does not establish a basis to require Transgrid to amend its PACR.

6 Determination

On 13 August 2025, the AER received a notice of dispute from the CIS, disputing the conclusions made by Transgrid in the Meeting system strength requirements in NSW PACR, in relation to the application of the RIT-T.[119] The dispute was therefore raised under clause 5.16B(a)(1) of the NER. The CIS raised the dispute regarding Transgrid's PACR on the 4 grounds as set out in Section 2.4.

After considering the grounds for the dispute raised by the CIS, the AER determines that, based on the grounds of the dispute, Transgrid will not be required to amend the Meeting system strength requirements in NSW PACR.

[119] CIS, *Notice of Dispute of Transgrid's RIT-T for Meeting system strength requirements in NSW*, 13 August 2025.