

Draft amendments

**Cost benefit analysis
guidelines and RIT
application guidelines**

Explanatory Statement

July 2023

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Summary

We are required to update the Regulatory Investment Test (RIT) application guidelines and RIT instruments as result of the AEMC's *Material change in network infrastructure costs* (MCC) rule change.¹ This rule change requires us to update:

- the RIT for transmission (RIT-T) guidelines for actionable Integrated System Plan (ISP) projects (which are housed within the Cost Benefit Analysis (CBA) Guidelines);² and
- the application guidelines for RITs for transmission (non-actionable ISP projects)³ and distribution.⁴

In this explanatory statement we refer to all three documents together as the **Guidelines**. This explanatory statement accompanies proposed draft amendments to the Guidelines and seeks stakeholder views on these amendments.

The final rule requires, amongst other things, RIT proponents to consider whether there has been a material change in circumstances that requires the re-application of the RIT⁵. This requires amendment to the RIT guidelines. The final rule also allows us to amend the Guidelines:

- to consider any acceptable cost accuracy classification systems that should be used for the RIT and any role of contingency allowances;⁶
- to consider guidance that may strengthen the robustness of the estimated costs of credible options;⁷
- to specify binding obligations within the RIT-D application guidelines, and within the RIT-T application guidelines for non-actionable ISP projects (noting that we can already specify binding aspects of the Cost Benefit Analysis Guidelines (CBA) for actionable Integrated System Plan (ISP) projects).⁸

We have also taken the opportunity to seek stakeholder views on the AEMC's Transmission Planning Investment Review stage 2 report recommendation that greater certainty be provided about early works activities undertaken by transmission businesses for actionable ISP projects in advance of constructing a project.

In proposing draft amendments to the Guidelines, we have adopted an approach that:

- reflects a principles-based approach rather than a prescriptive approach to guidance; and

¹ AEMC, *Material change in network infrastructure project costs – Final Determination*, Summary point 9

² NER, cl. 5.22.5(a)

³ NER, cl. 5.16.2(e)

⁴ NER, cl. 5.17.2(e)

⁵ AEMC, *Material change in network infrastructure project costs – Final Determination*, Summary point 5

⁶ AEMC, *Material change in network infrastructure project costs – Final Determination*, section 5.2

⁷ AEMC, *Material change in network infrastructure project costs – Final Determination*, section 5.2

⁸ AEMC, *Material change in network infrastructure project costs – Final Determination*, section 5.2

- promotes greater transparency to enable stakeholders to engage more effectively with these aspects of the RIT.

We are seeking stakeholder submissions on the draft amendments by 9 September 2023. We are intending to publish final amendments by the MCC rule commencement date of 9 October 2023.

1 Background

1.1. The AER's regulatory investment test and cost benefit assessment guidelines

Our Guidelines set out the cost-benefit tests that network businesses (RIT proponents) must undertake before building electricity network infrastructure. The purpose of the tests is to assess options that could address an identified need in the electricity network, and then identify the credible option that maximises the net economic benefits in the National Electricity Market (NEM).

In accordance with the National Electricity Rules (NER), we are responsible for publishing the RIT-T and RIT-D guidelines. The guidelines set out:⁹

- The purpose of RITs.
- Which projects are subject to RITs.
- The cost benefit assessment required as part of a RIT, including guidance on the selection of reasonable scenarios, selection of credible options and the preferred option, and treatment of uncertainty risks and externalities.
- The process to follow in applying the RITs including stakeholder consultation steps.
- The process for reapplying a RIT following a material change in circumstances.
- Calculating different classes of market benefits, using worked examples. This includes benefits associated with voluntary load curtailment, involuntary load shedding, costs to other parties, timing of expenditure, option value and energy losses.
- Calculating different classes of market benefits, using worked examples. This includes benefits associated with voluntary load curtailment, involuntary load shedding, costs to other parties, timing of expenditure, option value and energy losses.
- The dispute resolution process. This includes guidance on the requirements and procedure for making a RIT dispute, along with guidance on what we take into account in making a determination.

We also provide guidance to the Australian Energy Market Operator (AEMO) on how to undertake cost-benefit assessments for new transmission investments considered in its Integrated System Plans (ISPs), and to network businesses on how to undertake cost-benefit assessments for Actionable ISP projects. This guidance is provided in our Cost Benefit Analysis (CBA) guideline.

⁹ AER, *RIT-T application guidelines*, September 2017; AER, *RIT-D application guidelines*, September 2017.

1.2. AEMC transmission reviews and rule changes

The Australian Energy Market Commission (AEMC) recently completed a review of the regulatory framework for transmission planning and investment.¹⁰ The objective of the review was to support timely and efficient delivery of major transmission projects, while continuing to require rigorous cost benefit assessments of proposed projects.¹¹

The context for the review was the shift to 'net zero' carbon emissions. In the electricity sector reducing carbon emissions requires replacing centralised coal and gas generation with decentralised renewable generation supplemented by firming capacity such as hydro-electricity generation. Significant new transmission investments are required to accommodate the transition. As noted by the AEMC:¹²

...the scale of transmission investment required, coupled with the speed of the energy transition, presents unique opportunities and challenges for the existing regulatory framework. This framework was developed and has evolved over a period of incremental growth of the grid where the framework was weighted to minimise the risk of overbuilding, rather than the current required pace of step-change growth set out in the Australian Energy Market Operator's Integrated System Plan.

The AEMC's review is being delivered in stages. Stage 2, released in October 2022, focuses on improving transmission investment outcomes with recommendations that can be implemented in the short-term. By contrast stage 3 focuses on issues that are more complex and that need more time to develop.

The stage 2 recommendations, amongst other things:

- set out the timing requirements for RIT-T proponents to seek confirmation from AEMO as to whether the preferred option aligns with the most recent Integrated System Plan¹³
- provide greater clarity around social licence outcomes in the national framework¹⁴
- improve certainty over the regulatory treatment of early works.¹⁵

When it released its stage 2 report, the AEMC also released a rule change determination, the *Material Change in Network Infrastructure Project Costs* (MCC) rule change. The rule change responded to user concerns about changes in project costs and their implications for cost-benefit assessments already undertaken for a completed RIT. In considering the MCC rule change request, the AEMC drew on the objectives and principles used to guide the stage 2 review. The AEMC aimed to promote timely investment, improve the robustness of project costs estimates,

¹⁰ AEMC, Transmission Planning and Investment Review – Stage 3, Final Report, Summary point 3, May 2023

¹¹ AEMC, Transmission Planning and Investment Review – Stage 3, Final Report, section 1.1, May 2023

¹² AEMC, Transmission Planning and Investment Review – Stage 2, Summary point 3, October 2022

¹³ AEMC, Transmission Planning and Investment Review – Stage 2, Summary point 16, October 2022

¹⁴ AEMC, Transmission Planning and Investment Review – Stage 2, Summary point 11, October 2022

¹⁵ AEMC, Transmission Planning and Investment Review – Stage 2, Summary point 13, October 2022

and thereby reduce the likelihood that a RIT needs to be reapplied because of a change in circumstances.¹⁶

The MCC rule change requires us to amend parts of our existing Guidelines¹⁷, and allows us to consider amendments to other parts of the Guidelines to improve the accuracy of cost estimates used in the RIT.¹⁸

1.3. Required guideline amendments

The MCC rule changes require us to amend and consider whether to amend the RIT-T, RIT-D and CBA guidelines. The amendments fall into three categories:

1. *Re-opening RIT assessments*

After a RIT assessment has been undertaken by a RIT proponent, new events, factors or circumstances may change outcomes of the RIT assessment. Examples include changes in project cost estimates, entry or exit of generators, and changes in demand projections.

The MCC rule change requires a RIT proponent to consider whether the new events, factors or circumstances are material enough to warrant reapplying the RIT.¹⁹ If the RIT proponent considers there has been a material change in circumstances, it must notify us of the change and propose a course of action to identify if the preferred option previously identified through the RIT remains the most net beneficial option.²⁰ The AER is then required to assess the proposed course of action and approve or reject and modify it.

For projects where the preferred option is estimated to cost more than \$100 million, the MCC rule change requires a RIT proponent to develop RIT reopening triggers. Triggering a reopening trigger specified in a RIT constitutes a material change in circumstances. As mentioned above, a material change in circumstances requires the RIT proponent to notify us and propose a course of action. RIT reopening triggers will go some way to improving transparency about when a RIT should be reconsidered in light of new events, factors or circumstances.²¹

The MCC rule change also requires us to update the Guidelines, by 9 October 2023, to include:

- guidance on the purpose and appropriate approach to developing RIT reopening triggers, as well as examples of potential RIT reopening triggers; and

¹⁶ AEMC, Material change in network infrastructure project costs – Final Determination, Section 1.3, October 2022

¹⁷ AEMC, Material change in network infrastructure project costs – Final Determination, Section 2.5, October 2022

¹⁸ AEMC, Material change in network infrastructure project costs – Final Determination, Section 5.4.1, October 2022

¹⁹ The MMC rule amends cl 5.16.4 of the NER, where a RIT proponent is only required to consider if there has been a material change in circumstances if more than six months have elapsed since the completion of analysis required to apply the RIT or analysis required for an reapplication of the RIT (in whole or in part).

²⁰ The credible option that maximises the present value of net economic benefit to all those who produce, consume and transport electricity in the market.

²¹ Regardless of whether the \$100 million threshold is met, the NER requires all RIT proponents to consider if there has been a material change in circumstances.

- worked examples of actions that may be taken in response to a reopening trigger being triggered.²²

The MCC rule change also allows us to specify the relevant parts of the RIT-T and RIT-D application guidelines that are binding on RIT proponents.²³ Making relevant aspects of the guidelines binding aims to promote stakeholder confidence in the RIT process.

2. RIT cost estimates

The MCC rule change allows us to provide guidance to RIT proponents on the information they provide to support their project cost estimates. In providing guidance, we can require proponents to provide cost estimate classification systems which specify the accuracy of cost estimates.²⁴ We can also provide guidance about the role and level of contingency allowances.²⁵ The objective here is to improve transparency and robustness of cost estimates. As well as improving RIT assessments, more robust cost estimates are less likely to result in a RIT being reopened.

3. Guidance on early works

The AEMC's stage 2 review includes changes to provide Transmission Network Service Providers (TNSPs) with additional certainty about recovery of efficient costs for preparatory activities and early works. It has made two recommendations.

The first is to clarify the meaning of 'early works' to help provide greater certainty about the activities that can be undertaken.

The second change is a recommendation for us to amend our Guidelines to provide additional guidance on early works and to include the following definition of early works: 'activities that are completed prior to the construction of the preferred option, to improve the accuracy of cost estimates, and to ensure that a project can be delivered within the time frames specified by the most recent ISP'.

1.4. Consultation process

We commenced consultation on changes to our RIT and CBA guidelines by publishing a consultation paper on 18 May 2023.²⁶ The draft guidelines and this draft decision and explanatory statement are part of the second stage of our consultation process and incorporate input from the 13 written submissions we received in response to our consultation paper. A summary of the issues raised in these submissions and the AER's response is in appendix A.

Table 1 outlines the main project steps for this consultation process.

²² AEMC, Material change in network infrastructure project costs - Final Determination, section 2.5, October 2022. NER, cl 11.154.3. These amendments are required made under clause 11.154.3 (a)(1) of the NER for amending the CBA guidelines, clause 11.154.3 (a)(2) of the NER for amending the RIT application guidelines and clause 11.54.3 (3) of the NER for amending the distribution application guidelines., relating to the amendments made to clauses 5.16A.2(c)(4); 5.16.2(c)(10) and 5.17.2(c)(10).
²³ NER, clauses 5.16.2(h) and 5.17.2(h) inserted by the MCC rule change.
²⁴ NER, clause 11.154.3 and the amendments made by MCC rule change to clauses 5.16A.2(c)(2); 5.16.2(c)(6) and 5.17.2(c)(6).
²⁵ NER, clause 11.154.3 and the amendments made by MCC rule change to clauses 5.16.2(c)(8) and 5.17.2.(c)(8).
²⁶ AER, *Consultation Paper: Review of the cost benefit analysis guidelines and RIT application guidelines*, May 2023

Table 1: Project timeline

Project step	Date
Consultation paper published	18 May 2023
Submissions closed	19 June 2023
Draft Guidelines published	24 July 2023
Webinar	August 2023
Submissions close	8 September 2023
Final Guidelines published	9 October 2023

1.5. Our draft guideline amendments and explanatory statement

This explanatory statement provides our rationale for the proposed amendments to the guidelines as set out in our draft CBA guideline and draft amendments to our RIT–T application guidelines for non-ISP projects. The draft amendments are shown as mark ups to the current Guidelines.

The structure of the explanatory statement is set out in Table 2.

Table 2: Structure of draft decision and explanatory statement

Description	Section of explanatory statement
Background on the transmission planning framework and reasons for amending the Guidelines	Section 1
Reopening RIT assessments	Section 2
Transmission project cost estimates	Section 3
Guidance on early works	Section 4
Summary of submissions	Appendix A

1.6 Invitation for submissions

We invite submissions on the draft guideline amendments by the close of business **8 September 2023**. We prefer stakeholders send submissions electronically to RITguidelines@aer.gov.au

Alternatively, stakeholders can mail submissions to:

Gavin Fox

A/General Manager, Market Performance

Australian Energy Regulator

GPO Box 520

MELBOURNE VIC 3001

We prefer all submissions be publicly available to facilitate an informed and transparent consultation process. We will therefore treat submissions as public documents unless otherwise requested.

We request parties wishing to submit confidential information to:

- clearly identify the information that is subject of the confidentiality claim, and reasons for the confidentiality claim
- provide a non-confidential version of the submission, in addition to a confidential one.

We will place all non-confidential submissions on our website at www.aer.gov.au. For further information regarding our use and disclosure of information provided to us, see the *ACCC/AER Information Policy*, June 2014 available on our website.

2 RIT guidelines: Reopening triggers

2.1 Rule requirements

After a RIT assessment has been completed, circumstances may change in a way that could alter the original RIT conclusions. The MCC rule provides, amongst other things, a positive requirement that RIT proponents must consider if there has been a material change in circumstances that requires the reapplication of the RIT.²⁷

Several stakeholders, including the Energy Users Association of Australia (EUAA), observed substantial increases in costs of large transmission projects over the period of the RIT-T process and in the lead up to contingent project applications. They are not confident that projects still deliver net benefits given observed cost increases because:

- RIT-T proponents have not reopened their RIT assessments in the past
- in their view, RIT proponents have weak incentives to trigger the reapplication of the RIT as a result of a material change in circumstances.

These stakeholders lodged a rule change proposal to address their concerns. While the AEMC did not adopt the rule change proposed, it established new obligations for RIT proponents and gave us new RIT reopening functions. The MCC rule provides, amongst other things, a positive requirement that RIT proponents must consider if there has been a material change in circumstances that requires the reapplication of the RIT.

The MCC rule change requires²⁸:

- RIT proponents of projects where the estimated cost of the preferred option is greater than \$100 million to develop reopening triggers:^{29 30}
 - The triggers would provide transparency by setting out what the RIT proponent considers a material change in circumstances.
 - The RIT proponents must propose and consult on reopening triggers in the Project Assessment Draft Report for RIT-Ts and the Project Assessment Report for RIT-Ds (as is applicable).
- RIT-T proponents to consider whether there has been a material change in circumstances using the reopening triggers specified in the RIT and other relevant factors.³¹

²⁷ NER, cl. 11.154.3

²⁸ AEMC, Final Rule determination, Material change in network infrastructure project costs, 27 October 2022

²⁹ Regardless of whether the \$100 million threshold is met, the NER requires all RIT proponents to consider if there has been a material change in circumstances.

³⁰ This provision does not apply to the Australian Energy Market Operator where it is the sole RIT proponent.

³¹ Note that the RIT proponent is only required to consider if there has been a material change in circumstances if more than six months has elapsed since the later of the RIT proponent completing the analysis required to apply the RIT or the analysis required for any reapplication of the RIT

- RIT proponents, if they consider there has been a material change in circumstances, to notify us and propose a course of action (backed by supporting analysis) to identify if the preferred option previously identified through the RIT:
 - still delivers net benefits; and
 - remains the most net beneficial option in light of the changed circumstances.³²
- Us to approve or reject and modify the RIT proponent's proposed course of action.
- Proponents of contingent projects, at the time of submitting the contingent project application, to provide a separate statement to us confirming whether there has been a material change in circumstances, with supporting analysis. If relevant the proponent must advise whether we were notified of any material change in circumstances and outline the course of action that was undertaken.

To assist RIT proponents and stakeholders, the MCC rule requires us to update the Guidelines to include guidance on:³³

- the purpose and appropriate approach to developing RIT reopening triggers; and
- provide worked examples of potential RIT reopening triggers and actions that may be taken in response to reopening triggers being triggered.

Any amendments to the Guidelines to accommodate the MCC rule change must be made before the rule commencement date of 9 October 2023.

2.2 Draft guideline amendments

This section outlines our draft guideline amendments for the reopening triggers and the reasons for our proposals.

The discussion is split into two sections. The first discusses proposed principles to assist RIT proponents in developing reopening triggers and worked examples to guide the application of these principles. The second section discusses proposed guidance to RIT proponents on possible courses of action to follow when a reopener is triggered.

The draft amendments required by the MCC rule apply to all RIT proponents.³⁴ The proposed approach applies whether a proponent is conducting a transmission, distribution or actionable ISP RIT. For this reason, our draft amendments are the same for the RIT-T, RIT-D and CBA guidelines.

³² The credible option that maximises the present value of net economic benefit to all those who produce, consume and transport electricity in the market.

³³ AEMC, Material change in network infrastructure costs, Final Determination, section 2.5, October 2022. NER, cl. 11.154.3. These amendments are required made under cl. 11.154.3(a)(10) of the NER for amending the CBA guidelines, cl. 11.153.3(a)(2) of the NER for amending the RIT application guidelines and cl. 11.154.3(3) of the NER for amending the distribution guidelines, relating to the amendments made to clauses 5.16A.2(c)(4); 5.16.2(c)(10) and 5.17(c)(10)

³⁴ NER, glossary, 'RIT reopening trigger'

2.2.1 Guidance on developing reopening triggers events

The AEMC's final determination on the rule change states that the objective of the reopening triggers is to help the RIT-T proponent determine whether there has been a material change in circumstances between the final RIT-T report and the contingent project application.³⁵ The MCC rule defines the reopening triggers as:³⁶

.....the events, factors, or circumstances which, if they occur or eventuate would mean that the preferred option for a RIT-D project contemplated by clause 5.17.4(j)(13) or RIT-T project contemplated by clause 5.16.4(k)(10) or clause 5.16A.4(d)(9) may no longer be the preferred option, and may include a change in the key assumptions used in identifying or ranking the credible options for that project.

Our draft Guideline amendments provide further guidance by outlining principles that RIT proponents should consider in developing reopener trigger events and providing worked examples of reopening trigger events. Our worked examples cover a range of circumstances:

- a change in project costs
- a change in demand
- a change in government policy
- an 'act of God' event
- changes in technology costs.

We selected these worked examples on the basis that they are realistic and that they are likely to have a material impact on most RITs. These worked examples are illustrative for the purposes of guidance and RIT proponents need to consider changes in circumstances that would be relevant in the context of their specific RIT.

The worked examples show the impact of each of the changes in circumstances on the costs and benefits of a project, including the circumstances that may eliminate net benefits and/or alters the ranking of credible options.

The principles we propose to use to guide RIT proponents in developing RIT reopening triggers are:

1. identify the key inputs and assumptions used in RIT modelling, and the events, factors and changes in circumstances that may alter those key inputs and assumptions
2. establish RIT reopening triggers that would have a real, rather than a potential or a possible, likelihood of affecting the key inputs and assumptions and may eliminate net benefits of the preferred option and/or alter the ranking of credible options

³⁵ AEMC, Material change in network infrastructure project costs – Final Determination, Section 2.4.2, October 2022

³⁶ NER, glossary, 'final rule';

3. define RIT reopening trigger objectively and ensure they are capable of being verified
4. where possible, the RIT reopening trigger should quantify boundary values of key inputs and assumptions, for example the cost limit of a project before the net benefits of the project becomes negative.

These principles aim to guide the RIT proponents' approach to developing reopening trigger events, including the need to design a trigger event such that the activation of the trigger event is capable of verification, should a change in circumstances occur.

In our consultation paper³⁷, we proposed to provide non-prescriptive guidance to RIT proponents and adopt a principles-based approach, consistent with the intent of the final rule, and to provide worked examples. The alternative is to prescribe 'one size fits all' reopeners. Most stakeholders support a non-prescriptive approach to guidance on reopening triggers (ENA, Energy Australia, Transgrid, Endeavor Energy, AEMO, Engie, Powercor).³⁸ However, some stakeholders consider that a prescriptive approach is necessary to ensure a rigorous approach to reopeners (EUAA, Iberdrola, PIAC).³⁹ Their concern is that if reopener triggers are too open ended or unclear, a principles based approach will not provide confidence to consumers that changes in circumstances will be adequately addressed.

Our draft guideline amendments maintain a non-prescriptive approach. A change in circumstances may be relevant to one project but not another, and impacts are likely to vary across projects. Given this, a reopening trigger must be assessed on a project specific basis. Our guidance, therefore, cannot be prescriptive. However, this does not mean that applying reopening triggers will not be rigorous. Overall, our non-prescriptive approach will protect the integrity of RIT reopening triggers because:

- RIT proponents must consult on reopening trigger events as part of the RIT process. This will provide transparency about the basis for the reopening triggers proposed and allow stakeholders to engage with proposed trigger events.
- By requiring objective and verifiable triggers, and where possible quantification of RIT reopening trigger events, our principles should provide clarity about when RITs should be reopened.
- Our guidance in the worked examples will help RIT proponents develop appropriate reopening triggers.
- We will monitor compliance of reopening trigger proposals with requirements in the NER and requirements and principles in our Guidelines.

³⁷ AER, Consultation Report, Cost Benefit Analysis and RIT application guidelines, 17 May 2023.

³⁸ ENA, Powercor, Transgrid, AEMO, Submission to consultation paper on Guideline Review, June 2023

³⁹ EUAA, PIAC, Submission to consultation paper on Guideline Review, June 2023

2.2.2 Guidance on activating a reopening trigger

When events, factors or changes in circumstances occur, RIT proponents must consider whether the changes constitute a material change in circumstances. In our view, a material change in circumstances generally occurs where there is a prospect that the proposed project no longer provides net benefits or is no longer the preferred option. The MCC rule change introduces new rules that further (and non-exhaustively) define a material change in circumstances when:

- there is a change to the key assumptions used to identify the need described in the final project assessment report
- one or more RIT reopening triggers has or have been triggered
- there is a change in circumstances which, in the reasonable opinion of the RIT proponent, means that the preferred option identified in the final project assessment report may no longer be the preferred option.

If a material change in circumstances has occurred, including when a RIT reopening trigger has been activated, the RIT proponent must notify us and propose a response. RIT proponents must also:

- publish a statement about whether the preferred option remains so, or if not, what the new preferred option is (with supporting reasons and information) ⁴⁰
- advise us about whether in the RIT proponent's reasonable opinion, reapplying the RIT is justified, the costs of delay that may result from the actions it proposes to take, and the costs and delay that may result from the reapplication of the RIT (in whole or part). ⁴¹

We have amended the Guidelines to include worked examples of proposed actions in response to a material change in circumstances. These worked examples outline actions that may be appropriate depending on the impact of any change in circumstances on the conclusions in the RIT, including where:

- the preferred option remains preferred, and does not require any further action
- the ranking of credible options is likely to have changed, and actions may include:
 - further stakeholder consultation
 - preparing a report of the process, including a summary of stakeholders' views and its own conclusions, and
 - providing this report to us to inform our decision in whether to accept or reject the RIT proponents proposed actions

⁴⁰ NER, cl. 5.16.4(z4B)

⁴¹ NER, 5.16.4 (Z4A)

- if the change in circumstances is complex (particularly where more than one key input or assumption is affected), this may require reapplying the RIT in whole or part.

Some submissions considered that reopening triggers that conflate the impact of multiple variables are unlikely to be transparent. These submissions considered it may be appropriate to consider changes in circumstances as part of the sensitivity analysis presented in the RIT.⁴² We agree that when multiple key inputs or assumptions are affected by an event, factor or circumstance, it is harder to determine the impact of the changes on the RIT. As noted in our worked examples, the case for re-running a RIT is stronger the more complex the impact of a change in circumstances. As noted by submissions, using sensitivity testing in determining RIT triggers may also be useful in considering complexity.

Our proposed Guideline amendments state that the response by a RIT proponent to a material change in circumstances should be proportionate to the issues identified. Possible responses include reapplying a RIT in whole or part, and retaining the conclusions in the RIT.

Once a RIT proponent has considered the impact of a material change in circumstances, it is open to them to propose retaining their current course of action even if the original preferred option is no longer the preferred option. Reasons for not taking action could include the delays involved, costs associated with implementing the preferred option already being committed, or the marginal nature of differences between options. The onus is on the proponent to make the case for its preferred course of action with supporting information and analysis.

We must then approve or reject the RIT proponent's proposed course of action. If we reject, we must set out our alternative course of action.

⁴² ENA, Endeavour, Powercor, Transgrid, Submission to consultation paper on Guideline Review, June 2023

3 Cost estimation in RITs

3.1 Rule requirements

The MCC rule change allows us to amend the RIT-T, RIT-D and CBA guidelines to provide additional guidance on the cost methodologies RIT proponents use.⁴³ The MCC rule change states that:⁴⁴

- The AER can provide guidance on any acceptable cost estimate classification systems that should be used in the RIT, including any role for contingency allowances.
- The AER is to consider how the Guidelines can be strengthened to promote the development of more robust cost estimates.

The AEMC states that the objective of such guidance is to encourage RIT proponents to develop more robust cost estimates, which should reduce the likelihood that reapplication of the RIT is needed as a result of a material change in circumstances.⁴⁵

The MCC rule change also allows us to specify the relevant parts of the RIT-T and RIT-D application guidelines that are binding on RIT proponents (as it is already permitted for elements of the CBA guidelines).⁴⁶ The purpose of this is to provide greater stakeholder confidence in RIT processes.

3.2 Draft guideline amendments

This section outlines our draft guideline amendments for cost estimates used to inform RITs. The discussion is in three sections. The first section discusses general guidance on cost estimates, the second our approach to cost estimate classifications systems, and the third our approach to sensitivity analysis.

As with the reopener trigger amendments discussed in section 2, our draft amendments apply to all RIT proponents irrespective of whether a proponent proposes a transmission, distribution or ISP project. Accordingly, our draft amendments are the same for the RIT-T, RIT-D and CBA guidelines.

3.2.1 Improved cost estimation transparency

The RIT-T and RIT-D guidelines require RIT proponents to estimate the costs of each credible option. Relevant costs include:

- construction costs
- operating and maintenance costs over the operating life of the credible option

⁴³ NER, clause 11.154.3 and the amendments made by MCC rule change to clauses 5.16A.2(c)(2), 5.16.2(c)(6), 5.17.2(c)(6), 5.16.2(c)(8) and 5.17.2.(c)(8).

⁴⁴ NER, 5.6.2.(c).

⁴⁵ AEMC, Material change in network infrastructure project costs – Final Determination, 2.4.2

⁴⁶ NER, clauses 5.16.2(h) and 5.17.2(h) inserted by the MCC rule change. NER, clause 5.22.5(c).

- cost of complying with laws, regulations and applicable administrative requirements in relation to the construction and operation of the credible option.

The RIT-T and RIT-D guidelines do not currently provide guidance on the information RIT proponents should provide in support of their cost estimates. For example, RIT proponents are not required to explain the basis for the inputs and assumptions used to derive estimated costs for each credible option.

In our consultation paper, we sought stakeholder views on the usefulness of providing additional guidance about the information RIT proponents should provide in support of their cost estimation methodology.⁴⁷ Our view was that increased transparency about the derivation of estimated costs will enable stakeholders to better scrutinise and comment on RITs as part of RIT consultation processes. In turn, increased scrutiny will improve feedback provided as part of RIT consultation processes and encourage RIT proponents to develop robust cost estimates.

Most submissions support the inclusion of guidance to promote greater transparency. The EUAA's submission highlights examples of projects where project costs had increased, but RIT proponents did not consider that a material change in circumstances had occurred. However, because of a lack of information about inputs and assumptions, stakeholders could not form a view about the RIT proponent's judgement.⁴⁸ The EUAA suggests that more prescriptive guidelines would encourage transparency, robust analysis, and effective stakeholder engagement.⁴⁹ By contrast, the ENA does not support binding guidance and considers guidance on cost derivation should not be prescriptive as this could increase the cost of RIT processes and slow them down.⁵⁰ Submissions from the ENA and network businesses also pointed to potential confidentiality issues in making costing estimates transparent, for example, the outcomes of tender processes.⁵¹

As proposed in our consultation paper, we have amended our guidelines to require that RIT proponents:

- Outline key inputs and assumptions in their RITs along with relevant methodologies used to derive of cost estimates of credible options. Subject to confidentiality obligations, this could include market testing, unit costs from recent projects, and engineering-based cost estimates.
- Provide relevant reasons in support of the key inputs and assumptions used to derive cost estimates of credible options.
- Explain the level and basis of contingency allowances adopted.

⁴⁷ AER, Review of the cost benefit analysis guideline and RIT application guidelines, p. 19

⁴⁸ EUAA, submission to AER's Guideline Review, 19 June 2023

⁴⁹ EUAA, submission to AER's Guideline Review, 19 June 2023

⁵⁰ EUAA, submission to AER's Guideline Review, 19 June 2023

⁵¹ ENA, submission to AER's Guideline Review, 19 June 2023

Our draft guidelines also require RIT proponents to undertake sensitivity analysis for all projects over \$100 million (see section 3.2.3 below).

This guidance will improve transparency about cost estimates and the event, factors and circumstances that are likely to materially affect costs. However, the approach is not highly prescriptive as key assumptions and inputs, including any cost estimation methodologies will differ between RIT proponents and are likely to vary across projects.

To promote greater transparency and promote improved costs estimates, our draft amendments make this part of the guidelines legally binding.

3.2.2 Cost estimate classifications systems

In the MCC rule change, the AEMC clarified that we can provide guidance about the use of cost estimate classification systems that should be used for the RIT in all three of our guidelines.⁵²

In our consultation paper we asked stakeholders whether a consistent cost estimate classification system should be adopted in our Guidelines to inform stakeholders about the expected accuracy of cost estimates. In addition to the Association for the Advancement of Cost Engineering (AACE) cost estimation classification system, which is a well-known classification system, we also welcomed views on whether there are other cost estimate classification systems that could be used in the RIT.

Most submissions supported use of a consistent cost classification system and cited benefits including greater cost transparency (ENA, TransGrid, AEMO). However, some stakeholders considered that this should be a non-binding obligation (EnergyAustralia, TransGrid, ENA, AEMO and Endeavour Energy) and proportionate to the size of the project (Endeavour Energy, ENA, Evo Energy). Other stakeholders considered that imposing a cost classification system may increase RIT costs and delay the RIT process (CPU, Ergon Energy and Energex, Endeavour Energy, ENA), and that distribution projects should be exempt as they generally have shorter timeframes and smaller cost divergences compared to transmission projects making a classification system less relevant (ENA, EnergyQ, Evo Energy and Endeavour Energy).

We have strengthened the RIT-T guideline by mandating that RIT proponents *must consider* use of the AACE cost estimate classification system for projects over \$100 million. If a RIT proponent does not apply the AACE system, it must provide reasons for not doing so. Our \$100 million threshold recognises that the costs and time involved in applying a cost classification system should be proportionate to the size of the project. In using the cost classification system, proponents are to specify the level of accuracy of costs and explain why a cost estimate falls within the specified class.

This decision has been informed by strong support from stakeholders for the use of a consistent cost estimate classification system. This requirement will help provide greater clarity to stakeholders about the accuracy of project cost estimates, and improve the consistency and comparability of proposals across different process stages and projects. In adopting this

⁵² <https://aemc.gov.au/sites/default/files/2022-10/ERC0325%20-%20Final%20determination%20%282%29.pdf>, p. 39.

approach, we note that AEMO uses AACE to classify the cost accuracy of future ISP projects and cross-check the level of accuracy of cost estimates developed by TNSPs.

3.2.3 Sensitivity Analysis

Our consultation paper also sought views on whether a binding obligation should be imposed on RIT-T (non-actionable ISP projects) and RIT-D proponents to conduct sensitivity analysis on the estimated costs of credible options.

Most submissions supported the use of sensitivity analysis and cited benefits including greater transparency of the robustness of the preferred option and identification of boundary values or other reopener thresholds (ENA, Endeavour Energy, EnergyAustralia). Some stakeholders considered that we should stipulate mandatory sensitivity analyses (PIAC, EUAA, Iberdrola), and encourage proponents to include sensitivity analyses beyond those stipulated as mandatory in the guidelines (PIAC).

However, some stakeholders considered that this should be a non-binding obligation and noted that many proponents already undertake sensitivity analysis (Evo Energy, ENA, EnergyAustralia and CPU). Some stakeholders submitted that any requirement should be proportionate to the size of the project (EnergyAustralia, Evo Energy).

The CBA guidelines currently require that RIT-T proponents *must consider* performing sensitivity testing for actionable ISP projects⁵³. Our draft guideline amendments strengthen this requirement for projects over \$100 million by requiring all RIT proponents to perform sensitivity testing by varying one or multiple inputs and assumptions.

Sensitivity testing allows a RIT proponent to test and show how robust the RIT modelling is to its input assumptions or to particular events occurring insofar as they are relevant to the RIT assessment. Stakeholders will have more confidence in RIT outcomes if the preferred option performs well under different sensitivities. Our approach supports accurate option ranking and will enable stakeholders to better understand the robustness of options.

As it is already common practice for RIT proponents to conduct sensitivity testing and outline boundary values for key input assumptions at which the preferred option would change, we believe that the amendment will create limited additional costs to proponents.

⁵³ AER, Cost benefit analysis guidelines, August 2020, p. 67.

4 Early works

4.1 Rule requirements

In its stage 2 report, the AEMC recommended⁵⁴ that we provide additional guidance to stakeholders on early works.

Currently, early works are not precisely defined in the regulatory framework for electricity network planning.⁵⁵ However, the concept of ‘early works’ has arisen in the course of developing the Integrated System Plan (ISP), our guidelines for the ISP, and in subsequent RITs.⁵⁶ In these contexts, early works refers to works that are:

- required for the provision of electricity network services; and
- undertaken at an early stage of the overall project timeline.

The AEMC recommended that we update our CBA guidelines to provide additional guidance about the term ‘early works’ and the activities it encompasses.⁵⁷

In its stage 2 report, the AEMC recommended that we should describe early works as:⁵⁸

activities that are completed prior to the construction of the preferred option, to improve the accuracy of cost estimates, and/or to ensure that a project can be delivered within the time frames specified by the most recent ISP.

4.2 Draft guideline amendments

Current references to early works do not provide a precise definition of early works or distinguish early works from other works required for the provision of electricity network services.

Nonetheless, to consider the role and importance of early works, it is useful to consider separating early works into two types:

- works that are undertaken after a relevant RIT has been completed; and
- works that are undertaken before a relevant RIT has been completed.

If a RIT has been completed, then the cost-benefit analysis has been undertaken and a preferred option has been identified. From this point, the project can be funded through regulated revenue allowances. Once the project is funded, the electricity network service provider can structure the delivery of the funded project in the way that it sees fit.⁵⁹ The regulatory regime provides

⁵⁴ AEMC, Transmission Planning Investment Review, Stage 2 Final Report, October 2022

⁵⁵ That is, in the National Electricity Rules, the RIT-T, RIT-D, AER guidelines, or the Integrated System Plan.

⁵⁶ AEMC, Transmission Planning Investment Review, Stage 2 Final Report, Section 4, Box 4, October 2022

⁵⁷ AEMC, Transmission Planning Investment Review, Stage 2 Final Report, Section 4, Box 3, October 2022

⁵⁸ AEMC, Transmission Planning Investment Review, October 2023

⁵⁹ A RIT may consider undertaking a project in stages and may consider different staging options. This will be particularly relevant where each stage is a stand-alone investment involving separable costs and benefits, where the decision to proceed with the next stage can be subject to a different decision-rule. In these circumstances, the RIT is an important process for determining

incentives for the network service provider to operate its network efficiently, and it can choose to bring forward early works ahead of other activities if it considers it prudent to do so. In this case, there is little need to differentiate the project's expenditure between early expenditure and later expenditure.

However, 'early works' undertaken before the completion of a relevant RIT are of practical significance, for two reasons.

Firstly, in some circumstances it may be beneficial to undertake activities related to addressing the identified need before the RIT has been completed, and therefore before the RIT has selected the preferred option to address the identified need.

For example, some activities may improve the accuracy of estimates of the costs and benefits expected from various options to address the identified need. Or, for example, some activities may allow the take-up of opportunities that would ensure the identified need is addressed in a timely manner, where such opportunities may not be available after the RIT has been completed.

In response to our consultation paper the ENA, EUAA, Iberdrola, PIAC, and Transgrid all noted these potential benefits from undertaking early works.⁶⁰

Secondly, if early works are undertaken before the RIT is completed, they can present a tension between:

- 1) capturing the potential advantages of early works; and
- 2) maintaining the discipline of undertaking a cost-benefit test before choosing in selecting the preferred option.

For example, early purchase of long lead time equipment may improve certainty of costs and timeliness of project delivery. However, early purchase of equipment that is required for only a subset of credible options may prejudice the cost-benefit test in the RIT and may result in costs being sunk that are not utilised in the preferred option.

In response to our consultation paper Beth White, Engie, Iberdrola, and PIAC acknowledged this tension between the potential benefits and costs of early works undertaken before a RIT is completed.⁶¹

which stages make up the efficient course of action (that is, the preferred option). Only these stages making up the preferred option would be funded through regulated revenue allowances.

In addition, we will consider the efficient level of funding in our assessment of contingent project applications, and this assessment may consider how different structures for delivering the project affect our decision on an ex-ante funding allowance. However, once an ex-ante revenue allowance is determined, the network service provider can structure the actual delivery of the project in the way that it sees fit.

⁶⁰ ENA submission 19 June; EUAA submission 19 June, Iberdrola submission 19 June, PIAC submission 19 June, Transgrid submission 19 June

⁶¹ Beth White submission 19 June 2023, Engie submission 19 June 2023, Iberdrola submission 19 June 2023, PIAC submission 19 June 2023

Early works undertaken before a completed RIT – distinction between early works and preparatory activities

Some activities undertaken before the RIT is completed may not prejudice the RIT, such as activities needed to design and to investigate the costs and benefits of credible options. These activities are intended to fall within the definition of preparatory activities included in the Rules.⁶² The Rules already provide that electricity network service providers must undertake preparatory activities for actionable ISP projects. The same preparatory activities may also be required or desirable for other projects.

Costs of preparatory activities are typically accommodated within NSPs' capital and operating expenditure allowances via the revenue determination process. This recognises that preparatory activities are required regardless of the preferred option that might be identified as the result of a RIT, and do not bias the identification of a preferred option. On this basis early works can be considered to exclude preparatory activities. Clause 5.10.2 of the NER provides some guidance on types of preparatory activities.

Early works undertaken before a completed RIT requires changes to the Rules

Under the current regulatory framework, early works above the RIT cost threshold cannot be funded through regulated revenue allowances without first satisfying a RIT. NSPs are unlikely to incur such early works without the certainty of cost recovery provided by satisfying the RIT. While these regulatory arrangements ensure that expenditure above the cost threshold is subject to cost-benefit analysis, they may also discourage NSPs from undertaking early works that could, on balance of probabilities, lower the costs or increase the benefits of the preferred option.

The AEMC noted this issue in its Transmission Planning Investment Review. In its stage 3 report the AEMC recommended:⁶³

- providing greater cost recovery certainty to TNSPs for early works by enabling them to submit a separate contingent project application for early works to us without the need to first complete a regulatory investment test for transmission (RIT-T)
- introducing a National Electricity Rules (NER) definition of early works to underpin the AER's assessment of an early works contingent project application.

The AEMC's recommendations require changes to the National Electricity Rules. If such changes to the Rules occur, then we will consult on necessary updates to our guidelines at that time.

Therefore, under the current regulatory framework, early works (excluding preparatory activities) cannot be funded through regulatory allowances without first satisfying a RIT, but once the RIT is satisfied, there is little practical purpose to distinguishing early works from other activities.

⁶² NER cl.5.10.2, which includes as preparatory activities the following: detailed engineering design, route selection and easement assessment work, cost estimate based on engineering design and route selection, preliminary assessment of environmental and planning approvals, and council and stakeholder engagement.

⁶³ AEMC, Transmission Planning Investment Review, stage 3 report, May 2023

Given these considerations, we propose to include the definition of early works used by the AEMC in its stage 2 report, namely activities that are completed prior to the construction of the preferred option to improve the accuracy of cost estimates and/or to ensure that a project can be delivered within the time frames specified by the most recent ISP. We have not proposed guidance on specific activities that fall within this definition given this will be relevant to any future amended rule that reflects the stage 3 report recommendations.

Appendix A: Submissions

This attachment summarises and responds to input that stakeholders provided about:

- RIT reopening triggers
- Cost estimate classification systems
- Improved cost estimate transparency
- Early works.

Table 1: Submissions relevant to the RIT reopening triggers

Issue	Stakeholder submissions	AER response
Approach to developing reopening triggers	Most stakeholders support the AER's proposed non-prescriptive approach to providing guidance on reopening triggers (ENA, EnergyAustralia, Transgrid, Endeavor Energy, AEMO, Engie, Powercor, PIAC). They believe triggers should be framed around key variables specific to each RIT project.	We propose non-prescriptive guidance consistent with the requirements of the MCC final rule to include principles to guide RIT proponents on the development of reopening trigger events. This is also consistent with the requirements in the final rule to include worked examples to assist RIT proponents develop RIT reopening triggers in applying a principles-based approach to developing reopening triggers.
	EUAA and Iberdrola state that a prescriptive approach would be necessary to ensure the test is of benefit to consumers, expressing concern that NSPs might not be able to assess a material change in circumstances transparently	We consider a principles-based approach is appropriate as changes in circumstances that may change the preferred option will vary significantly between RIT's. We expect the requirements in the final rule for RIT proponents to consult on reopening triggers will allow stakeholders to engage in the RIT proponent's development of trigger relevant to that RIT. Further the AER will monitor RIT proponents' compliance with the NER and the AER's Guidelines, including adherence to the principles outlined in the Guidelines.
	ENA supports the AER's proposed non-prescriptive approach to guidance on reopening triggers and suggest that the triggers should be clear, reflect sensitivity testing or boundary testing, and where triggers reflect the impact of multiple variables, they should be internally consistent.	We have included a principle that a reopening trigger must be objective and verifiable. We have included a worked example that captures the impact of varying multiple inputs and assumptions that are impacted by a circumstance or event.
	EUAA and Iberdrola express concerns about the lack of trust in project proponents to assess material changes transparently and the lack of clear definition of a material change in circumstances. EUAA argue that consumers have no confidence in the project proponents' ability to determine whether a material change has occurred. Iberdrola also argues that AEMO	We have included in the principles-based approach guidance to encourage RIT proponents to be develop reopening triggers that are verifiable and where possible quantifies the impact on an input or assumption that would activate a reopening trigger should an event, factor or

	<p>should not be excluded from the need to develop triggers or the need to share cost estimates rigorously and transparently.</p> <p>EnergyAustralia supports a non-prescriptive approach to the designation of reopening triggers but suggests that the AER should set some minimum requirement triggers or binding principles. They emphasize that triggers should consider factors that materially affect the calculation of gross benefits, not just the cost build-up of candidate projects.</p>	<p>circumstance occur. The final rule does not apply to AEMO where AEMO is the sole RIT-T proponent.</p> <p>We agree that reopening trigger events should consider inputs and assumptions that materially affect the estimated market benefits in a RIT. We have included in the draft amendments the principle to establish triggers where the impact on the identified key inputs and assumptions of an event, factor or circumstance may eliminate net benefits of the preferred option and/or alter the ranking of credible options We have also included the impact of a change in circumstances that would affect market benefits in our worked examples.</p>
	<p>Transgrid supports the AER's preliminary position to provide non-prescriptive guidance for developing reopening triggers. They suggest that reopening triggers should be based on key variables and associated sensitivity analysis presented in the RIT, and the triggers should be internally consistent.</p>	<p>We agree that sensitivity analysis can be applied to identify key inputs and assumptions that may affect the preferred option in the RIT and have mandated use of sensitivity analysis for projects over \$100 million. We also consider that where a trigger event includes more than one key input and assumption, the inclusion of these inputs and assumptions in the trigger event should be related to an identified event, factor or circumstance.</p>
	<p>PIAC supports the proposal for clearly defined and transparent reopening triggers. They suggest that stakeholders beyond the project proponents should have input in determining these triggers, which can be achieved through rigorous stakeholder engagement processes.</p>	<p>The MCC rule require RIT proponents to include reopening triggers in their draft RIT reports and consult with stakeholders on these reopening triggers.</p>
	<p>AEMO agrees with the proposed non-prescriptive approach to guidance on reopening triggers. AEMO suggests that reopening triggers should be assessed on a case-by-case basis, taking into account the magnitude and driver of the change and the net market benefits of the preferred option compared to other credible options. AEMO emphasizes the importance of avoiding unnecessary delays in the development of efficient transmission investments to align with the National Electricity Objective.</p>	<p>We have developed reopening trigger worked examples that take into account the magnitude and driver of the change and the net market benefits of the preferred option compared to other credible options.</p>
Specific trigger events	<p>Iberdrola suggests that failure of the business of a contracted provider to the NSP (network service provider) should be a trigger for reopening a RIT.</p>	<p>The failure of a contractor can be captured by a trigger event if this may change the preferred option. Our principles-based approach recognises that a trigger event will need to be determined for each specific RIT. For example, some contractors may be critical to the delivery of a project, others may be easy to replace.</p>
	<p>EnergyAustralia suggests including trigger events of NPV changing from negative to positive or a change in rank of preferred options.</p>	<p>The draft amendments, includes the principle that that key inputs and assumptions that may change the sign and ranking of the credible options be identified in establishing the trigger event.</p>
Worked examples of actions taken	<p>ENA encourages the AER to include worked examples and guidance on the actions that NSPs may take in response to a reopening trigger.</p>	<p>We have included worked examples in the draft amendments of actions taken by a RIT proponent as a result of a material change in circumstances, including the activation of a trigger event.</p>

by a RIT proponent in response to a material change in circumstance	Endeavor Energy suggests that alternatives to reapplying the RIT should be considered when the trigger events are met.	The final rule allows RIT proponents, if they consider that a material change in circumstances has occurred, to propose the course of action that should follow, as opposed to the default course of action involving reapplication of the RIT. We have included worked examples on actions that may be taken in response to a material change in circumstances that include actions other than reapplying the RIT.
	PIAC recommends introducing a stage at the end of the RIT process to confirm stakeholder input on boundary conditions before confirming the reopening triggers, or the AER consults with stakeholders before confirming the proposed reopening triggers.	The AER notes that the final rule includes an obligation to consult on and finalise reopening triggers to ensure stakeholder input on the development of reopening triggers during the RIT process.
Other issues raised	PIAC recommends introducing a stage in the RIT process to confirm stakeholder input on boundary conditions before confirming the reopening triggers.	The rules set out minimum process obligations on a RIT proponent, including minimum consultation requirements. The rule also requires that reopening triggers be included in the RIT-proponent's draft report, which are subject to consultation.

Table 2: Submissions relevant to cost estimation in RITs

Issue	Stakeholder submissions	AER response
'Cost estimate classification systems'	Most stakeholders support the AER's proposed non-prescriptive approach to guidance on cost estimate classification (ENA, Energy Australia, Transgrid, Endeavor Energy, AEMO)	We have included a requirement that a cost classification system must be considered for large value projects, where the estimated cost of the preferred option is over \$100 million. Consistent with submissions we do not mandate the use of cost classification systems.
	Some stakeholders state that the AER should prescribe a cost estimate classification to ensure consistency and avoid confusion (EUAA, PIAC, Iberdrola, Engie).	We propose that RIT proponents must consider use of the AACE classification systems for projects over \$100 million. We have not mandated the use of the classification system as the most suitable approach to providing guidance on cost accuracy is likely to vary from project to project. However, the expectation is that RIT proponents will use the AACE classification system and they must provide reasons if they choose an alternative cost accuracy methodology.
	Some stakeholders support a consistent cost estimate classification system, irrespective of whether they were in support of binding or non-binding guidance (AEMO, ENA, EUAA, Engie, Iberdrola), and some specifically supported use of the AACE cost classification system (EUAA, Iberdrola, Transgrid, PIAC, ENA, AEMO).	See above

RIT-D proponents express concern that mandating a specific cost classification system would be unlikely to improve customer outcomes but could increase costs and delays (Powercor, Endeavor Energy). They also state that distribution projects have shorter time frames and smaller cost divergences, so a classification system is less relevant. The inclusion of a cost estimate classification system is not supported by Powercor and Endeavour energy (RIT-D proponents) as the application to lower value distribution projects may not be proportionate to concerns regarding cost accuracy

Our proposed requirement that RIT proponents must consider the use of the AACE cost estimate classification system only applies to projects over \$100m. If proponents of smaller projects consider the costs to be disproportionate, they can opt not to use AACE classification system. Our guideline amendments encourage proponents of projects of \$100 million or less to explain their reasons for not using the classification system.

ENA states that the guidelines should not mandate the required level of accuracy, as it depends on the nature of the specific project.

We agree with the ENA that the Guidelines should not mandate a required level of accuracy as the level of accuracy is likely to vary between RIT's, e.g., business as usual projects should be subject to less cost uncertainty than greenfield projects.

AEMO emphasises the need for transparency in cost breakdowns and the consideration of project scope knowledge when determining the appropriate level of consistency.

We have proposed that RIT proponents set out their cost estimation methodology and key inputs and assumptions used to derive the estimated costs of credible options. We consider the inclusion of this information in a RIT should improve the transparency of project cost estimates and will allow stakeholders to scrutinise the estimates thereby promoting more robust estimates.

EUA express concern with how the AACE system has been adapted by AEMO in its Transmission Cost Database (TCD) to narrow the bands and introduce symmetry and also Transgrid's use of 'class' terminology in Transgrid's RIT-T for Humelink without reference to the AACE or the AACE accuracy bands.

We understand that AEMO has adapted the AACE system for the purpose of testing the project cost estimates provided by TNSPs in the ISP process. We note that a RIT-T for an actionable ISP project is undertaken after the ISP has been completed. This means that the RIT-T proponent's costs estimate may be based on updated information and may be based on a different assumptions and project scope such that project cost estimates may not be consistent between the ISP and the RIT-T.

ENA also sought clarity on the interaction between AEMO's transmission costs database which is used as cross check of TNSP project estimates in the ISP between TCD and cost estimates.

ENA support the use of AACE for projects of \$100m or over and opposes mandating the adoption of a specific cost estimate classification system for all options in a given RIT-T or for smaller projects or RIT-D applications.

We have proposed \$100m as the threshold value on the basis that this threshold value has been applied in relation to RIT reopening trigger events.

PIAC recommends a risk allowance that is set according to the maturity level of the project and reiterate their recommendation that risk allowances should increase to reflect historical experience of cost inflation.

We have proposed that RIT proponents set out their cost estimation methodology and key inputs and assumptions used to derive the estimated costs of credible options. We require this to include the any material contingency allowances and the assumptions used to estimate the allowance.

Table 3: Submissions relevant to improved cost estimation transparency

Issue	Stakeholder submissions	AER response
<p>Improved transparency of cost estimates</p>	<p>Most stakeholders express support for the role of transparency in ensuring stakeholder and community confidence in investment decisions. They state that guidance should provide additional transparency to consumers about the derivation of cost estimates and the impact of changes in costs on RIT outcomes.</p>	<p>Most submissions supported the preliminary view in our consultation paper on the basis that this should promote greater transparency about the derivation of estimated costs.</p>
	<p>EUAA raises concerns about the lack of transparency in the assessment of material changes and the methodology used by project proponents. It argues that there is a significant information asymmetry between project proponents and consumers, leading to a lack of trust. The submission highlights examples of projects where stakeholders had limited opportunity to question decisions due to rising costs and untested benefits.</p>	<p>To improve cost transparency, we propose that RIT proponents be required to set out the methodology used to estimate costs, including the key inputs and assumptions used to estimate the costs of credible options. Our proposals also require material contingency allowances to be identified in the RIT.</p>
	<p>EnergyAustralia seeks consistency across projects and ISP processes regarding transparency on cost estimation methods, cost classifications, contingency allowances, and other similar elements. They suggest that standardized datasets and approaches can reduce administrative burden and improve estimate accuracy for proponents, as well as assist the AER in oversight and approval functions.</p>	<p>We propose that guidance about transparency requirements should not be prescriptive as RIT proponents are likely to adopt differing cost estimation methodologies and key inputs and assumptions to estimate project costs. As discussed above, AEMO applies its own cost database as a cross check on the estimated costs of actionable ISP projects provided by RIT-T proponents. In addition, requirements for standardised data sets may not be a proportionate requirement for RIT-D proponents. We have required RIT proponents to provide a breakdown of costs and to identify material contingency allowances.</p>
	<p>Beth White emphasizes the importance of undertaking analysis in conjunction with community consultation and consideration of social licence before undertaking any works. She expresses concerns about unwarranted collaboration between developers and Departmental approval Systems.</p>	<p>We agree that stakeholder engagement, including community consultation and consideration of social licence are important for the purposes of identifying issues that may be relevant to estimating the costs of credible options. RIT proponents are required to consult on their RIT proposals and our Guidelines provide guidance on the transparency they must provide as part of the process.</p>
	<p>PIAC supports the proposal to require project proponents to disclose their cost estimation methodology, including key inputs and assumptions. However, it emphasizes the need for the regulator to have the power to assess the credibility of these cost estimations. It suggests that costs passed through to consumers, such as those associated with acquiring social licence for a project, should receive substantive oversight from the AER.</p>	<p>We consider that greater transparency regarding the derivation of estimated costs should assist stakeholders to scrutinise the estimates, including the ability to engage with key inputs and assumptions used to derive these estimates. We also assess the prudent efficient costs of actionable ISP projects and relevant non-actionable and distribution projects as part of contingent project determinations.</p>
<p>Endeavour Energy supports improved transparency in cost estimates to demonstrate due consideration of investment options and help customers understand cost accuracy. However, they caution against introducing prescriptive and mandatory obligations that could increase</p>	<p>We consider that our proposed non-prescriptive guidance is consistent with adopting a proportionate approach to cost transparency.</p>	

costs and delay project planning and delivery, especially for RIT-D projects. They propose a proportionate approach to transparency, with different guidelines for RIT-D and RIT-T (transmission) projects.

AEMO suggests that AEMO/proponents should publish breakdowns for all transmission cost estimates used in the ISP (including preparatory activities), RIT-T and CPA, and project estimates for RIT-Ts and CPAs using AEMO's Transmission Cost Database to enable stakeholders to understand differences between TNSP estimates and NEM-wide average values.

If this cannot be provided, TNSPs should provide this information to AEMO to enable a public transmission cost database to be developed, published and maintained. Project data for individual projects would be averaged and anonymised for each ISP cycle.

We have not mandated the use of AEMO's Transmission Cost Database. The circumstances of each project differ, and RIT proponents are best placed to determine the most appropriate basis for estimating costs given the circumstances. This could include market testing, engineering studies, or AEMO's cost database. We require the RIT proponent to identify the approach adopted and explain why the approach is most appropriate to the circumstances.

Sensitivity analysis

Some stakeholders have suggested that the AER should stipulate mandatory sensitivity analyses (PIAC, EUAA, Iberdrola) and encourage proponents to include sensitivity analyses beyond the mandatory ones (PIAC).

We agree with PIAC, EUAA and Iberdrola that sensitivity analysis should be conducted on key variables in the RIT analysis. Our proposed amendments mandate sensitivity analysis for projects over \$100 million.

Most stakeholders support sensitivity testing to provide transparency and help understand the impact of key inputs and assumptions on credible options and robustness of modelling, but with flexibility in the variables depending on the project (Endeavor Energy, ENA, AEMO, Engie).

By adopting a principles-based approach, we allow for flexibility in selection of variables subject to sensitivity analysis.

AEMO proposes the provision of further guidance on the application of sensitivity analysis in decision making, with specific recommendations for conducting sensitivity testing on the upper end of cost estimates within a given class.

Regarding the application of sensitivity analysis on the upper and lower bounds of cost estimates within a given 'class' estimate, we observe that sensitivity analysis should be applied to boundary values that change the preferred option. The application of this analysis to a class estimate may not capture the impact of a change in costs on the conclusions in the RIT.

Energy Queensland consider that there is a substantial amount of work that would be required to conduct the sensitivity analysis and it would not result in significant benefit.

We consider that applying sensitivity analysis to test the boundary values where the conclusions in the RIT may change reflects good practice and should assist stakeholders in understanding the robustness of the conclusions in the RIT, including the ranking of the credible options. However, the costs of sensitivity analysis may be disproportionate for smaller projects. For this reason, we have not mandated sensitivity analysis for projects under \$100 million.

PIAC supports the proposal for RIT proponents to conduct sensitivity analyses on the estimated costs of credible options. It suggests that the AER should stipulate mandatory sensitivity analyses based on issues that have caused substantial cost blowouts in recent years, such as changes in routes, labor supply issues, international supply chain impacts, and social license

Our proposal mandates sensitivity analysis for projects over \$100 million.

issues. Additionally, proponents are encouraged to include sensitivity analyses beyond the mandatory ones.

Endeavor Energy supports sensitivity testing to understand the impact of key inputs and assumptions on credible options. They believe DNSPs should have the discretion to test variables relevant to each RIT-D project, rather than being obligated to test prescribed variables. If consistency in sensitivity testing is desired, aligning RIT guidelines with the provision in the CBA guidelines for RIT-T projects is suggested.

Our proposed approach for the RIT guidelines provides greater alignment between the RIT and CBA guidelines.

ENA cautions against mandating sensitivity testing of particular variables (e.g., costs), which will not always be material to the RIT outcome. It appears preferable to instead align the RIT guidelines with the CBA guidelines, where the latter requires 'RIT-T proponents must consider performing sensitivity testing by varying one or multiple 'input/assumptions'.

See above

Table 4: Submissions relevant to early works

Issue	Stakeholder submissions
Early works	<p>ENA welcomes guidance on early works for Integrated System Plan (ISP) projects but cautions against it being prescriptive. They state that AEMO or NSPs should be able to identify additional activities for a particular ISP project as part of an early works CPA (Contingent Project Application).</p> <p>We have proposed non-prescriptive guidance on early works consistent with the principles of early works outlined by the AEMC to:</p> <ul style="list-style-type: none"> • improve the accuracy of cost estimates; and • to ensure that a project can be delivered within the time frames specified by the most recent ISP.
	<p>EUAA supports proponents undertaking extensive early works in parallel with the RIT-T as this is a key to enabling more accurate costs estimates as the project proceeds through the RIT-T stages. The more early works the greater the confidence that consumers have that a project continues to have net benefits through the RIT-T process. The EUAA also supports the AEMC recommendation for the AER to provide more explicit guidance on what should constitute early works under the AEMC's general definition.</p> <p>The AEMC's stage 3 report recommends that early works can be undertaken before the RIT is completed and the NSP can submit a contingent project application to the AER to seek approval to recover these costs. We propose to amend the Guidelines to include the AEMC's recommended definition of early works. However, we consider that any future rule change that enables a RIT proponent to concurrently undertake early works with the RIT process, may require the guidelines to be reopened to consider the treatment of these costs in the RIT (e.g are these costs sunk for the credible options analysis in the RIT-T).</p>
	<p>Iberdrola raises concerns about "early works" and the contingent application process potentially increasing project costs without providing clearer estimates. They argue that early works should</p> <p>After considering the Stage 3 TPI recommendations that RIT-T proponents for actionable ISP projects may commence early works concurrently with the RIT-T process and seek AER approval for these costs in a contingent project application before the RIT-T is complete, we</p>

progress cost estimates to a higher level of accuracy and suggest that AEMO should define what activities constitute early works for projects in the ISP optimal development pathway.

Transgrid supports the definition of early works provided by the AEMC and considers early works activities important for improving cost accuracy, social license activities, land access costs, biodiversity offset costs, procurement of equipment, and construction-related activities to achieve efficient outcomes.

Beth White highlights the need for close scrutiny and maintaining public awareness of major projects from an early stage to prevent potential issues.

PIAC supports the AER's proposal to provide guidance on the activities covered by the term "early works." It recommends the AER to assess what proportion of early works activities and associated costs are reasonable. The submission acknowledges the benefits of effective and extensive early works in reducing overall project costs but expresses concern that passing on the costs entirely may incentivize project proponents to shift costs forward inefficiently. It suggests placing the burden of providing evidence that early works reduce overall costs on the project proponents, with the AER assessing these claims before passing costs through to consumers.

AEMO agrees with the proposed approach to guidance that balances prescription and flexibility for early works in RIT-T projects. The submission supports the current degree of flexibility provided through the ISP Rules, which allows AEMO to provide examples of early works activities for each project. AEMO suggests that specific activities included in the scope of early works should be consistent with the definition of early works provided by the AEMC.

ENGIE understands the rationale behind affording RIT proponent's greater flexibility in determining activities included in early works cost applications. However, the submission cautions that there is an increased risk for consumers who pay for early works if the full RIT does not pass the test and the project is not completed. ENGIE acknowledges the non-zero risk of consumers paying for early works of a project that never gets completed and highlights the need for consumer protection in such cases.

consider that the treatment of these costs for the purpose of the RIT will need to be considered in the event that there is a rule change to adopt the AEMC's recommendations.

In considering early works under the existing framework, in circumstances where a dedicated RIT is undertaken for only early works associated with a staged actionable ISP project, the activities to be covered by early works is a relevant consideration. However, as these circumstances would not be consistent with the timely investment and in view of the stage 3 recommendations, we have not been prescriptive regarding the activities included in early works.

We also observe that there appears to be some potential overlap between preparatory activities as defined in the rules and some of the activities of early works.

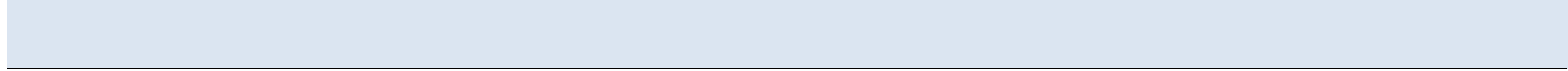
We agree that RIT proponents should engage as early as possible with affected stakeholders in the RIT process to provide opportunities for stakeholders to raise issues that are relevant to the RIT process.

We have included the definition of early works in the draft CBA guidelines for actionable ISP projects that reflects the AEMC's stage 2 report recommendations.

In response to PIAC we consider that the issue of shifting costs forward inefficiently is a relevant issue to any changes in the framework, where a RIT-T proponent may undertake early works concurrently with a RIT-T. We agree that this is a relevant consideration as part of the AER's contingent project assessments in the event that the framework is amended to enable early works to be undertaken concurrently with the RIT and where a TNSP may seek approval to recover these costs from consumers.

We agree with AEMO that specific activities that are included in early works should be consistent with the definition of early works as reflected in the draft amendments.

We acknowledge Engie's concern and consider this risk is greater under any changes to the framework that reflect the AEMC's stage 3 report recommendations. The intention of early works is to promote the timely delivery of the project and to improve the accuracy of estimated project costs. These risks would need to be considered as part of a separate contingent project approval for early works.



Appendix B: Abbreviations

This appendix provides the extended form of key abbreviations used in this issues paper.

Abbreviations

Shortened Form	Extended Form
AACE	Association for the Advancement of Cost Engineering
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CBA	cost benefit analysis
ISP	Integrated System Plan
MCC	Material change in network infrastructure project costs
NER	National Electricity Rules
RIT-D	regulatory investment test for distribution
RIT-T	regulatory investment test for transmission
TNSP	transmission network service provider
TPI	Transmission Planning Investment