



# **Explanatory statement**

## **DRAFT guidelines to make the Integrated System Plan actionable**

May 2020

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# 1 Introduction

This section introduces the Australian Energy Regulator's (AER's) task (section 1.1) and consultation process (section 1.2). It also sets out the objective and scope of this explanatory statement (section 1.3), and an invitation for submissions (section 1.4).

## 1.1 Our task

The Energy Security Board (ESB) has reformed the National Electricity Rules (NER) and National Electricity Law (NEL) to convert the Integrated System Plan (ISP) into an actionable strategic plan by strengthening the links between it and the transmission planning process. These changes have also been made to streamline the regulatory processes for key projects identified in the ISP whilst retaining a rigorous cost benefit analysis (CBA).

Under the changes to the NER, the AER must develop the following binding guidelines:<sup>1</sup>

- cost benefit analysis guidelines (CBA guidelines), which include changes to the regulatory investment test for transmission (RIT–T) application guidelines for projects identified in the ISP (actionable ISP projects)
- forecasting best practice guidelines (FBPG), which will replace the interim FBPG currently in place for the retailer reliability obligation (RRO).

The changes to the NER have also required us to:<sup>2</sup>

- update our existing RIT–T instrument<sup>3</sup>
- update the RIT–T application guidelines for projects identified outside the ISP process (non-ISP projects).

We are developing these guidelines in line with the NER's *Rules Consultation Procedures*<sup>4</sup> to ensure we follow a meaningful consultation process.

## 1.2 Guidelines consultation process

We commenced the consultation with publishing an issues paper on 20 November 2019.<sup>5</sup> The draft guidelines/regulatory instruments and this explanatory statement are part of the second stage of our consultation process. In these, we have incorporated the following:

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<sup>1</sup> National Electricity Rules (NER), clause 5.22.5.

<sup>2</sup> We do not consider any updates are required for the regulatory investment test for distribution (RIT–D), as well as the RIT–D application guidelines.

<sup>3</sup> This is the AER's RIT–T instrument (published in 2010) required by clause 5.16.1(a) before the ISP rules came into effect (and now required by clause 5.15A.1(a)). See section 2.1.2 below.

<sup>4</sup> NER, rule 8.9.

<sup>5</sup> AER, *Issues Paper: Guidelines to make the ISP actionable*, November 2019.

- Input we received from stakeholders that attended a joint AER and ESB public forum held in Sydney on 5 December 2019. Key questions and answers from this forum are on our website.<sup>6</sup>
- Input contained within the 19 written submissions we received to the issues paper. A summary of the issues raised in these submissions is in appendix A.

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

**Table 1: Project timeline**

Project step	Date
The COAG Energy Council agreed to the ISP rule change package	20 March 2020
ISP rules made by SA Minister	2 April 2020
Draft AER guidelines to make the ISP actionable published	15 May 2020
Stakeholder webinar on draft AER guidelines	4 June 2020
ISP rules commence	1 July 2020
Submissions close on draft AER guidelines	26 June 2020
Final AER guidelines to make the ISP actionable published	21 August 2020 (indicative)

Source: AER analysis.

### 1.3 Objective and scope of this explanatory statement

This explanatory statement provides our rationale for the:

- draft CBA guidelines
- draft FBPG
- draft amendments to the RIT–T instrument
- draft amendments to the RIT–T application guidelines for non-ISP projects.

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

**Table 2: Structure of explanatory statement**

Description	Section of explanatory statement
Background on the new transmission planning framework	Section 2
Approach to the draft guidelines	Section 3
CBA guidelines (ISP component)	Section 4

<sup>6</sup> See <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/guidelines-to-make-the-integrated-system-plan-actionable/initiation>

CBA guidelines (RIT–T component)	Section 5
Updates to the RIT–T instrument	Section 6
Updates to the RIT–T application guidelines for non-ISP projects	Section 7
Forecasting best practice guidelines	Section 8
RIT–D and RIT–D application guidelines (no updates proposed)	Section 9

We also provide responses to stakeholder submissions in appendix A, and a glossary key terms and list of shortened forms in appendix B.

## 1.4 Invitation for submissions

We are seeking feedback on this document guided by three broad questions:

- (a) Do you agree with our proposed position in developing the guidelines?
- (b) Do you agree with the level of prescription we intend to provide in the guidelines?
- (c) Do you have anything to add to the thinking and analysis that informs how we propose to deliver the guidelines to make the Integrated System Plan actionable?

We invite submissions by the close of business **26 June 2020**. We prefer stakeholders send submissions electronically to: [ISPguidelines@aer.gov.au](mailto:ISPguidelines@aer.gov.au).

Alternatively, stakeholders can mail submissions to:

Mr Mark Feather  
General Manager, Policy & 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](http://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.

Please direct enquiries about this paper to [ISPguidelines@aer.gov.au](mailto:ISPguidelines@aer.gov.au) or to Richard Khoe on (02) 9230 3830.



## 2 Background: Making the ISP actionable

This section sets out key background information to help stakeholders understand and engage with the positions set out in this explanatory statement. This includes:

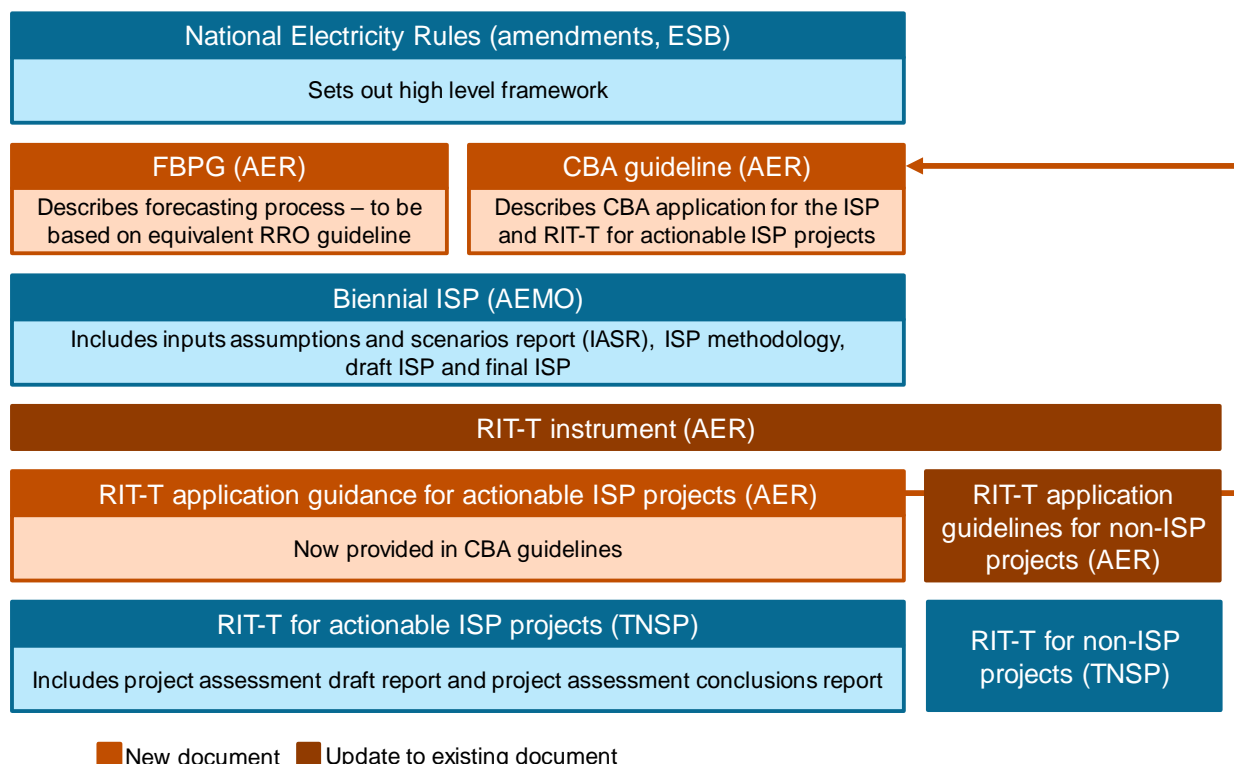
- the new transmission planning framework (section 2.1)
- our role in the new transmission planning framework (section 2.2).

### 2.1 New transmission planning framework

The rule changes to make the ISP actionable were made by the South Australian Minister under section 90F of the *National Electricity Law* on 2 April 2020 and will commence on 1 July 2020. These set out a new transmission planning framework, which includes our new CBA guidelines and FBPG, and updated RIT-T instrument and application guidelines.

Figure 1 depicts the regulatory governance framework for the transmission planning process under the new framework, for ISP and non-ISP projects. This distinction between ISP and non-ISP projects is important because not all RIT-T applications will flow from actionable ISP projects under the new framework. There will remain RIT-T applications that will be initiated by transmission network service providers (TNSPs) separately, such as RIT-T applications for asset replacement projects. The current transmission planning framework will apply largely unchanged to these projects.

**Figure 1: Regulatory governance framework**



Source: AER analysis.

## 2.1.1 What is an ISP?

The Australian Energy Market Operator (AEMO) must publish an ISP every two years by 30 June in accordance with the procedures under rule 5.22 of the NER. The ISP establishes a whole of system plan for the efficient development of the power system that achieves power system needs for a planning horizon of at least 20 years, for the long term interests of consumers of electricity.<sup>7</sup> The ISP seeks to coordinate investment across the power system. This promotes efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity.

In preparing an ISP, AEMO undertakes a CBA to identify an optimal development path for the power system, chosen from a range of development path options. The optimal development path contains a set of investments that together address power system needs, and must identify:<sup>8</sup>

- Actionable ISP projects—transmission assets or non-network options whose purpose is to address an identified need. These projects trigger RIT–T applications and preparatory activities during the two years of the relevant ISP.
- Future ISP projects—transmission assets or non-network options whose purpose is to address an identified need. These projects do not trigger RIT–T applications but may trigger preparatory activities during the two years of the relevant ISP.
- ISP development opportunities—developments that do not address an identified need, and may include distribution assets, generation, storage projects or demand side developments. These complete the whole-of-system nature of the ISP, and are intended to inform market participants and policy makers.

In preparing an ISP, AEMO must publish an:<sup>9</sup>

- inputs, assumptions and scenarios report (IASR)
- ISP methodology, if AEMO is not using an existing ISP methodology
- draft ISP
- final ISP.

## 2.1.2 What is the RIT–T?

The RIT–T instrument is a binding AER regulatory instrument published (in 2010) in accordance with NER clause 5.16.1(a).<sup>10</sup> RIT–T proponents (usually TNSPs) must apply the RIT–T to all proposed transmission investments, except in the circumstances described in NER clause 5.16.3(a).

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<sup>7</sup> NER, clause 5.22.2.

<sup>8</sup> NER, clause 5.22.6(a). Definitions are in NER, clause 5.10.2; NER, chapter 10, and also appendix B.

<sup>9</sup> NER, clause 5.22.4.

<sup>10</sup> Existing version: AER, *Final: Regulatory investment test for transmission (RIT–T)*, June 2010.

The AER's RIT–T application guidelines provide guidance on the operation and application of the RIT–T, the process for RIT–T proponents to follow in applying the RIT–T, and how we will address and resolve disputes regarding RIT–T applications.<sup>11</sup>

The RIT–T instrument requires RIT–T proponents to assess the economic efficiency of proposed investment options. Its purpose, as stated in NER clause 5.16.1 is to '... identify the credible option that maximises the present value of net economic benefit to all those who produce, consume and transport electricity in the market (the preferred option)...' Through this, the RIT–T aims to promote efficient transmission investment in the National Electricity Market (NEM) by promoting greater consistency, transparency, accountability and predictability in transmission investment decision making.

Another key component of the RIT–T process is stakeholder engagement. There is a two- or three-stage process depending on the type of project being assessed:

- Project specification consultation report (consultation report)—this sets out the detailed identified need for the investment and information about all credible options the TNSP considers could address the identified need. This stage does not occur in applying the RIT–T to actionable ISP projects.
- Project assessment draft report (draft report)—this sets out the CBA for each credible option, proposes a preferred option, and responds to submissions on the consultation report.
- Project assessment conclusions report (conclusions report)—provides a final CBA and preferred option, taking into account submissions on the draft report.

### **How the RIT–T interacts with TNSP revenue determinations**

The RIT–T process does not provide for funding, or regulated revenue, approval. Rather, its intention is for RIT–T proponents (generally TNSPs) to assess the economic efficiency of proposed investment options in consultation with stakeholders.

Regulated revenue for a TNSP is determined solely through our revenue determination process (also known as 'resets'), and is not allocated to specific projects. Rather, our determinations set out the total revenue a TNSP can recover from customers for the provision of particular transmission services over a set 'regulatory control period'. To make this determination, we forecast how much revenue a TNSP needs to cover its efficient costs and provide a commercial return on capital. This requires capital and operating expenditure assessments, including of individual investment projects.

A project that has been through the RIT–T process can form the basis for TNSP revenue in two ways. It can:

- Be incorporated into a TNSP's revenue proposal as proposed capital and/or operating expenditure—we would consider this in making our revenue determination for the upcoming regulatory control period.

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<sup>11</sup> Existing version: AER, *Application guidelines: Regulatory investment test for transmission (RIT–T)*, December 2018.

- Be incorporated into a TNSP's revenue proposal as a contingent project (if the need and/or timing is uncertain)—the expenditures for such projects do not form part of our assessment of the total forecast capital expenditure we approve in a revenue determination (above). Rather, they can be included later in the total revenue allowance if a number of conditions are met.<sup>12</sup> These conditions are centred around pre-defined conditions (trigger events), and there are different triggers available for actionable ISP and non-ISP projects. We are also required to assess whether the forecast capital expenditure is reasonably likely to reflect prudent and efficient costs. If we are not satisfied this is the case, we are required to determine a substitute forecast.

## 2.2 AER role in the new transmission planning framework

The AER is responsible for the economic regulation of electricity transmission and distribution services in the NEM,<sup>13</sup> which promotes efficient investment in, and efficient operation and use of, these services for the long term interests of consumers. We are also responsible for monitoring, investigating and enforcing compliance with obligations under the NEL, NER and other respective regulations. As such, our role in the new transmission planning framework includes:

- providing guidance to AEMO and RIT–T proponents (and stakeholders) on the application of the NER through development and application of guidelines
- monitoring compliance with the NER, including with the RIT–T instrument and binding guidelines, and taking enforcement action where necessary and appropriate
- identifying best practice CBA to promote investment efficiency given our expertise as an economic regulator, consistent with our role in the current RIT–T processes
- conducting a transparency review of AEMO's IASR and draft ISP, focussed on key inputs and assumptions
- making determinations to settle ISP and/or RIT–T disputes
- assessing proposed expenditure associated with actionable ISP projects and non-ISP projects under the revenue determination process.

The AER's role is part of a suite of arrangements to provide sufficient oversight of the ISP and RIT–T processes within the new framework. The final element of this is the new ISP Consumer Panel, which will comprise technical experts who will provide advice to AEMO from a consumer perspective at key stages of the ISP process.

## 2.3 Key terms used in this explanatory statement

Appendix B sets out the key terms we use in this explanatory statement, largely related to the ISP and RIT–T processes.

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<sup>12</sup> See NER, clause 6A.8.2.

<sup>13</sup> And Northern Territory.

## 3 Approach to the draft guidelines

This section sets out our overall approach to the draft guidelines to make the ISP actionable (section 3.1), our approach to compliance and enforcement (section 3.2), and our approach to transitional matters (section 3.3).

### 3.1 Overall approach to the draft guidelines

This section sets out our proposed objective of the guidelines to make the ISP actionable, key themes raised in stakeholder submissions to the issues paper, and the key principles and considerations we have focussed on in developing the draft guidelines.

#### 3.1.1 Objective of the guidelines

The issues paper referred to the National Electricity Objective (NEO), specifically, promoting efficient investment in electricity services for the long term interests of consumers.

The issues paper drew on the NEO to identify the objective of the guidelines to make the ISP actionable as being to provide certainty, transparency and accountability for AEMO, RIT–T proponents and stakeholders to promote:

- ISPs that identify the optimal development path that optimises the net economic benefit to all those who produce, consume and transport electricity in the market
- RIT–T applications that identify the credible option that maximises the net economic benefit to all those who produce, consume and transport electricity in the market
- effective stakeholder consultation and engagement in the ISP and RIT–T processes.

Some stakeholders sought changes to this objective. Some sought changes that would reflect greater prescription for AEMO, while others were concerned that the wording of the objective would detract from the flexibility that AEMO should have.<sup>14</sup> We continue to support this objective for the guidelines to make the ISP actionable. We consider it balances prescription and flexibility, while maintaining consistency with the existing RIT–T objective and linking back to the NEO.

#### 3.1.2 Key themes raised in stakeholder submissions

A key issue raised in the issues paper related to the balance of prescription and flexibility in the guidelines to make the ISP actionable, particularly for the CBA guidelines. Stakeholders supported this being a key theme, and submissions were divided on the appropriate balance between prescription and flexibility. Some stakeholders supported the approach proposed in the issues paper, where AEMO would have the flexibility to determine an optimal development path, but would apply a prescriptive CBA. Some other stakeholders sought further flexibility, and others supported a more prescriptive approach to the guidelines.

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<sup>14</sup> See Table 4 in appendix A, under topics 'Objective of guidelines' and 'Prescription vs flexibility'.

Another key theme in submissions was the importance of transparency in the ISP process, and a number of submissions identified effective engagement by AEMO with stakeholders in the ISP as critical.

Submissions also noted that consistency and alignment between the analysis undertaken in the ISP and that undertaken in RIT–T applications is an important part of the overall framework. Some stakeholders were also concerned with maintaining consistency between the RIT–T for ISP projects and the RIT–T for non-ISP projects.

Finally, a number of submissions raised the importance of fully testing non-network options on an equal basis to network options through the ISP and RIT–T processes (as non-network options can be a substitute for, or complement to, network options).

See appendix A for a detailed summary of issues raised in stakeholder submissions.

### **3.1.3 Key elements of the approach to the draft guidelines**

To give effect to the objective of the guidelines identified above, and taking into account submissions to the issues paper, we have adopted the following four principles in preparing the draft guidelines to make the ISP actionable.

#### **AEMO flexibility**

We continue to support AEMO flexibility in selecting the optimal development path, as set out in the issues paper. The current market environment is characterised by a high degree of uncertainty and rapid changes have been observed over relatively short periods. AEMO should have the ability to exercise its professional judgment in developing scenarios of the future, choosing decision making approaches and ultimately selecting ISP projects to progress further to the RIT–T stage or to undertake preparatory activities.

Through this flexibility, AEMO may seek to take a prudent approach to uncertainty by planning for key risks that AEMO identifies and tests through consultation with stakeholders. AEMO may choose an optimal development plan to be adaptable to a range of different future scenarios.

If the guidelines take an overly prescriptive approach to the analysis in the ISP, we consider it may unduly limit AEMO's ability to choose the optimal mix of ISP projects, undertake continuous improvement or respond to stakeholder feedback.

#### **Transparency and stakeholder engagement**

We consider the flexibility for AEMO described above is only appropriate where AEMO is fully transparent about how it has exercised that flexibility and judgment, and appropriately engages with stakeholders throughout the process.

Transparency is important because it allows stakeholders to understand and test how AEMO has come to its conclusions in the ISP. Key drivers of ISP decisions, including inputs and assumptions, and AEMO's approach to risk, need to be set out clearly in public documents. Consumers should be able to understand how costs and benefits might vary between development paths, and how AEMO has traded off mitigating risk versus minimising costs.

Effective consultation improves the forecasting and decision making process. Given the high fixed costs of transmission investment and uncertainty of the planning environment, promoting transparency and sharing accountability through effective consultation is valuable. For example, market participants may have information that AEMO does not have, which can improve the accuracy of forecasts. To prepare an ISP that is in the long term interests of consumers, AEMO also needs to understand the preferences of consumers, particularly around reliability and affordability.

### **Rigorous cost benefit analysis**

Stakeholders clearly value having a rigorous CBA as part of the overall transmission planning process. We support this. The objective of CBA is to promote investment efficiency by considering the relative costs and benefits for different investment options. A CBA undertaken as part of the ISP increases the overall transparency of the ISP. It will highlight the implications of costs and benefits for consumers (who ultimately pay for transmission investments) if one development path option is chosen instead of another. As such, it should reduce the risk that consumers will pay for inefficient transmission investment.

We support aligning the CBA undertaken in the ISP with the CBA undertaken in the RIT–T for ISP projects. This alignment will prevent different outcomes arising between the ISP and RIT–T applications because of an unnecessary difference of approach, rather than new information. We have also sought to achieve as much consistency as possible between how the approach in the RIT–T instrument applies to ISP projects and non-ISP projects.

### **Streamlined regulatory process**

While we support the need for a rigorous CBA as part of the transmission planning framework, this must be applied in a way that maintains an efficient and streamlined process. The new rules have contributed to this by, among other things, replacing the first stage of the RIT–T process with the ISP, and providing for ISP parameters and modelling to be applied in a RIT–T application where possible. This should reduce duplication of analysis, and therefore the overall time for the regulatory process.

We support this approach. A streamlined process should allow for appropriate testing of investment options without unnecessarily drawing out the process through duplication or redundant steps. An inefficient process can lead to delays in progressing investments that may be in the long term interests of consumers, and can lead to consumers bearing higher regulatory process costs (that is, the costs to AEMO and RIT–T proponents of preparing an ISP and applying the RIT–T).

#### **3.1.4 Other considerations**

Two other key issues raised in the issues paper are supported by stakeholders and have therefore influenced our approach to the draft guidelines to make the ISP actionable.

First, it is important that non-network options are assessed in both the ISP and RIT–T applications on an equal basis to network options. Consideration of both network and non-network options ensures the best investment options are selected by allowing as broad a spectrum of credible options to be considered as possible. This adds credibility to the

transmission planning process and promotes competitive neutrality by considering options that contestable markets can provide.

While the new rules have created a framework for non-network options to be called for in the draft ISP and fully tested in RIT–T applications, this does not prevent non-network options from being considered earlier in the planning process, including prior to the draft ISP. The earlier non-network options are considered, the more likely they will receive a fulsome assessment.

Second, considering option value is an important part of robustly testing investment options, and provides flexibility to respond to changing market conditions. Option value can be captured by assessing options that involve staging projects to respond to new information that arises at a later stage. Appropriate consideration of option value minimises the likelihood of building assets that are ultimately underutilised or stranded, which results in consumers bearing inefficient costs. That is, it mitigates the downside risk while maintaining the upside risk (or benefit) of the investment.

It is important for AEMO to consider option value because almost all network investment decisions are partially- or fully-irreversible. Further, AEMO might expect that information will later become available that affects the net economic benefit of partially- or fully-irreversible network investment decisions. In such circumstances, there may be value in retaining some flexibility to respond to that new information when it emerges.

## 3.2 Compliance and enforcement of binding guidelines

This section sets out the classification framework we use to specify elements of the CBA guidelines and FBPG, as well as our approach to compliance and enforcement.

### 3.2.1 Classification framework for guideline elements

Under clauses 5.22.5(c) and 5.22.5(j) of the NER, we may specify the relevant parts of the CBA guidelines and FBPG that are binding on AEMO and RIT–T proponents. We have done this through the classification framework set out in the draft CBA guidelines and the draft FBPG. This sets out our expectations for:

- Requirements that AEMO and/or RIT–T proponents must meet—indicated in the guidelines through the words '*requirement*' or '*is required to*'.
- Considerations that AEMO and/or RIT–T proponents must have regard to—indicated in the guidelines through the words '*consideration*', '*must have regard to*' or '*must consider*'. In the draft guidelines, we explain that to demonstrate compliance with a consideration, AEMO would need to explain, in writing, how it has had regard to the consideration, including the weight it has given to the consideration in making its decision (if any).
- Discretionary information that is not binding and provided to AEMO and/or RIT–T proponents to provide further explanation or recommend best practice suggestions—this includes any information that is not identified as a requirement or consideration, or is specifically indicated in the guidelines as '*discretionary*'.

This is consistent with our initial view in the issues paper. There were few references to our classification framework in the public forum or stakeholder submissions. Delta Electricity



supported our view that where AEMO is required to ‘have regard to’ an element of the guidelines, it should provide a clear explanation of how it has done this.<sup>15</sup>

The Public Interest Advocacy Centre (PIAC) submitted that our decisions to classify elements into each category should be clearly described and subject to periodic review.<sup>16</sup> We have provided the rationale for our proposed classification decisions (for binding elements) in the subsequent sections of this explanatory statement. In general, we considered the following in making classification decisions:

- Requirements are highly important to the ISP / RIT–T CBA processes, ISP / RIT–T consultation processes or ISP / RIT–T alignment; and/or are reasonably straightforward for AEMO / RIT–T proponents to comply with.
- Considerations are also highly important to the ISP / RIT–T CBA processes, ISP / RIT–T consultation processes or ISP / RIT–T alignment. However, they are less straightforward for AEMO / RIT–T proponents to comply with as they may not apply in every instance or may require a level of subjective judgement.
- Discretionary elements are generally best practice recommendations, or information to further explain or demonstrate a binding element. They may also provide information to increase transparency and help stakeholders understand a concept or process.

### 3.2.2 Approach to compliance and enforcement

We are responsible for monitoring, investigating and enforcing compliance with obligations under the NEL, National Gas Law, National Energy Retail Law and the respective Rules and Regulations.<sup>17</sup> As such, we have an important role in ensuring AEMO and RIT–T proponents comply with provisions set out in the NER and binding elements of the guidelines.

In the draft CBA guidelines and draft FBPG, we set out specific compliance reporting requirements. In this explanatory statement, we explain how this fits into our overarching approach to compliance and enforcement. In summary, our proposed compliance and enforcement approach:

- is consistent with our compliance and enforcement policy,<sup>18</sup> and seeks to foster a culture of compliance to prevent the need for enforcement action
- is focussed on proactively monitoring compliance
- enables us to investigate potential breaches of the NER and binding guidelines
- enables us to consider whether enforcement action is warranted based on the factors set out in our compliance and enforcement policy.

Our proposed compliance and enforcement approach is also consistent with our initial views in the issues paper, which stakeholder submissions supported.<sup>19</sup>

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<sup>15</sup> Delta, *Submission: Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 1.

<sup>16</sup> PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 8.

<sup>17</sup> AER, *Compliance and enforcement policy*, July 2019, p. 2.

<sup>18</sup> AER, *Compliance and enforcement policy*, July 2019.

<sup>19</sup> TasNetworks, *Submission re: guidelines to make the ISP actionable*, 16 January 2020, p. 6; Hydro Tasmania, *Submission*

## Monitoring compliance

Our compliance and enforcement policy sets out the tools we use to monitor compliance. These include stakeholder intelligence, information requests and compulsory notices, market surveillance, business reporting, audits, and targeted compliance reviews and projects.<sup>20</sup>

For the CBA guidelines, FBPG and NER provisions associated with preparing an ISP and applying the RIT–T to actionable ISP projects, we propose to take a proactive approach to monitoring compliance. This is important because once transmission investments have been built they cannot be reversed, and the cost and risk of inefficient transmission investment is fully borne by consumers.

The tools we will use to monitor compliance are:

- **Stakeholder intelligence**—we will assess information we receive from stakeholders, work with stakeholders to better understand their concerns, and use this information to inform any next steps in terms of investigating matters further.
- **Information requests and compulsory notices**—if we need more information to inform our compliance and enforcement activities (for example, in assessing a stakeholder concern), we have the option of using statutory information gathering powers depending on the circumstances.<sup>21</sup>
- **Business reporting**—we require AEMO and RIT–T proponents to report on compliance with the binding elements of the CBA guidelines and FBPG in preparing an ISP and applying the RIT–T to actionable ISP projects. This will inform an issues register that we will publish annually on our website.
- **Audits or targeted compliance reviews**—if other monitoring tools raise compliance concerns and we cannot resolve this directly with AEMO or the RIT–T proponent, we may undertake a compliance audit or targeted compliance review. The audit or review may be undertaken by us or external auditors.

We consider compliance reporting will assist us to proactively monitor compliance with the binding guidelines. It shows us how AEMO and/or the RIT–T proponent has complied with each requirement and consideration set out in the binding guidelines. This will allow us to identify and work through any issues with AEMO and/or the RIT–T proponent. We will use the information in the compliance reports to inform an AER issues register that we will publish annually on our website (see below). For clarity, the purpose of the compliance reports is to assist us with monitoring compliance by identifying where in the ISP and RIT–T application documents AEMO and RIT–T proponents demonstrate compliance with the binding elements of the guidelines. They do not intend to duplicate work.

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re: *AER guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 8; ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 21; EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 11; MEU, *Submission: Guidelines to make the ISP actionable issues paper*, 22 January 2020, p. 12.

<sup>20</sup> AER, *Compliance and enforcement policy*, July 2019, section 4.

<sup>21</sup> See sections 21 and 28 of the National Electricity Law.

We also propose to maintain an issues register on AEMO's and RIT–T proponents' compliance with the binding guidelines in preparing ISPs and applying RIT–Ts for actionable ISP projects, respectively. We propose to:

- Publish this issues register annually on our website, subject to redacting any confidential information.
- Regularly update our issues register with compliance issues that stakeholders, RIT–T proponents, AEMO, or we have identified. We propose to only include issues that we have undertaken an initial assessment of, relate to a specific binding provision in the CBA guidelines or FBPG, and/or raise a material compliance concern.

The issues register should provide transparency in how we work through and resolve compliance issues and concerns with AEMO and RIT–T proponents.

### **Enforcing compliance**

Our compliance and enforcement policy sets out the tools we use to enforce compliance of the NER and binding guidelines.<sup>22</sup> The clauses of the NER that require AEMO or RIT–T proponents to comply with the binding CBA guidelines and FBPG are not prescribed as civil penalty provisions. However, for the CBA guidelines and FBPG, our enforcement response may include seeking declarations and orders to comply with the guidelines, or court proceedings to remedy a breach (for example, through an injunction).

Our approach seeks to foster a culture of compliance to prevent the need for enforcement action. However, if our investigation suggests a breach has occurred, we will look at a range of factors to decide whether we should take enforcement action, and if so, what action we should take. When doing so, we will assess the harm caused or benefit derived, the nature and extent of the conduct and how deliberate the conduct was.<sup>23</sup>

## **3.3 Transitional considerations**

When we publish the final guidelines to make the ISP actionable, the 2020 ISP and several RIT–T processes will be underway. This section sets out our approach to how the guidelines will apply to those processes.

### **3.3.1 ISP**

We will publish the final guidelines to make the ISP actionable at the start of AEMO's 2022 ISP process. The guidelines (in particular, the CBA guidelines and FBPG) will not apply to the development of the 2020 ISP, but may apply to RIT–Ts for projects identified in the 2020 ISP. They will apply to the 2022 ISP, including the IASR.

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<sup>22</sup> AER, *Compliance and enforcement policy*, July 2019, section 5.

<sup>23</sup> AER, *Compliance and enforcement policy*, July 2019, pp. 4, 8.

### 3.3.2 RIT–T processes for actionable ISP projects

There will be a number of RIT–T processes for actionable ISP projects underway when we publish the final guidelines to make the ISP actionable (in particular, the CBA guidelines and updated RIT–T instrument). For these processes, we consider:

- It is not appropriate for the final guidelines to apply to RIT–T applications where a draft report<sup>24</sup> has been published. Such RIT–T applications are substantively underway and may require re-starting the draft report.
- It is appropriate for the final guidelines to apply to RIT–T applications where only a consultation report<sup>25</sup> has been published.

### 3.3.3 RIT–T processes for non-ISP projects

The updated RIT–T instrument and RIT–T application guidelines should not apply to RIT–T applications for non-ISP projects that have already commenced. For the purposes of these transitional considerations we take 'commenced' to mean publication of a consultation report.<sup>26</sup> We consider this is appropriate because the new framework still requires a consultation report for RIT–T applications for non-ISP projects, so may require re-starting the consultation report.

This means for any non-ISP project where the RIT–T proponent has not published a consultation report, the changes to the RIT–T application guidelines will apply.

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<sup>24</sup> That is, a project assessment draft report.

<sup>25</sup> That is, a project specification consultation report.

<sup>26</sup> That is, a project specification consultation report.

## 4 CBA guidelines (ISP component)

This section sets out our rationale for the draft CBA guidelines, as it applies to the ISP.<sup>27</sup>

AEMO is to use the CBA guidelines in preparing an ISP.<sup>28</sup> In doing this, AEMO must identify an optimal development path based on a quantitative assessment of the costs and benefits of various options across a range of scenarios. The CBA guidelines also contain RIT–T application guidelines for actionable ISP projects, which we discuss in section 5.

Consistent with our issues paper and supported by a number of stakeholder submissions,<sup>29</sup> we have based the draft CBA guidelines (ISP component) on the existing RIT–T application guidelines, which reflects best practice CBA. We have made amendments to reflect the nature of the ISP (which is conducted at a development path, rather than individual project, level) and to provide AEMO with an appropriate level of flexibility. This also supports consistent assessment approaches between the ISP and RIT–T for actionable ISP projects.

Table 3 sets out the structure of our draft CBA guidelines (ISP component), and compares our initial views in the issues paper with our positions in the draft guidelines.

**Table 3: Structure of draft CBA guidelines and comparison with issues paper**

Draft CBA guidelines topic	Changes from the issues paper	Section reference*
Complying with the guidelines	The draft CBA guidelines maintain the initial view in issues paper on the overall level of flexibility for AEMO, the classification framework and compliance expectations.	Section 4.1
Inputs and assumptions	The draft CBA guidelines make some changes and additions to principles in the issues paper, and provide additional guidance on the discount rate and value of customer reliability (VCR).	Section 4.2.1
Scenarios	The draft CBA guidelines maintain and clarify the principles in the issues paper, and add guidance based on stakeholder feedback and further analysis.	Section 4.2.2
Development paths	The draft CBA guidelines clarify AEMO's process for selecting development paths and add some additional guidance to that in the issues paper.	Section 4.3.1
Counterfactual	The draft CBA guidelines maintain our initial view in the issues	Section

<sup>27</sup> We note all section cross-references in this section refer to sections of this explanatory statement, not the draft CBA guidelines.

<sup>28</sup> NER, clause 5.22.5(b); NER, clause 5.22.6(a)(4).

<sup>29</sup> Origin, *Submission: AER guidelines to make the ISP actionable – Consultation on issues paper*, 17 January 2020, pp. 1-2; QFF, *Submission re: Issues paper - Guidelines to make the ISP actionable*, 17 January 2020, p. 2; AEC, *Submission: Guidelines to make the ISP actionable*, 17 January 2020, p. 1. TransGrid and ENA also supported a consistent assessment approach between the ISP and RIT–T, see TransGrid, *Guidelines to make the ISP actionable issues paper submission*, 17 January 2020, p. 1; ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 3.

development path	paper, but clarify that some elements are part of the market modelling process to value market benefits.	4.3.2
Valuing costs	The draft CBA guidelines provide new guidance based on the existing RIT–T application guidelines, as the issues paper did not contain initial views specific to valuing costs. This guidance is consistent with the high level initial views in the issues paper on quantifying costs and benefits.	Section 4.3.3
Market benefit classes + Valuing market benefits	The draft CBA guidelines provide new guidance based on the existing RIT–T application guidelines, as the issues paper did not contain initial views specific to market benefits. This guidance is consistent with the high level initial views in the issues paper on quantifying costs and benefits.	Section 4.3.4, 4.3.5
Optimal development path	The draft CBA guidelines maintain the flexibility specified in the issues paper, but provide more detail and specific transparency requirements via a framework that AEMO must follow in selecting an optimal development path (consistent with NER clause 5.22.5(d)(5) and 5.22.5(e)(2)).	Section 4.3.6
Treatment of externalities	The draft CBA guidelines provide new guidance based on the existing RIT–T application guidelines, as the issues paper did not consider the treatment of externalities.	Section 4.4.1
Option value	The draft CBA guidelines largely maintain our initial view in the issues paper. They provide additional detail and clarity based on stakeholder feedback and the complexity of staging projects; and allow option value to be considered within scenario analysis.	Section 4.4.2
Non-network options	The draft CBA guidelines maintain our initial view in the issues paper and provide additional guidance based on stakeholder feedback and the importance of early engagement.	Section 4.4.3
Identified need	The draft CBA guidelines maintain our initial view in the issues paper and provide additional clarity based on stakeholder feedback and the need for ISP and RIT–T alignment.	Section 4.5.1
Assigning scenarios to RIT–T proponents	The draft CBA guidelines provide new guidance to promote ISP and RIT–T alignment while maintaining a streamlined RIT–T process. The issues paper did not contain initial views on this.	Section 4.5.2
Feedback loop	The draft CBA guidelines provide guidance on the feedback loop based on stakeholder feedback. The issues paper did not consider the feedback loop in detail.	Section 4.5.3
Dispute resolution	The draft CBA guidelines provide guidance on dispute resolution, consistent with our initial views in the issues paper.	Section 4.6
Transparency reviews and consumer panel	The draft CBA guidelines explains the NER requirements around AER transparency reviews and the ISP consumer panel. These were not considered in the issues paper because these NER requirements didn't exist at the time.	Section 4.7

Note: \*The section references in column three refer to this explanatory statement, and are cross referenced for ease of access.

The following sections provide more information on each element of Table 3.

## 4.1 Complying with the CBA guidelines

This section considers prescription versus flexibility, our proposed classification framework for binding and non-binding elements of the draft CBA guidelines, and compliance reporting.

### 4.1.1 Prescription versus flexibility

The flexibility that the CBA guidelines would provide the ISP was a key issue considered in the issues paper. This is an overarching consideration, so is not an explicit part of the draft CBA guidelines. Consistent with our initial view in the issues paper, the draft CBA guidelines do not take a uniform approach to prescription and flexibility. While AEMO will have flexibility to choose an optimal development path, it will have to undertake key CBA steps and justify its decisions by reference to the CBA. There are also some elements of the CBA where more prescription is appropriate. As the CBA guidelines are binding on AEMO, it is important to clarify where AEMO has discretion and where AEMO must apply the CBA guidelines. We do this through the classification framework discussed in section 3.2.1.

Many stakeholders responded to this issue in their submissions, with some submissions supporting an equal or higher level of flexibility indicated in the issues paper, and other submissions supporting a higher level of prescription.<sup>30</sup> There were more submissions supporting a higher level of prescription. We have had regard to this in the draft CBA guidelines, which we consider provides an appropriate balance. In deciding what level of flexibility to provide in each CBA step, we had regard to its importance to the process, and the other governance mechanisms provided in the NER. For example, we continue to provide AEMO with significant flexibility in developing inputs and assumptions, even though it is a critical part of CBA. This is, in part, because additional governance will be provided through the FBPG and AER transparency reviews in clause 5.22.9 and 5.22.13 of the NER.

### 4.1.2 Classification framework and compliance reporting

Section 3.2 sets out our rationale for the classification framework and our approach to compliance and enforcement of the CBA guidelines, including compliance reporting.

Appendix A of the draft CBA guidelines lists the proposed requirements and considerations. The rest of the material in the draft CBA guidelines is discretionary.

## 4.2 Inputs, assumptions and scenarios

Under clause 5.22.8 of the NER, AEMO must publish an IASR for consultation, prior to the draft ISP. The IASR sets out the inputs, assumptions and scenarios AEMO will use in its CBA to identify an optimal development path for an ISP.

Consistent with our initial views in the issues paper, the draft CBA guidelines provide requirements, considerations and discretionary elements for developing economically reasonable inputs, assumptions and scenarios. The main differences between the issues paper and the draft CBA guidelines are changes / additions to the principles or processes,

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<sup>30</sup> See Table 4 in appendix A, under topic 'Prescription versus flexibility'.

and classification decisions. The draft CBA guidelines are also reasonably consistent with the existing RIT–T application guidelines on these topics.

## 4.2.1 Inputs and assumptions

In preparing an ISP, AEMO identifies a large number of inputs for its model. These inputs are forecasts over the 20+ year ISP planning horizon (or modelling period), and use different trajectories to match different scenarios. This involves a number of underlying assumptions.

The draft CBA guidelines require AEMO to identify the key inputs or assumptions driving the CBA results, and the verifiable sources they are based on (where available), in its draft ISP. This was part of the transparency principle in the issues paper. These have a large impact on the costs or market benefits of one or more development paths. We consider these can be identified through initial hypotheses that are then sensitivity tested. We do not expect AEMO to test every input because there can be thousands of inputs in an ISP model.

We have classified these as requirements because we consider inputs and assumptions are essential elements of any CBA. We also consider the guidance promotes transparency and facilitates stakeholder engagement, and is consistent with the AER transparency review requirements under clause 5.22.9 of the NER. Further, we consider the guidance is reasonably straightforward to comply with. The Department of the Prime Minister and Cabinet Office of Best Practice Regulation provides a guidance note on CBA for regulatory impact statements, which states:<sup>31</sup>

*There may be considerable uncertainty about predicted impacts and their appropriate monetary valuation. Sensitivity analysis provides information about how changes in different variables will affect the overall costs and benefits of the proposed regulation. It shows how sensitive predicted net benefits are to different values of uncertain variables and to changes in assumptions. It tests whether the uncertainty over the value of certain variables matters, and identifies critical assumptions.*

The draft CBA guidelines also require AEMO to have regard to (consideration) the performance of its previous forecasts against actual outcomes, through the post-period performance reviews set out in the FBPG.<sup>32</sup>

This was suggested in stakeholder submissions.<sup>33</sup> We consider it is important for continuous improvement of inputs and transparency, but is not appropriate for AEMO to comply with as a requirement. This is because AEMO may have a valid reason from departing from the results of a post-event performance review. For example, it may have new market information indicating future values are likely to deviate significantly from historical values.

The draft CBA guidelines also provide discretionary principles that we consider promote reasonable inputs and assumptions. These are similar to those outlined in the issues paper,

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<sup>31</sup> Department of the Prime Minister and Cabinet Office of Best Practice Regulation, *Guidance note: Cost benefit analysis*, February 2016, p. 8.

<sup>32</sup> See AER, *Draft Forecasting best practice guideline*, May 2020, section 4.

<sup>33</sup> See ENGIE, *Submission re: Issues paper 'Guidelines to make the ISP actionable'*, 17 January 2020, p. 2; EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 4; EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 6; MEU, *Submission: Guidelines to make the ISP actionable issues paper*, 22 January 2020, p. 4; PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 8.



with additional principles of plausibility, relevance and transparency. These were largely informed by stakeholder submissions,<sup>34</sup> the existing RIT–T application guidelines, and the AER transparency review of inputs and assumptions set out in clause 5.22.9 and 5.22.13 of the NER. We propose discretionary principles because of the additional governance provided through the FBPG and the AER transparency review. Many stakeholder submissions supported discretion for AEMO in developing inputs and assumptions, provided there is sufficient transparency and consultation.<sup>35</sup>

We provide detailed responses to issues raised in stakeholder submissions on inputs and assumptions in Table 4 in appendix A.

### Discount rate and value of customer reliability

The draft CBA guidelines provide guidance on the discount rate and value of customer reliability (VCR) that is consistent with the existing RIT–T application guidelines. This guidance also aligns with stakeholder requests for more specific guidance on economic inputs and assumptions, such as GDP, discount rates and the VCR.<sup>36</sup>

The draft CBA guidelines provide mostly discretionary guidance on these areas. However they provide some binding elements to ensure:

- The discount rate(s) in the ISP is a commercial (rather than social) discount rate, reflects the systematic risk of the cost and benefit cash flow streams and is consistent with the cash flows being discounted (for example, if real cash flows are used, a real discount rate must be used). This is consistent with the existing RIT–T instrument, which applies an equivalent binding requirement on RIT–T proponents.<sup>37</sup>
- Any VCRs used are taken from the AER's most recent VCRs for unplanned electricity outages for the NEM, and are applied correctly. This is important because while there are multiple sources of VCRs, there is only one that is based on an independent nationwide survey-based methodology. This was undertaken by AEMO in the past, with the responsibility transferred to the AER via clause 8.12 of the NER in July 2018.

We have made these elements binding because they are key inputs to the ISP, and can be complex to apply. We have classified them as requirements or considerations based on their relative importance and how straightforward they are for AEMO to comply with. The discount rate in particular is important for ISP and RIT–T alignment, as different approaches can substantially change the present value of estimated costs and market benefits.

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<sup>34</sup> See EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 5 and PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, pp. 8, 11.

<sup>35</sup> See TasNetworks, *Submission re: guidelines to make the ISP actionable*, 16 January 2020, p. 3; Delta, *Submission: Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 2; EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 5; EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 8.

<sup>36</sup> Origin, *Submission: AER guidelines to make the ISP actionable – Consultation on issues paper*, 17 January 2020, p. 2; EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 6; EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 5.

<sup>37</sup> See AER, *Final: RIT–T*, June 2010, p. 6(14).

## 4.2.2 Scenarios

Scenarios are different future external market environments that are used in a CBA to assess and manage uncertainty about how the future will develop. They are based on variations to input variables that drive supply and demand conditions (for example, population growth, coal and gas prices, etc.). The market benefits of a given development path will change across different scenarios,<sup>38</sup> and this allows AEMO to understand the impacts of key uncertainties on each development path.

The draft CBA guidelines require AEMO to have regard to a number of considerations in developing reasonable scenarios. These considerations are largely principles-based, and focus on transparency, internal consistency and taking a balanced approach to risk. Some of the considerations are consistent with those outlined in the issues paper, with additional principles reflecting the outcomes of further analysis and issues raised in stakeholder submissions. We consider the considerations are fundamental to ISP scenario development in the context of AEMO's significant technical expertise and sectoral knowledge (as such, it does not need much content-based guidance).

However, given the large impact scenarios can have on CBA results, the draft CBA guidelines also provide discretionary best-practice principles to guide AEMO and inform stakeholders. These are consistent with those in the issues paper, with some additions to reflect issues raised in stakeholder submissions. For example:

- ENGIE proposed a scenario development process.<sup>39</sup> We consider many of ENGIE's suggestions represent principles rather than prescription, and have incorporated a number of these. We have sought to take a balanced approach between the desirability of 'stretching' scenarios, and the risk of extreme scenarios driving the CBA outcomes which can lead to over- or under-investment.
- EnergyAustralia and Energy Consumers Australia (ECA) considered scenarios should be guided by an objective(s).<sup>40</sup> We have provided a high-level objective for AEMO to explore the impact of major uncertainties affecting the costs, benefits and need for investments in an optimal development path.
- Delta Electricity and ECA considered what constitutes a 'reasonable range' of scenarios is unclear.<sup>41</sup> The draft CBA guidelines clarify that stakeholder consultation should inform what constitutes a reasonable range of scenarios.

Scenario development was a key issue raised in a number of submissions, and many considered the CBA guidelines should provide more prescription around how AEMO should develop its scenarios. For example, many submissions considered AEMO should express the likelihood/probability of each scenario on a quantitative basis.<sup>42</sup> We have incorporated

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<sup>38</sup> The direct costs of building projects in a development path are assumed to be independent of scenarios.

<sup>39</sup> ENGIE, *Submission re: Issues paper 'Guidelines to make the ISP actionable'*, 17 January 2020, pp. 3-4.

<sup>40</sup> ECA, *Submission: ISP guidelines issues paper*, 17 January 2020, p. 4; EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 5.

<sup>41</sup> ECA, *Submission: ISP guidelines issues paper*, 17 January 2020, p. 4; Delta, *Submission: Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 2.

<sup>42</sup> See Table 4 in appendix A, under topic 'Reasonable scenarios'.

this into a requirement for AEMO to present the results of a risk neutral decision making approach when selecting an optimal development path (see section 4.3.6).

Associate Professor Guillaume Roger from Monash University considered scenarios should only include exogenous variables. He noted it is important to distinguish exogenous events to others where the pace of development is controlled by the regulators.<sup>43</sup> We agree that scenarios should only contain variables that are exogenous to the development paths. However, we consider government policies or regulatory settings are not necessarily endogenous, as the factors governing changes to these may in reality be independent to transmission planning and investment. In the draft CBA guidelines, we apply the principle of exogeneity, but leave AEMO discretion in the execution.

There were also a number of submissions seeking more consultation and transparency in AEMO's scenario development process. The draft FBPG provides guidance in this area. Further, EnergyAustralia considered we should clearly distinguish between scenarios and sensitivities,<sup>44</sup> which we have included in the draft CBA guidelines (see section 4.3.5).

We provide detailed responses to issues raised in stakeholder submissions on scenarios in Table 4 in appendix A.

### 4.3 CBA methodology

Under clause 5.22.8(d) of the NER, AEMO must publish an ISP methodology for consultation, prior to the draft ISP.<sup>45</sup> The ISP methodology sets out the CBA and modelling methodology that AEMO will use in preparing an ISP.

Under clause 5.22.8(d) of the NER, AEMO's ISP methodology must be consistent with the CBA guidelines, which set out requirements, considerations and discretionary elements for key CBA steps. Under this clause, AEMO must also develop, consult and publish the ISP methodology in accordance with the FBPG, which focusses on process and consultation.

This part of the draft CBA guidelines is structured according to following key CBA steps:

1. Identify a set of development paths to address the power system needs
2. Characterise the counterfactual development path (equivalent to the base case or status quo), under which to compare development paths
3. Quantify the estimated costs of each development path
4. Identify what classes of market benefits to quantify
5. Quantify the estimated market benefits of each development path by, for each scenario:
  - (a) deriving a state of the world with the development path in place and a state of the world with the counterfactual development path in place

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<sup>43</sup> Monash University (Associate Professor Guillaume Roger), *Turning ISP into action: submission as a comment*, 15 January 2020, p. 11.

<sup>44</sup> EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 5.

<sup>45</sup> If it is not using an existing ISP methodology.

(b) comparing the two states of the world in (a) to estimate the market benefit of that development path.

6. Quantify the estimated net economic benefit of each development path in each scenario, identify an optimal development path, and test the results.

The outline of steps is consistent with the issues paper, with minor characterisation changes to maintain consistency with the existing RIT–T application guidelines and incorporate differences in selecting an optimal development path. The sections below explain our rationale for the detailed guidance on each CBA step.

### 4.3.1 Selecting development paths

Development paths are defined in clause 5.10.2 of the NER as a set of (investment) projects in an ISP that together address power system needs. These are the different options AEMO assesses in the ISP CBA, in order to select an optimal development path to take forward.

Under clause 5.22.5(d)(4)(ii) of the NER, the CBA guidelines must describe the objective AEMO should seek to achieve when selecting a set of development paths for assessment. We consider the set of development paths chosen for assessment should reflect a representative sample of the full range of possible transmission investment combinations—as these can differ in location, timing, size and form (for example, non-network option substitutes/hybrids). We consider this allows the ISP to explore different ways to reduce costs for consumers, promotes competitive neutrality, and mitigates the risk of inefficient network investment. This is consistent with our initial view in the issues paper.

The guidance set out in the draft CBA guidelines promotes this objective. It provides:

- Discretionary information on how development paths are defined for the ISP CBA. We explain why, for the purposes of an ISP CBA, only projects that may become ISP projects should be included in a development path.<sup>46</sup> AEMO can choose which ISP projects to include in a given development path, but we would expect all projects that may become actionable ISP projects to be included. We also explain why AEMO can include in a development path, ISP projects identified as actionable in a previous ISP and which have not yet had costs approved in a contingent project process.
- Requirements for AEMO's process of selecting development paths. These are new and discussed below.
- Requirements and considerations for AEMO's characterisation of development paths. These are similar to our initial views in the issues paper (focussed on incorporating staging and non-network options), with an additional consideration for AEMO to re-test ISP projects identified as actionable in a previous ISP, and which have not yet had costs approved in a contingent project process. This promotes flexibility in the ISP to respond to changing market conditions. We have chosen these classifications because we consider the economic guidance on options development in CBA is well established.

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<sup>46</sup> An ISP project is an actionable ISP project, future ISP project or ISP development opportunity. These labels are formally applied to an optimal development path, which is why we use the terminology 'may become'. Hereafter, we will say 'ISP projects' rather than 'projects that may become ISP projects' for simplicity.

Option selection is also critical to the effectiveness of CBA in selecting a 'best' or optimal option (as this is not possible if only a narrow subset of options are explored).

The draft CBA guidelines provide information to clarify AEMO's process for selecting development paths, and set out additional guidance corresponding to this process. This is because, in the ISP process, AEMO identifies development paths for CBA in a different way to how RIT–T proponents identify credible options in applying the RIT–T. In particular, it:<sup>47</sup>

1. step one—enters a range of network and non-network investment options into its model
2. step two—co-optimises across these options to identify the least cost set of investments to meet peak demand and power system needs under each scenario
3. step three—identifies candidate development paths based on combinations of common transmission investments from step two above, and then re-running the generation and other non-network investments that flow from the transmission investments.

The draft CBA guidelines set out three requirements related to this process. These requirements seek to ensure as many transmission, generation and other non-network investment options as possible are inputted into the ISP model so they can be factored into the co-optimisation. Then—by ensuring development paths for the CBA vary in timing and level of transmission investment (and considering staged and non-network options)—AEMO can explore the boundaries of that co-optimisation process.

This is consistent with stakeholder feedback, which was focussed on ensuring development paths captured the range of different investment choices including staged projects and non-network options.<sup>48</sup> We also consider the guidance should be prescribed as requirements because it is process based (so is reasonably straightforward to comply with), and because of how significant the choice of development paths is to CBA outcomes (see above). For example, if all development paths assessed in an ISP CBA had the same overall level of transmission investment, the CBA would be precluded from assessing whether a development path with a lower level of transmission investment would provide a greater net economic benefit.

PIAC submitted that, as part of the commercial considerations for selecting a set of development paths, the ISP should consider the fairness and efficiency of both risk-allocation and cost-recovery.<sup>49</sup> We include these types of distributional effects in our guidance for selecting an optimal development path (see section 4.3.6), which occurs after the valuation of costs and market benefits. However, we also consider distributional effects are more effectively assessed when the development paths capture a broad range of investment choices, consistent with the objective in the draft CBA guidelines.

We provide detailed responses to issues raised in stakeholder submissions on development paths in Table 4 in appendix A.

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<sup>47</sup> See AEMO, *Draft 2020 Integrated System Plan Appendices*, December 2019, p. 285-286.

<sup>48</sup> See Table 4 in appendix A, under topic 'Development paths'.

<sup>49</sup> PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 9.

### 4.3.2 Defining the counterfactual development path

The counterfactual development path is the status quo or base case that AEMO uses to compare the development paths in the ISP CBA. Specifically, AEMO estimates the market benefits of each development path by comparing it to the counterfactual development path, in each scenario. This is because only costs and benefits that would not have occurred in the base case should be included in a CBA.<sup>50</sup>

The draft CBA guidelines provide an objective for developing the ISP counterfactual development path, consistent with clause 5.22.5(d)(4)(i) of the NER. This is that the counterfactual development path should result in the least cost set of investments to meet power system needs in each scenario, where no ISP projects in AEMO's selected development paths are built.

To promote this objective, the draft CBA guidelines require AEMO to:

- develop a single counterfactual development path—so all development paths are compared to the same base
- not include in the counterfactual development path, any ISP projects in its selected development paths or any projects that may become future ISP projects.

We have classified these as requirements because they are necessary to the accurate valuation of costs and market benefits, and reasonably straightforward for AEMO to comply with. While this guidance is different to the issues paper, it is consistent with our initial view that the counterfactual development path should allow for small intra-regional augmentation and replacement expenditure projects. These business as usual (BAU) small intra-regional augmentation and replacement expenditure projects are part of the market development modelling associated with the counterfactual development path, and are discussed later on in the draft CBA guidelines' section on valuing market benefits (see section 4.3.5). Committed ISP projects should also be part of the market development modelling associated with the counterfactual development path.

This guidance is consistent with most stakeholder feedback, which was focussed on ensuring no ISP projects in AEMO's selected development paths are included in the counterfactual while still allowing for some network investment to occur.<sup>51</sup> For example, PIAC submitted that 'The counterfactual must not be defined as a 'do nothing at all' scenario, but rather as a BAU-scenario without major, strategic investments other than those already committed or likely to commit'.<sup>52</sup>

Energy Networks Australia (ENA), Energy Users Association of Australia (EUAA) and Major Energy Users (MEU) submitted that more guidance should be provided to clarify when projects should be included in the counterfactual development path.<sup>53</sup> We consider the draft

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<sup>50</sup> Australian Government Department of Prime Minister and Cabinet, *Guidance note: Cost-benefit analysis*, February 2016, p. 3.

<sup>51</sup> See Table 4 in appendix A, under topic 'Counterfactual development path'.

<sup>52</sup> PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 10.

<sup>53</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 10; EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 9; MEU, *Submission: Guidelines to make the*

CBA guidelines make this clear for the counterfactual development path. They also provide guidance on committed, anticipated and modelled projects, which are defined consistently with the existing RIT–T instrument.<sup>54</sup>

The Australian Energy Council (AEC) submitted that our initial view in the issues paper suggests the optimal development path may consider projects in aggregate, which risks including projects which may not be economically successful in their own right.<sup>55</sup> We consider the value of the ISP undertaking a whole-of-system assessment is considering ISP projects at the development path level. This allows for projects that may not be individually viable without taking the rest of the development path into account, as they provide greater net economic benefits when undertaken alongside the other projects. At the same time, the RIT–T process includes testing of individual projects from an economic perspective, and AEMO will be aware of this when selecting an optimal development path.

We provide detailed responses to issues raised in stakeholder submissions on the counterfactual development path in Table 4 in Appendix A.

### 4.3.3 Valuing costs

In this context, costs are the present value of the estimated direct costs of building the ISP projects in each of AEMO's selected development paths. Clause 5.22.10(d) sets out the classes of costs AEMO must quantify.

The draft CBA guidelines set out a number of requirements for AEMO in valuing costs. These include to:

- Not factor qualitative cost considerations into the CBA or double count any costs across ISP projects in a development path. We consider all relevant costs must be quantified, consistent with our initial view in the issues paper.
- Check its values for classes of costs against recent contingent project applications—this will help AEMO understand if certain cost items tend to increase or decrease between ISP/RIT–T cost estimates and subsequent contingent project applications (which contain the most accurate cost estimates).
- Not include in any analysis under the ISP, any cost which cannot be measured as a cost to generators, distribution network service providers (DNSPs), TNSPs and consumers of electricity. These are treated as externalities (see section 4.4.1), and this is consistent with the existing RIT–T instrument.<sup>56</sup>
- Probability weight direct costs under different cost assumptions if there is a material degree of uncertainty. This is consistent with the existing RIT–T instrument,<sup>57</sup> and there is a detailed explanation and worked example in the existing RIT–T application

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*ISP actionable issues paper*, 22 January 2020, p. 7.

<sup>54</sup> See AER, *Final: RIT–T*, June 2010, p. 8(18)-(20). Also see the glossary in appendix B.

<sup>55</sup> AEC, *Submission: Guidelines to make the ISP actionable*, 17 January 2020, p. 2.

<sup>56</sup> AER, *Final: RIT–T*, June 2010, p. 5(10).

<sup>57</sup> AER, *Final: RIT–T*, June 2010, p. 3(3).

guidelines.<sup>58</sup> We consider this approach is suited to direct costs (as opposed to market benefits) because uncertainty associated with direct costs is generally narrower in scope.

- Provide information for transparency, such as the key cost items in each class of costs, a cost timeline and the present value of total costs—for each development path. We also require AEMO to present their present value calculations and assumptions, and explain their rationale. This is because:
  - The present value of total costs (and benefits) for an investment project is typically calculated using the stream of cash flows as they are expected to be incurred over the life of the asset(s).<sup>59</sup> However, where projects with different asset lives are being assessed, different methods can be used to allow for direct comparison of development paths. Any method used will make implicit assumptions about the costs (or benefits) beyond the asset life and/or the planning horizon. For example, AEMO currently converts the expected cash flows for the ISP projects in each development path into equivalent annual cash flows, and then uses the equivalent annual cash flows over the planning horizon to calculate the present value of total costs (and benefits). For projects that have longer asset lives than the planning horizon, this approach includes part of their total costs, and implicitly assumes the market benefits calculated over the planning horizon will continue unchanged to the end of the asset lives.
- Exclude from its analysis, the costs (or negative benefits) of an ISP project's harm to the environment or to any party that is not prohibited under a law, regulation or other legal instrument. This places the onus on policy makers to prohibit certain activities or to value various types of harm and impose financial penalties accordingly. The ISP has no role in prohibiting or penalising activities that policy does not prohibit.

We have classified these as requirements because they directly affect the accuracy of cost estimates and alignment with the RIT–T for actionable ISP projects, and are reasonably straightforward for AEMO to comply with. As we did not provide detailed views on valuing costs in the issues paper, only the qualitative cost considerations requirement is in the issues paper. The rest of the requirements are consistent with the existing RIT–T instrument and/or RIT–T application guidelines, stakeholder submissions or the principle of transparency.

The draft CBA guidelines set out a number of considerations for AEMO in valuing costs, including:

- AEMO must have regard to the cost allocation principles described under clause 6A.19.2 of the NER if/when allocating costs between electricity and other markets. This is consistent with the existing RIT–T instrument.<sup>60</sup>
- Guidance on using the market value of land when assessing the costs incurred in constructing or providing an ISP project, and on ensuring land that can otherwise be sold is not treated as a sunk cost.

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<sup>58</sup> AER, *Application guidelines: RIT–T*, December 2018, section 3.9.2.

<sup>59</sup> See Peirson, Brown, Easton, Howard, Pinder, *Business Finance*, McGraw-Hill, Ed. 10, 2009, pp. 136-137, 139.

<sup>60</sup> AER, *Final: RIT–T*, June 2010, p. 5(10).



These are more detailed and less straightforward for AEMO to comply with. However, we consider they are important aspects of valuing costs, and are largely consistent with the existing RIT–T instrument and/or RIT–T application guidelines.

The main stakeholder submissions on valuing costs were from TasNetworks, ENA and Hydro Tasmania. These submissions sought further guidance on valuing classes of costs in the CBA guidelines, including working with relevant TNSPs.<sup>61</sup> We have included discretionary guidance in the draft CBA guidelines for AEMO to work with TNSPs and/or non-network proponents to identify and value the classes of costs in clause 5.22.10(d) of the NER as accurately as possible.

The draft CBA guidelines also provide discretionary guidance recommending AEMO present its methodologies for valuing classes of costs; and on our likely approach to any requests to approve a new class of cost not specified in the NER. This promotes transparency.

We provide detailed responses to issues raised in stakeholder submissions on valuing costs in Table 4 in appendix A.

#### 4.3.4 Market benefit classes

Market benefits are the present value of the estimated economic benefits from ISP projects in a development path to those who consume, produce and transport electricity in the market. Clause 5.22.10(c)(1) of the NER sets out the classes of market benefits AEMO must consider— which AEMO must quantify unless it can provide reasons why a class is not material or disproportionately costly to estimate.<sup>62</sup>

The draft CBA guidelines set out requirements for AEMO in what it must exclude from market benefits. These are focussed on ensuring wealth transfers,<sup>63</sup> externalities,<sup>64</sup> and direct costs<sup>65</sup> are not included as market benefits; and that competition benefits and option value are not double counted.<sup>66</sup> These are consistent with the existing RIT–T instrument. We have classified these as requirements because they are important for accurate market benefit estimates and alignment with the RIT–T for actionable ISP projects, and are reasonably straightforward for AEMO to comply with.

The draft CBA guidelines provide discretionary guidance to explain how price impacts and competition benefits can contain wealth transfers that must be excluded. They also provide discretionary guidance on our likely approach to any requests to approve a new class of market benefit not specified in the NER, similar to that in valuing costs (see section 4.3.3).

We provide detailed responses to issues raised in stakeholder submissions on market benefits in Table 4 in appendix A.

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<sup>61</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 12; TasNetworks, *Submission re: guidelines to make the ISP actionable*, 16 January 2020, pp. 2, 4; Hydro Tasmania, *Submission re: AER guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 1.

<sup>62</sup> As per NER, clause 5.22.10(c)(2)-(3).

<sup>63</sup> AER, *Final: RIT–T*, June 2010, p. 5(6)(a).

<sup>64</sup> AER, *Final: RIT–T*, June 2010, p. 5(10).

<sup>65</sup> AER, *Final: RIT–T*, June 2010, p. 5(6)(b).

<sup>66</sup> AER, *Final: RIT–T*, June 2010, p. 5(6)(c).

### 4.3.5 Valuing market benefits

The draft CBA guidelines provide AEMO with discretion over how it values each class of market benefit. However, it requires AEMO to take a general approach that assesses the market benefits with a particular development path against the market benefits with the counterfactual development path—and provides three steps:

1. derive the state of the world with the development path in place under each scenario, and the state of the world with the counterfactual development path in place under each scenario
2. derive market benefits by comparing, for each scenario, the state of the world with the development path in place against the state of the world with the counterfactual development path
3. quantifying estimated values for any market benefit classes that are not captured by the market modelling comparison (if any).

We consider this approach is effective in valuing market-wide benefits associated with a complex power system; important for maintaining a consistent assessment approach with the RIT–T for actionable ISP projects; and reasonably straightforward for AEMO to comply with. We also consider step one and two are consistent with AEMO's current approach.<sup>67</sup> The inclusion of step three is consistent with our initial view in the issues paper, where we considered AEMO must take further steps to value all relevant and material market benefit classes where least cost optimisation modelling does not do so.

The draft CBA guidelines then provide discretionary information to explain each step. This includes explaining what a state of the world is (as an output of AEMO's market development modelling) and how it is different from a scenario. It also includes explaining how existing, committed, anticipated and modelled projects outside of AEMO's selected development paths are defined and treated in AEMO's market development modelling to form states of the world. This is important because the development path in each scenario affects the asset operation, investment and retirement decisions of new and existing market participants (generators, TNSPs, DNSPs, etc.). How these are forecast through AEMO's market development modelling directly affects the valuation of market benefits.

In addition to the general approach outlined above, the draft CBA guidelines set out additional requirements and considerations, consistent with those for valuing costs. As such, the same rationale applies (see section 4.3.3). We consider it is important for costs and market benefits to be estimated consistently in CBA, and the same approach to transparency should apply.

The only additional considerations for valuing market benefits in the draft CBA guidelines relate to the market development modelling (which is not used for valuing direct costs). This guidance ensures that market benefits are not over- or under-estimated. Specifically, that existing, committed and anticipated projects do not contribute to the market benefits of AEMO's selected development paths.<sup>68</sup> These projects already exist or are in the pipeline,

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<sup>67</sup> See AEMO, *Draft 2020 integrated system plan*, December 2019, pp. 29-30.

<sup>68</sup> We note these projects may contribute to the market benefits of a development path to the extent that they operate

so are not a result of a given development path. We also provide a consideration for AEMO to present the modelled projects forecast to develop with each development path in each scenario. This is important for transparency and an issue raised by some stakeholders. For example:

- ERM Power submitted that the CBA guidelines should require AEMO to provide significant detail regarding their selected locations for new generation resources used in the scenarios, including justification of their selection.<sup>69</sup> Similarly, Hydro Tasmania's submission that the market development modelling may exclude credible generation (or other non-network) projects which already have a proponent and expenditure.<sup>70</sup>

Lastly, the draft CBA guidelines provide discretionary guidance recommending AEMO present its methodologies for valuing each class of market benefit. ENA submitted that transparency should be provided as to the benefits calculated across all market benefit classes as part of the draft and final ISPs.<sup>71</sup> We have included this in the draft CBA guidelines.

The draft CBA guidelines do not require AEMO to use probabilities to value some market benefit classes, such as changes in involuntary load shedding. This is change from our initial view in the issues paper. We consider AEMO is best placed to determine the methodology to value each class of market benefits, provided it is transparent and informed by stakeholder consultation. For this reason, we have also not provided specific guidance on high impact low probability (HILP) events. We recognise some stakeholder submissions supported these positions (ENA, TasNetworks, PIAC), while others did not (EUAA, EnergyAustralia, Hydro Tasmania, AEC).<sup>72</sup>

EnergyAustralia submitted that there may be benefit in prescribing qualitative considerations in the CBA methodology.<sup>73</sup> We do not prescribe qualitative considerations for the CBA methodology in the draft CBA guidelines. This is because the ISP and RIT-T CBAs are focussed on economic benefits across the market, consistent with clause 5.22.10(c)(1) of the NER, and the NEO. They do not consider social benefits, which contain the types of benefits that are generally harder to quantify (for example, changes in wellbeing).

### 4.3.6 Selecting an optimal development path

After valuing the costs and market benefits of each development path under each scenario, AEMO will use this information to select an optimal development path. Clause 5.22.5(d)(5) of the NER requires the CBA guidelines to describe the framework for AEMO to select the

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differently with the development path in place, or retirement decisions change.

<sup>69</sup> ERM Power, *Submission re: Issues paper – Guidelines to make the ISP actionable*, 22 January 2020, p. 4.

<sup>70</sup> Hydro Tasmania, *Submission re: AER guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 4.

<sup>71</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 11.

<sup>72</sup> See TasNetworks, *Submission re: guidelines to make the ISP actionable*, 16 January 2020, p. 4; ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 11; PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 10; EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 9; EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 7; Hydro Tasmania, *Submission re: AER guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 6; AEC, *Submission: Guidelines to make the ISP actionable*, 17 January 2020, p. 2.

<sup>73</sup> EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 6.

optimal development path, including the assessment of the costs and market benefits of various development paths across different scenarios.

The draft CBA guidelines set out a framework (as a requirement) that provides AEMO with significant flexibility in selecting an optimal development path, consistent with NER clause 5.22.5(e)(2). Under the framework, AEMO can use any decision making approach to select an optimal development path. However, it must explain and justify its approach to risk. This facilitates transparency and allows stakeholders to engage with and respond to AEMO's decision making, including the trade-offs between reliability and affordability. It is broadly consistent with our initial views in the issues paper, although more specific and structured. It also provides a balanced approach to stakeholder submissions, many which supported a higher level of prescription in this area.<sup>74</sup> In particular, we consider:

- Scenario analysis is an important part of the CBA process, as it presents the net economic benefit of each development path in each scenario. Scenario analysis is one way to assess the risk or uncertainty of a given development path, focussing on risk or uncertainty associated with an unknown future market environment. Presenting the scenario analysis results in a table also assists stakeholders to interpret the CBA results, understand how risk and uncertainty impact different development paths, and replicate AEMO's decision making approaches.
- Once scenario analysis has been undertaken, AEMO must rank its development paths using a risk neutral decision making approach. Then AEMO may apply any other decision making approach(es) set out in its ISP methodology. As set out in the issues paper, investment decisions are subject to uncertainty and risk, and the development path with the highest net economic benefit is not known ex-ante. As such, there are a number of different decision making approaches AEMO could use to choose an optimal development path. These differ, in part, based on their approach to risk—they can evaluate development paths on a risk neutral, risk averse or risk taking basis:<sup>75</sup>
  - Risk neutral decision making approaches are based on expected value. That is, they weight different payoffs based on their likelihood of occurrence. In this context, this means weighting the net economic benefit of development paths in each scenario based on the likelihood, or relative likelihood, of the scenario occurring. Risk neutral decision making approaches prioritise transmission investment risks based on their likelihood of occurrence (with judgement used to assess likelihoods).
  - Risk averse decision making approaches (implicitly or explicitly) weight different payoffs to reduce variability or the risk of a negative outcome occurring. This is similar in concept to insurance value—these approaches place a higher value on reducing the risk of a negative outcome occurring than the likelihood of its occurrence. As such, risk averse decision making approaches use judgement on risk tolerances to prioritise transmission investment risks. There are a number of different risk averse decision making approaches that can be applied, and some do not apply explicit weights to scenarios.

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<sup>74</sup> See Table 4 in appendix A, under topic 'Prescription vs flexibility' and 'Choosing an optimal development path'.

<sup>75</sup> We do not support risk taking decision making approaches, and these are not recommended for public policy CBA.

- Under our proposed framework, AEMO has the flexibility to choose an optimal development path based on the outcomes of its decision making approach(es) and professional judgement. It does not have to rely on the risk neutral approach. What is important is that AEMO is transparent in its decision making, which is why we have included specific explanation requirements. Step three of the framework focuses on promoting transparency on how risk and uncertainty are factored into the decision making. It does this by requiring AEMO to explain its choice relative to a risk neutral approach. We consider this is important for stakeholders to understand and engage with AEMO's decision making process, including how it has prioritised risks. It is consistent with the ENA's view that AEMO's approach to selecting an optimal development path should reflect its view of customers' level of risk aversion, as they ultimately bear the risk and cost of transmission investment.<sup>76</sup> It is also consistent with EnergyAustralia's view that AEMO should describe the cost associated with choosing a risk averse approach.<sup>77</sup>
- We consider it is important to for an optimal development path to optimise the net economic benefit to all those who produce, consume and transport electricity in the market. This is reasonably consistent with the standard CBA objective,<sup>78</sup> and allows AEMO flexibility in its treatment of risk and uncertainty. The Office of Best Practice Regulation states in their CBA guidance note: 'The option with the highest net benefit should be your recommended option. Given that NPVs are predicted (average) values, the sensitivity analysis might suggest that the alternative with the largest NPV is not necessarily the best alternative under all circumstances. For example, you might be more confident in recommending the option with a lower expected value of net benefits, but with a smaller chance of imposing a significant net cost on the community (lower 'downside risks')'.<sup>79</sup>
- We consider sensitivity testing and/or robustness checks are a reasonable expectation for a CBA of this magnitude and complexity. The ISP will potentially trigger RIT-Ts for several multi-million dollar actionable ISP projects every two years, and the regulatory framework allows TNSPs to recover from consumers the cost of these investments over their lifetime. However, the draft CBA guidelines provide AEMO with the flexibility to choose which sensitivities to test and/or robustness checks to undertake. Consistent with stakeholder feedback, our guidance seeks to balance the value of sensitivity testing how robust the CBA output is to its input assumptions, with the resource cost of additional modelling runs and the risk assessment already undertaken through scenario analysis. We also set out a range of possible cross checks, largely suggested by stakeholders.<sup>80</sup>
- We consider it is important for AEMO to present (for information) key distributional effects of its optimal development path because CBA is focussed on efficiency of costs and

<sup>76</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 13.

<sup>77</sup> EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 2.

<sup>78</sup> See Australian Government Department of Prime Minister and Cabinet, *Guidance note: Cost-benefit analysis*, February 2016, p. 9; Commonwealth of Australia, *Handbook of Cost Benefit Analysis*, January 2006, p. 14; EU Commission THINK Project, *Cost Benefit Analysis in the Context of the Energy Infrastructure Package*, January 213, p. v; Peirson, Brown, Easton, Howard, Pinder, *Business Finance*, McGraw-Hill, Ed. 10, 2009, p 112.

<sup>79</sup> Department of the Prime Minister and Cabinet Office of Best Practice Regulation, *Guidance note: Cost benefit analysis*, February 2016, p. 9.

<sup>80</sup> See Table 4 in appendix A, under topic 'Cross checks / methodology'.

benefits, and does not consider the equity or distribution of those costs and benefits. Presenting key distributional effects allows stakeholders to understand how they may be affected, and prepare for the potential outcomes. It may also inform government policy, as government bodies, not AEMO, are the appropriate decision makers for managing distributional effects. This supports stakeholder submissions that suggested we consider distributional effects.<sup>81</sup>

- There were a range of stakeholder views on selecting an optimal development path. The majority of submissions supported requiring AEMO to take a probability weighted average approach (that is, a risk neutral decision making approach).<sup>82</sup> Origin also submitted that a least worst regrets approach can be conservative and lead to over-investment (for example, a UK independent Panel of Technical Experts critiqued the approach because it essentially assigned equal weight to extreme scenarios).<sup>83</sup> We consider it can be appropriate to rely on a risk averse decision making approach, and it is reasonable for AEMO to exercise its judgement in doing so, provided it is transparent. However, we would expect AEMO to consider evidence and stakeholder feedback in considering different decision making approaches and their outcomes.

We provide detailed responses to issues raised in stakeholder submissions on selecting an optimal development path, sensitivity testing, cross checks / methodology, and distributional effects in Table 4 in appendix A.

## 4.4 Other aspects of the CBA

This part of the draft CBA guidelines provides guidance on other aspects of the ISP CBA that fall within one or more of the CBA methodology steps in section 4.3. These are:

- the treatment of externalities, which applies to the quantification of costs and market benefits
- capturing option value in the ISP, which is a class of market benefit under clause 5.22.10(c)(1) of the NER
- considering non-network options in the ISP, before and after the draft ISP.

The draft CBA guidelines provide some guidance on these areas that is consistent with our initial views in the issues paper, and some new guidance, largely in response to stakeholder feedback and further analysis. The guidance is largely consistent with the existing RIT–T application guidelines, with changes made to reflect analysis at a development path level and unique provisions in the NER (for example, notice for non-network option proposals).

### 4.4.1 Treatment of externalities

In this context, externalities are economic impacts (costs or benefits) that accrue to parties other than those who produce, consume and transport electricity in the market (see NER clause 5.16.1(c)(9)). We did not provide initial views on externalities in the issues paper.

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<sup>81</sup> See PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 9.

<sup>82</sup> See Table 4 in appendix A, under topic 'Choosing an optimal development path'.

<sup>83</sup> Origin, *Submission: AER guidelines to make the ISP actionable – Consultation on issues paper*, 17 January 2020, p. 3.

The draft CBA guidelines explain that the sections on valuing costs and market benefits contain requirements for AEMO to exclude externalities from the costs and market benefits of a development path.

The definition of externalities also has a bearing on how AEMO treats external project funding for an ISP project. The draft CBA guidelines set out a requirement that:

- Funds that move between Participants<sup>84</sup> count as a wealth transfer and do not affect the calculation of costs or market benefits under the ISP. This wealth transfer occurs because the benefit gained by the Participant receiving the external funds is directly offset by the cost (or negative market benefit) incurred by the other Participant providing the external funds.
- Funds from an Other Party<sup>85</sup> to a Participant do affect the calculation of costs or market benefits under the ISP. This occurs because the benefit gained by the Participant receiving the external funds is not offset by the cost incurred (or negative market benefit) by the Other Party in providing the external funds. This can only occur when AEMO is certain these funds are committed, and where this occurs, AEMO is required to report the external funding contribution in the draft and final ISP.

These are important to the estimation of costs and market benefits and reasonably straightforward for AEMO to comply with. They are also consistent with the existing RIT–T application guidelines, and are important for maintaining a consistent assessment approach with the RIT–T for actionable ISP projects. We consider it is important for AEMO to be certain any funds from an Other Party are committed because they can materially reduce the costs of an ISP project, which would impact the CBA results.

We recognise any single investment project can generate economic impacts across the market due to the meshed transmission network, often referred to as 'network effects'. If these impacts fit within a market benefit class (for example, change in network losses), they can be included in the market benefits of a development path. This is because they accrue to those who produce, consume and transport electricity in the market, and as such do not fall within the above definition of externalities. As such, the 'network effects' described in Associate Professor Guillaume Roger's (from Monash University) submission, are not necessarily classified as externalities for the purposes of these CBA guidelines.<sup>86</sup>

#### 4.4.2 Option value

Option value refers to a market benefit that results from retaining flexibility where certain actions are irreversible (sunk), and new information may arise in the future on the payoff from taking a certain action. Option value is likely to arise where there is uncertainty regarding future outcomes, the information that is available in the future is likely to change, and the option considered is sufficiently flexible to respond to that change. Option value is

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<sup>84</sup> Registered Participant under the NER or any other party in their capacity as a consumer, producer or transporter of electricity in the market.

<sup>85</sup> Any other party to a Participant.

<sup>86</sup> Monash University (Associate Professor Guillaume Roger), *Turning ISP into action: submission as a comment*, 15 January 2020, pp. 11-12.

particularly relevant to network investment because almost all network investment decisions are partially or fully irreversible. Appropriate consideration of option value minimises the likelihood of building assets that are ultimately underutilised or stranded.

Option value can manifest at both the development path level, and at an individual project level within a development path. Option value is often created by staging a project in a development path, but can also be created by changing the timing of projects in a development path (including deferral and acceleration) where this creates flexibility for other projects in that development path.

As option value is a class of market benefit, AEMO must quantify option value in preparing an ISP under clause 5.22.10(c) of the NER. That is, unless AEMO can provide reasons why it is not material or the estimated cost of undertaking the analysis is likely to be disproportionate given the level of uncertainty regarding future outcomes.

The draft CBA guidelines set out a number of considerations for AEMO to have regard to in capturing option value in an ISP. These considerations focus on ensuring:

- AEMO assesses, where practicable, development paths that involve staging and timing considerations to be able to account for new information that arises at a later stage. The stages associated with a given project can be incorporated into a single ISP project, or can be separated into multiple ISP projects, depending on their characteristics.
- AEMO appropriately assesses option value as a class of market benefits. This can be done through scenario analysis, but may require separate estimation.
- More granular staging of actionable ISP projects can, where appropriate, be further explored in the RIT–T process. While the ISP can effectively capture option value at a development path level, it may have difficulties effectively capturing the option value of all individual ISP projects within a development path. This is because it would be faced with a very large number of development paths if it were to properly explore and assess the option value associated with staging for all ISP projects. As such, the RIT–T is a valuable process for exploring more granular staging options for individual ISP projects
- The ISP incorporates or excludes new stages when decision rules<sup>87</sup> associated with staged projects eventuate. This depends on whether the stages are incorporated into a single ISP project or separated into multiple ISP projects, which also affects whether a new RIT–T needs to be re-applied. The guidance in this section also shows how the ISP and RIT–T can interact when decision rules for new stages eventuate, and how AEMO and relevant TNSPs will need to work together and communicate information on decision rules (depending on who determines the decision rule).

We provide more guidance on option value in the draft CBA guidelines than in the issues paper. We used the existing RIT–T application guidelines as a base for the guidance, then refined and added to the approach to be fit-for-purpose for the ISP and more easily integrated with RIT–Ts for actionable ISP projects. Exploring and capturing option value in

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<sup>87</sup> A 'decision rule' refers to action or decision to take at one time, but also an action or decision to take at another time in the future if the appropriate market conditions arise. It is the set of conditions or triggers that, if they occurred, may justify a subsequent stage of a project proceeding.



the ISP is complex because there are multiple projects in development paths, and so the draft CBA guidelines seek to provide transparency in this area to facilitate stakeholder understanding and engagement.

We consider it is appropriate to classify guidance on option value as considerations or discretionary because while very important to the ISP CBA process, it is a detailed and complex part of CBA, and there is significant subjective judgement involved. We consider our guidance is consistent with stakeholder submissions, which generally considered option value an integral part of the CBA and sought more guidance in this area to increase clarity and/or prescription.<sup>88</sup>

We provide detailed responses to issues raised in stakeholder submissions on option value in Table 4 in appendix A.

### 4.4.3 Non-network options

A non-network option is defined in the NER as a means by which an identified need can be fully or partly addressed other than by a network option.<sup>89</sup> A non-network option can be a whole ISP project or part of an ISP project (a hybrid). Non-network options are also wide-ranging in their form—they can include new, or enhancements to existing, demand response, generation, storage, distributed energy resources (DER), etc. This is an evolving area as new technology is being developed and applied.

There is a formal process in the NER for AEMO to seek non-network option proposals at the draft ISP stage (see clause 5.22.12 of the NER). However, the NER does not preclude non-network proponents from providing information to AEMO on non-network options at any time during the transmission planning process. Indeed, under clause 5.14.4(3) of the NER, AEMO and TNSPs must undertake joint planning that includes providing information in relation to non-network options for the purpose of preparing a draft or final ISP or ISP update. The earlier non-network options are able to be taken into account in the transmission planning process, the more comprehensively they can be factored into development paths.

As such, the draft CBA guidelines provide requirements for AEMO on engaging with non-network options prior to the draft ISP and after the draft ISP. The guidance is process-based and focussed on AEMO:

- Considering non-network options in the ISP as early as possible, such that they can be included in its selected development paths where appropriate, and can be assessed more robustly at an ISP level (especially if there is only one scenario tested in a RIT–T).
- Providing sufficient information in its notice requesting submissions for non-network options under clause 5.22.12 of the NER, such that appropriate non network option proposals can be developed.
- Being transparent and consulting with consumers in its preliminary review of non-network option proposals under clause 5.22.12 of the NER. This includes providing its process, findings and reasoning.

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<sup>88</sup> See Table 4 in appendix A, under topic 'Option value'.

<sup>89</sup> See glossary in NER, chapter 10.

The aim of our guidance is to promote the consideration of non-network options on equal footing to network options in the ISP and subsequent RIT–Ts for actionable ISP projects. This was a key concern in stakeholder submissions, and is consistent with our initial view in the issues paper.<sup>90</sup> We consider it is appropriate to classify guidance on non-network options as requirements because it is very important to consider all options in a CBA on an equal footing, without bias to technology or ownership, and the process-based guidance is reasonably straightforward for AEMO to comply with. We consider non-network options can be very useful in promoting efficient investment and competitive neutrality because they can be low cost, flexible and procured from competitive markets.

We acknowledge TasNetworks and ENA's submissions on the importance of AEMO engaging with TNSPs in its preliminary review of non-network option proposals, and this is required in NER clause 5.22.12.<sup>91</sup> However, to provide additional accountability for TNSPs who may face incentives to favour network options, the draft CBA guidelines require AEMO to have regard to also including consumer stakeholders in the review.<sup>92</sup>

We consider non-network options are an evolving area, and efficient procurement of non-network options will gain increasing importance in the future. For example, as technology develops for system security services such as inertia and system strength to be able to be provided by non-network options. In some cases, non-network options have considerable advantages compared to network options as the non-network options can be located at sites that provide additional locational benefits such as system strength.

We provide detailed responses to issues raised in stakeholder submissions on non-network options in Table 4 in appendix A.

## 4.5 Interactions and alignment with the RIT–T

Clause 5.22.5(e)(4) of the NER requires the CBA guidelines to have regard to the need for alignment between the ISP and the RIT–T as it applies to actionable ISP projects.

This part of the draft CBA guidelines provides guidance on areas of the ISP process that feed into the RIT–T process for actionable ISP projects. These are:

- how the ISP describes the identified need relating to an actionable ISP project, which is then used by the RIT–T proponent in applying the RIT–T
- how AEMO assigns scenarios to the RIT–T proponent for each actionable ISP project, to allow for alignment between the ISP and RIT–T
- how AEMO is to perform the 'feedback loop', which checks the preferred option selected in the RIT–T process (for an actionable ISP project) is aligned with the optimal development path selected in the ISP process.

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<sup>90</sup> See Table 4 in appendix A, under topic 'Non-network options'.

<sup>91</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 16; TasNetworks, *Submission re: guidelines to make the ISP actionable*, 16 January 2020, p. 2.

<sup>92</sup> See, for example, AER, *Consultation paper: Demand management incentive scheme and innovation allowance mechanism*, January 2017, p. 8.

The draft CBA guidelines provide some guidance on these areas that is consistent with our initial views in the issues paper, and some new guidance, largely in response to stakeholder feedback and further analysis of ISP and RIT–T alignment issues.

At a high level, the guidance allows AEMO to choose which scenarios RIT–T proponents are to use in applying the RIT–T to actionable ISP projects, along with likelihood-based weights that are proportionate to those used in its risk neutral approach in section 4.3.6. If AEMO has taken a risk averse approach to selecting the optimal development path, it can incorporate the risks that it has sought to mitigate into its choice of scenarios and/or description of the identified need for the project. This ensures the credible options explored in the RIT–T process are aligned with AEMO's treatment of risk and the optimal development path, while maintaining the RIT–T purpose and consistency across actionable ISP and non-ISP projects.

#### 4.5.1 Describing the identified need for an actionable ISP project

The identified need is the reason why an investment in the network is needed. The NER define it as the objective a network service provider (or a group of network service providers) seeks to achieve by investing in the network.<sup>93</sup> Either a network or a non-network option may address an identified need.

The optimal development path in an ISP will likely contain some actionable ISP projects that trigger RIT–T applications. Under clause 5.22.6(a)(6)(v) and 5.22.5(d)(6) of the NER respectively, the ISP must specify an identified need for each actionable ISP project,<sup>94</sup> and the CBA guidelines must set out how AEMO describes the identified need relating to an actionable ISP project. These identified needs will then be used by the relevant RIT–T proponents in applying the RIT–T to actionable ISP projects.

The draft CBA guidelines set out requirements and considerations for AEMO in describing identified needs for actionable ISP projects. These are focussed on ensuring an identified need:

- Describes the objective to be achieved by investing in the network, and not the means to achieve the objective. This allows different types of credible options to that meet the identified need to be considered, promoting competitive neutrality and ensuring a technology neutral approach to system planning. Ensuring the identified need is technology neutral is consistent with stakeholder submissions.<sup>95</sup>
- Has a clear and logical basis in contributing to the long term interests of electricity consumers, given consumers ultimately fund the investment. This is consistent with stakeholder submissions.<sup>96</sup>
- Maintains the integrity of the optimal development path, reflecting that AEMO has identified each actionable ISP project to make a particular contribution towards achieving a system-wide optimised solution. This includes incorporating the risks AEMO seeks to mitigate through the relevant actionable ISP project in its optimal development path, if

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<sup>93</sup> See the Glossary in NER, chapter 10.

<sup>94</sup> This is because the ISP replaces the consultation report published under the previous RIT–T process.

<sup>95</sup> See Table 4 in appendix A, under topic 'Identified need'.

<sup>96</sup> See ERM Power, *Submission re: Issues paper – Guidelines to make the ISP actionable*, 22 January 2020, pp. 2, 5.

the optimal development path was chosen using a risk averse decision making approach. Allowing AEMO to incorporate the risks it seeks to mitigate through a risk averse approach is an important part of aligning the ISP and RIT–T. In this way, a RIT–T proponent may only select credible options in the RIT–T which address these risks.

- Facilitates RIT–T proponents to explore different credible options, including non-network options and credible options with option value (that is, involving staging decisions). The importance of the RIT–T process for exploring option value is discussed in section 4.4.2.

This is broadly consistent with our initial views in the issues paper. We have classified these as requirements and considerations based on how straightforward they are for AEMO to comply with. Most of the guidance is principles-based, which is suited to classification as considerations.

We consider the draft CBA guidelines provide further clarity in this area, consistent with the ENA's submission.<sup>97</sup> The guidance is also consistent with ERM Power's view that the identified need should be clearly linked to the consumer benefit in the CBA guidelines.<sup>98</sup>

We provide detailed responses to issues raised in stakeholder submissions on describing the identified need in Table 4 in appendix A.

## 4.5.2 Assigning scenarios to RIT–T proponents for actionable ISP projects

Once AEMO has selected an optimal development path in accordance with the framework in section 4.3.6, it needs to translate its approach for the relevant RIT–T proponent to apply a RIT–T to each actionable ISP project.

The draft CBA guidelines require AEMO to assign one or more scenarios to each actionable ISP project that will be used by the relevant RIT–T proponent in applying the RIT–T to that project. It then sets out requirements and considerations to guide AEMO's scenario selection. This includes:

- Only using scenarios identified in the IASR. These are identified through a robust consultation process. The creation of new scenarios would not allow stakeholders the same opportunity to engage and provide feedback.
- Assigning a likelihood-based weight to each scenario if more than one scenario is assigned to a given actionable ISP project. This allows the RIT–T to retain its risk-neutral framework across ISP and non-ISP RIT–Ts.
- Choosing scenarios that align with the risks AEMO is prioritising through its decision making approach(es) under the framework for selecting an optimal development path set out in section 4.3.6. This ensures the choice of scenarios is not arbitrary, is consistent with AEMO's chosen approach to risk, and is consistent across actionable ISP projects in the optimal development path. This is particularly the case if AEMO chooses to use a risk averse decision making approach. If AEMO assigns scenarios that reflect the risks it

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<sup>97</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, pp. 14-15.

<sup>98</sup> ERM Power, *Submission re: Issues paper – Guidelines to make the ISP actionable*, 22 January 2020, p. 2.

is prioritising for a given actionable ISP project through its chosen decision making approach, then the RIT–T proponent will specifically account for and focus on those risks in applying the RIT–T, effectively giving a zero per cent weight to others. This allows for the risks AEMO is prioritising to be captured in the RIT–T process under its risk neutral framework. We note that AEMO can also factor in any risk aversion through its description of the identified need for a given actionable ISP project.

The guidance in this section of the draft CBA guidelines is important for achieving ISP and RIT–T alignment while maintaining their (that is, the ISP and RIT–T's) individual purposes. There can be benefits in the RIT–T using multiple scenarios, including where option value is significant. However, if RIT–T proponents rather than AEMO determine which scenarios are relevant, this could lead to the risk of misalignment between the ISP and RIT–T or increase the time to apply the RIT–T for no material benefit.

A RIT–T application should only identify a preferred option that differs from the actionable ISP project because it has identified a superior credible option or used more accurate/ updated/ granular information. Some stakeholders identified the importance of exploring multiple scenarios to maintain this consistency.<sup>99</sup> Where multiple scenarios are important for maintaining this consistency, AEMO will direct multiple scenarios for the RIT–T proponent to use in the RIT–T application. AEMO will also consider where multiple scenarios are needed for analytical reasons, such as where option value is significant.

The guidance gives AEMO the flexibility to assign scenario(s) for use in applying the RIT–T to each actionable ISP project that reflects why the project has been selected in the optimal development path, and is aligned with AEMO's treatment of risk in selecting the optimal development path. AEMO should also consider balancing the need for a rigorous CBA with reducing the analytical burden on the RIT–T proponent when selecting scenarios. Then, the RIT–T can retain its CBA structure, which maintains RIT–T consistency across actionable ISP projects and non-ISP projects. We also consider achieving ISP and RIT–T alignment, as well as RIT–T alignment between ISP and non-ISP projects, is consistent with stakeholder submissions on the issues.<sup>100</sup>

Consistent with our general approach to the guidelines to make the ISP actionable, the draft CBA guidelines reflect that AEMO should fully explain why it has chosen particular scenarios for an actionable ISP project, and should seek stakeholder input on its choices.

The draft guidance is split between requirements and considerations based on how straightforward the element is for AEMO to comply with, and/or the level of subjective judgement required.

### 4.5.3 Feedback loop

Under clause 5.16A.5(b) of the NER, for the actionable ISP project trigger event to occur, AEMO must provide written confirmation that the preferred option, identified in applying the

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<sup>99</sup> See Origin, *Submission: AER guidelines to make the ISP actionable – Consultation on issues paper*, 17 January 2020, p. 6; Hydro Tasmania, *Submission re: AER guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 9.

<sup>100</sup> See Table 4 in appendix A, under topic 'ISP / RIT–T alignment'. Also see AEC, *Submission: Guidelines to make the ISP actionable*, 17 January 2020, p. 1.

RIT–T to an actionable ISP project, is aligned with the optimal development path in the most recent ISP. This process is also known as the 'feedback loop', and can entail re-running the ISP model with the RIT–T preferred option.

The draft CBA guidelines set out a number of requirements and considerations for AEMO in performing the feedback loop on a RIT–T preferred option, and subsequently providing written confirmation to the RIT–T proponent. This is focussed on:

- Promoting transparency by AEMO publishing its written confirmation to the RIT–T proponent on AEMO's website.
- Ensuring the feedback loop is testing the RIT–T preferred option under the same decision making approach used in the most recent ISP to provide an appropriate comparison.
- Balancing trade-offs between precision and materiality, and providing AEMO with the flexibility to apply its judgement in these areas. Re-running the CBA modelling and scenario analysis is costly and resource intensive. It may not be valuable to do this if the differences between the RIT–T preferred option and the ISP candidate option are small.

We consider these are the most important elements of a feedback loop process, which are necessary to achieve ISP and RIT–T alignment and promote transparency. We did not provide initial views on the feedback loop in the issues paper, but it was raised by stakeholders, including the need for more guidance.<sup>101</sup> For example, ERM Power submitted that the feedback loop needs to ensure the preferred option meets the identified need, rather than a requirement to mirror the ISP candidate option.<sup>102</sup>

We have classified the elements as requirements and considerations based on how straightforward they are for AEMO to comply with.

We provide detailed responses to issues raised in stakeholder submissions on the feedback loop in Table 4 in appendix A.

## 4.6 Dispute resolution

NER clause 5.23 sets out a dispute resolution process for disputing the procedures that the NER require AEMO to observe in connection with the making of an ISP. These are also called 'prescribed ISP processes'. We (the AER) are the dispute resolution body.

As such, the draft CBA guidelines provide discretionary guidance on the how we will address and resolve disputes raised in relation to the making of an ISP. They explain the NER requirements on who may raise a dispute, what matters can be disputed, how to lodge a dispute, and the process that we, AEMO and disputing parties must follow in resolving a dispute. This provides certainty and transparency to stakeholders. The guidance is consistent with our issues paper and the existing RIT–T application guidelines, with any changes reflecting differences between the ISP dispute resolution process and RIT–T

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<sup>101</sup> See Table 4 in appendix A, under topic 'Feedback loop'.

<sup>102</sup> ERM Power, *Submission re: Issues paper – Guidelines to make the ISP actionable*, 22 January 2020, p. 5.

dispute resolution process set out in the NER. This is consistent with stakeholder submissions.<sup>103</sup>

We provide detailed responses to issues raised in stakeholder submissions on dispute resolution in Table 4 in appendix A.

## 4.7 Transparency reviews and consumer panel

In response to stakeholder feedback on the draft ISP rules, the ESB made changes to the ISP rules to enhance our oversight of the ISP process and better integrate consumer input into the ISP analysis. Specifically, the ESB introduced transparency reviews (NER clauses 5.22.9 and 5.22.13) and an ISP consumer panel (NER clause 5.22.7).

The ISP consumer panel will comprise technical experts with experience representing consumer interests. The panel that must provide reports to AEMO assessing the evidence and reasons supporting each of the IASR and the draft ISP. In doing so, the panel must have regard to the long term interest of consumers. AEMO must have regard to consumer panel reports in preparing the ISP.

We must perform a transparency review on the IASR that AEMO will use to prepare the draft ISP, and on the draft ISP. As part of these reviews, we will report on how AEMO has explained key parts of those documents. To the extent we consider there has been insufficient explanation, AEMO must provide further explanation.

These mechanisms aim to ensure that:

- consumer interests in the ISP process are safeguarded
- AEMO explains key decisions within the ISP process
- there is oversight of AEMO
- consumers have an opportunity to provide input.

The NER do not require our ISP guidelines to include guidance on our transparency reviews or the ISP consumer panel. Given there is already some detail in the NER regarding these mechanisms, we have limited our guidance in these areas to explaining the NER requirements, similar to the guidance provided for dispute resolution.

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<sup>103</sup> See Table 4 in appendix A, under topic 'Dispute resolution'.

## 5 CBA guidelines (RIT–T component)

The RIT–T application guidelines previously provided guidance on the operation and application of the RIT–T to all RIT–T projects. However, under the ISP framework, the CBA guidelines will include this guidance for actionable ISP projects, and the RIT–T application guidelines will apply to other RIT–T projects.<sup>104</sup>

Given the mechanics of the RIT–T largely align for both types of projects, we have used the existing RIT–T application guidelines as a base for our guidance on actionable ISP RIT–T applications. This is consistent with the approach proposed in our issues paper.<sup>105</sup> Using this base, we have made the following amendments:

- Reflected the streamlined RIT–T process under the new NER provisions that apply to actionable ISP projects. For instance, our guidance does the following:
  - Sets out a two-stage RIT–T process—that is, a RIT–T process that does not include publishing a consultation report.
  - Requires RIT–T proponents to apply the identified need in the ISP. As such, we do not provide any additional guidance to RIT–T proponents on selecting identified needs.
  - Provides different guidance on selecting credible options, which requires using the ISP candidate option<sup>106</sup> as a credible option, as well as non-network options that the ISP identifies as being reasonably likely to meet the identified need. Since RIT–T proponents must also consider new credible options that were not previously considered in the ISP, our guidance focusses on identifying credible options that fall under this category. We note that these credible options may: be non-network options, arise where new information has become available or new circumstances have arisen since the ISP, and/or represent variants of the ISP candidate option.
  - Explains how RIT–T proponents are to use the most recent ISP parameters (unless they can provide demonstrable reasons for why an addition or variation is necessary) and modelling from the ISP (insofar as practicable). Our guidelines require that 'demonstrable reasons' be limited to material changes in circumstances that are yet to be reflected in an ISP update or new ISP. In doing this, the CBA guidelines streamline the RIT–T process for actionable ISP projects by limiting when RIT–T proponents can depart from the ISP parameters.
  - Explains how RIT–T proponents can use the market modelling from the ISP, insofar as practicable.

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<sup>104</sup> As required under NER, clauses 5.16A.2(a) and 5.16.2(a), respectively.

<sup>105</sup> AER, *Issues Paper: Guidelines to make the ISP actionable*, November 2019, p. 34.

<sup>106</sup> NER, clause 5.10.2 defines an ISP candidate option as a credible option specified in an ISP that the RIT–T proponent must consider as part of a RIT–T for an actionable ISP project. In practice, the ISP will specify that each actionable ISP project is an ISP candidate option, although AEMO may identify additional credible options for the RIT–T proponent to explore as additional ISP candidate options. For a definition of actionable ISP project, see the glossary in appendix B.



- Omitted much of the guidance on identifying classes of market benefits, including worked examples on quantifying specific market benefit classes. This is because when applying a RIT–T to an actionable ISP project, the RIT–T proponent must quantify classes of market benefits identified in the ISP and may consider other classes of market benefits in accordance with the CBA guidelines.
- Omitted the guidance on developing reasonable scenarios, given the ISP will specify which scenario/s is/are relevant for any RIT–T application associated with an actionable ISP project. Section 5.1 explains our approach to this component of the CBA guidelines.
- Omitted the guidance on how to assign weights to scenarios, given the ISP will specify how to weight the scenarios it identifies as relevant to a RIT–T application for an actionable ISP project (to the extent that AEMO identifies multiple relevant scenarios). Section 5.2 explains our approach to this component of the CBA guidelines.
- Added guidance on how to include actionable ISP projects and other ISP projects within different states of the world. Sections 5.3 and 5.4 explain our approach to this component of the CBA guidelines.
- Truncated the guidance to provide the key details, including by cross-referencing worked examples in the RIT–T application guidelines.

## 5.1 Selecting scenarios

When applying a RIT–T to an actionable ISP project, the CBA guidelines require the RIT–T proponent to use the ISP scenario or scenarios that AEMO has identified as relevant to that RIT–T application.

Since scenarios are ISP parameters, the NER permit RIT–T proponents to identify and provide demonstrable reasons for why it is necessary to either exclude, vary or add to these scenarios.<sup>107</sup> Bearing that in mind, the CBA guidelines require that 'demonstrable reasons' for departing from ISP parameters must be limited to where there has been a material change in circumstances that AEMO is yet to reflect in a new ISP or an ISP update. Given this requirement, departures from the ISP scenario or scenarios that AEMO has identified as relevant should be limited to variations to reflect new information.

Our position proposed above differs from an option we flagged in our issues paper to always limit the RIT–T analysis to the planning scenario (that is, the most likely scenario) to reduce the computational burden of applying the RIT–T. Stakeholder submissions expressed little support for this position.<sup>108</sup> These submissions raised that a single-scenario RIT–T analysis would face limitations with: evaluating new credible options that perform well across different scenarios, incorporating option value, and maintaining a consistent assessment with the ISP.

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<sup>107</sup> As required under NER, clause 5.15A.3(b)(7)(iv).

<sup>108</sup> EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 11; Origin, *Submission: AER guidelines to make the ISP actionable – Consultation on issues paper*, 17 January 2020, p. 6; Energy Australia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 2; Hydro Tasmania, *Submission re: AER guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 9; ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, pp. 5, 19.

By requiring RIT–T proponents to adopt the scenario or scenarios that AEMO identifies as relevant, our approach aims to address stakeholder concerns, achieve alignment between the ISP and RIT–T, and avoid RIT–T proponents from having to unnecessarily duplicate the ISP analysis. In identifying which ISP scenarios are relevant for a given RIT–T application, AEMO should fully explain its choices and consult on them.

## 5.2 Weighting relevant scenarios

The draft CBA guidelines explain how RIT–T proponents are required to weight the market benefits of each relevant scenario using the relevant likelihood-based weightings in the ISP parameters (to the extent that AEMO identifies multiple relevant scenarios). In forming this position, we carefully considered the different views raised in submissions. These considerations include:

- Many stakeholders expressed the importance of having a consistent assessment approach between the ISP and RIT–T for actionable ISP projects to have coherent outcomes.<sup>109</sup> Our proposal for RIT–T proponents to apply the ISP scenarios that AEMO identifies as relevant (and their associated likelihood-based weightings that AEMO provides) should allow the economic assessment framework underpinning the ISP and RIT–T to align.
- Hydro Tasmania supported the continued use of probabilities (or likelihoods) to weight scenarios in the RIT–T.<sup>110</sup> Origin supported this approach for both the ISP and RIT–T.<sup>111</sup> We consider there are benefits to weighting scenarios by their likelihoods and have maintained this requirement for RIT–T projects.
- ENA and TasNetworks supported giving TNSPs the flexibility to adopt the same considerations and methods as AEMO, given AEMO has flexibility in selecting the optimal development path.<sup>112</sup> We agree that consistency with AEMO's analysis is important. We consider our approach would be more effective in providing this consistency than if we provided TNSPs with general flexibility as our approach relies on AEMO's judgement directly, rather than requiring TNSPs to interpret how AEMO applied its judgement.

## 5.3 Including other actionable ISP projects

We have maintained the initial view set out in our issues paper on how RIT–T proponents should incorporate other actionable ISP projects into their analysis when evaluating an actionable ISP project.<sup>113</sup> That is, the RIT–T proponent should include other actionable ISP

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<sup>109</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 3; TransGrid, *Guidelines to make the ISP actionable issues paper submission*, 17 January 2020, p. 1; QFF, *Submission re: Issues paper - Guidelines to make the ISP actionable*, 17 January 2020, p. 2, PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 9.

<sup>110</sup> Hydro Tasmania, *Submission re: AER guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 9.

<sup>111</sup> Origin, *Submission: AER guidelines to make the ISP actionable – Consultation on issues paper*, 17 January 2020, pp. 1, 2.

<sup>112</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 20; TasNetworks, *Submission re: guidelines to make the ISP actionable*, 16 January 2020, p. 2.

<sup>113</sup> AER, *Issues paper: Guidelines to make the ISP actionable*, November 2019, p. 35.

projects in the with (credible option) and without (base case) states of the world. This approach allows the ISP to fulfil its objective to coordinate investments across the NEM.

There was a notable degree of support for our position amongst stakeholders. For instance:

- ENA strongly supported our proposed approach and ENGIE supported it as being 'pragmatic'.<sup>114</sup>
- Hydro Tasmania submitted that this approach was appropriate because a key benefit of system planning through the ISP is that individual investments may have cumulative benefits greater than the sum of individual projects.<sup>115</sup> We agree and note that, similarly, multiple projects' cumulative benefits may be less than the sum of individual projects (for instance, if two projects both aim to provide the same benefit). As such, a key benefit of this approach is that it can capture synergies between projects, whilst also avoiding double-counting benefits.
- TasNetworks considered our approach would best promote the coordination required to action the ISP. While TasNetworks also supported deviating from this approach where more accurate and/or up to date information becomes available, our guidance does not incorporate this suggestion because we expect AEMO would provide an ISP update in such circumstances.<sup>116</sup>

We have considered the concerns raised with the approach proposed in our issues paper and are satisfied that the benefits of applying this approach would outweigh the potential limitations. Specifically:<sup>117</sup>

- EnergyAustralia, EUAA and ERM Power were concerned that our approach would result in overstating the efficiency of actionable ISP projects or double-counting benefits. While double-counting or overstating market benefits would be problematic, we are not convinced that including other actionable ISP projects in all states of the world would have this effect. Rather, we consider it would avoid double-counting benefits where multiple projects are expected to produce the same benefit. For example, if two actionable ISP projects were to provide system strength to a particular region but only one project was sufficient to attain an adequate level of system strength, our approach would prevent this benefit from being double-counted.
- EnergyAustralia suggested a better option might be to conduct joint RIT–T assessments where the benefits of projects are highly correlated. Similarly, ERM Power submitted that where benefits associated with a network development option rely on the other network options, the CBA should include the total cost of all projects required to realise the benefit. While these suggestions are sensible, the CBA that AEMO performs in the ISP would have this function. Moreover, we consider the ISP is the most pragmatic and

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<sup>114</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 17; ENGIE, *Submission re: Issues paper 'Guidelines to make the ISP actionable'*, 17 January 2020, p. 8.

<sup>115</sup> Hydro Tasmania, *Submission re: AER guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 9.

<sup>116</sup> TasNetworks, *Submission re: guidelines to make the ISP actionable*, 16 January 2020, p. 6.

<sup>117</sup> EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 2; EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 11; ERM Power, *Submission re: Issues paper – Guidelines to make the ISP actionable*, 22 January 2020, p. 4.

effective way to perform this joint-project CBA function because the benefits of most actionable ISP projects would be highly correlated given their interregional nature.

- EnergyAustralia suggested a better option might be to include the optimal development path in a scenario. Similarly, while Origin was less concerned with our approach, it also considered RIT–T proponents should show a third counterfactual that excludes other actionable projects and development opportunities (or test the effect of including ISP projects as a sensitivity).<sup>118</sup> We note that this suggestion is consistent with our current RIT–T application guidelines, which has less merit under the new ISP framework where AEMO is recommending a set of coordinated investments based on a robust and transparent NEM-wide CBA.
- EUAA raised concerns with our approach given it was concerned with the robustness of some of the actionable ISP projects. We agree that our approach would be problematic if actionable ISP projects were not expected to become committed. However, the new ISP framework is designed so AEMO only identifies actionable ISP projects that show robust performance under a CBA framework.

## 5.4 Including non-actionable ISP projects

We have maintained the view in our issues paper on how RIT–T proponents should incorporate ISP projects that are not actionable (that is, future ISP projects and ISP development opportunities) and other modelled projects in the ISP when evaluating actionable ISP projects. This is where our view in the issues paper was that, in terms of generation (and other) development, for each reasonable scenario, the RIT–T:<sup>119</sup>

- state of the world without the credible option (that is, the base case) should contain the modelled projects that occur without the ISP project in that reasonable scenario
- state of the world with the credible option should contain modelled projects associated with that project through the ISP development opportunities in that reasonable scenario.

Formally, the draft RIT–T instrument reflects this role by clarifying that where the RIT–T proponent adopts the market modelling from the ISP, ISP projects that are not actionable ISP projects are usually modelled projects.

In the issues paper, we recognised that our proposed approach carries the risk that the market benefits of credible network options would change if modelled generation differs from what is actually built in the locations AEMO identifies. While we still acknowledge this risk, we note that this risk applies to any market development modelling, including what RIT–T proponents would otherwise do in their RIT–T applications. As such, the most effective way to mitigate this risk is to ensure that forecasting and modelling occurs in a reasonable, robust, unbiased and transparent manner. We have aimed to achieve this by requiring AEMO to comply with the FBPG (discussed further in section 8).

Stakeholders broadly supported the position in our issues paper. For instance:

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<sup>118</sup> Origin, *Submission: AER guidelines to make the ISP actionable – Consultation on issues paper*, 17 January 2020, p. 4.

<sup>119</sup> AER, *Issues paper: Guidelines to make the ISP actionable*, November 2019, p. 35.

- ENGIE, Queensland Farmers' Federation (QFF) and ENA supported our proposal for RIT–T assessments to include modelled generation in assessing actionable ISP projects.<sup>120</sup>
- QFF considered our proposed approach would ensure REZ models that the ESB and AEMC are developing would be included into and strengthen AEMO's forecasting and modelling approaches.<sup>121</sup>
- ENA observed that under our proposed approach, where the actionable ISP project is a transmission investment for a REZ, the generation investment expected to be enabled (as identified in the ISP) would be in the credible option state of the world.<sup>122</sup> We agree with this observation and note that the ISP would likely identify that the expected generation investment to be enabled would vary across the ISP scenarios.
- ERM Power specified that where an ISP project only provides a net benefit if a specific level of new uncommitted energy generation resource expenditure occurs in tandem with that network project, it should be the total costs of network and generation that must deliver a net benefit.<sup>123</sup> We agree and note that market benefits estimated under both the ISP and RIT–T would include the costs of constructing new generation following from the actionable ISP project, as these construction costs form part of total system costs/costs to other parties in the NEM.

We are satisfied that our proposed approach gives appropriate weight to the effects of uncertain investment. While some stakeholders favoured us giving greater regard to the uncertain nature of such investments, others took an opposing view. We consider that, on balance, our approach is reasonable. For instance:

- EUAA raised concerns that our proposed approach to treating modelled generation could result in funding roads to nowhere.<sup>124</sup> We do not consider our proposed approach increases this risk relative to any reasonable market development modelling that already occurs in RIT–T applications. We also note that the FBPG should mitigate this risk by promoting best practice forecasting and modelling.
- TransGrid considered that modelled generation for a REZ transmission investment should be in the base case for both actionable ISP projects and non-ISP projects to allow TNSPs to consider the full value of REZ transmission investments.<sup>125</sup> In contrast, we consider this approach would overstate the full value of REZ transmission investments by excluding the construction costs of new generation build that would occur in the credible option states of the world.

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<sup>120</sup> ENGIE, *Submission re: Issues paper 'Guidelines to make the ISP actionable'*, 17 January 2020, p. 8; QFF, *Submission re: Issues paper - Guidelines to make the ISP actionable*, 17 January 2020, p. 3; ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 3.

<sup>121</sup> QFF, *Submission re: Issues paper - Guidelines to make the ISP actionable*, 17 January 2020, p. 3.

<sup>122</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, pp. 6, 18.

<sup>123</sup> ERM Power, *Submission re: Issues paper – Guidelines to make the ISP actionable*, 22 January 2020, p. 4.

<sup>124</sup> EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 11.

<sup>125</sup> TransGrid, *Guidelines to make the ISP actionable issues paper submission*, 17 January 2020, p. 2.

## 6 Updates to the RIT–T instrument

The RIT–T instrument is a legally binding regulatory instrument that RIT–T proponents must apply to both actionable ISP projects and RIT–T projects that are not actionable ISP projects ('other RIT–T projects'). We have endeavoured to limit updates to the RIT–T instrument to the minimum changes necessary to introduce the ISP framework. However, we have also made some amendments to reflect updates to the NER, improve clarity or maintain relevance.

### 6.1 Amendments following the ISP framework

Draft version 2.0 of the RIT–T instrument (the draft RIT–T instrument) reflects that RIT–T proponents must apply the RIT–T in accordance with Rule 5.16A for actionable ISP projects, and Rule 5.16 otherwise. It also reflects that there are specific principles for actionable ISP projects that NER clause 5.15A.3(b) requires the RIT–T instrument to include. Following from this, the draft RIT–T instrument provides the following tailored requirements for RIT–T proponents to follow when applying the RIT–T to actionable ISP projects:

- **Identified need:** Following from the NER<sup>126</sup>, the RIT–T proponent must adopt the identified need relevant to the actionable ISP project in the ISP. No corresponding requirement applies to other RIT–T projects.
- **Compliance with the CBA guidelines:** Following from the NER<sup>127</sup>, the RIT–T proponent must comply with the CBA guidelines. In contrast, the RIT–T application guidelines that apply to other RIT–T projects are limited to providing guidance rather than creating a compliance requirement.
- **Credible options to consider:** Following from the NER, the RIT–T proponent must consider the credible options specified in NER clause 5.15A.3(b)(7)(iii) and is not required to consider certain options as per NER clause 5.15A.3(b)(8)–(9). The draft RIT–T instrument does not include corresponding prescription for other RIT–T projects.
- **ISP parameters:** Following from the NER<sup>128</sup>, the RIT–T proponent must adopt the most recent ISP parameters unless it decides to vary them. If the RIT–T proponent decides to vary or omit an ISP parameter, or add a new parameter, then it must specify the ISP parameter that is new, omitted or has been varied and provide demonstrable reasons for why the addition, omission or variation is necessary. We consider there is merit in applying some of the ISP parameters (specifically, the inputs, assumptions and scenarios in the IASR) to other RIT–T projects. As such, the draft RIT–T instrument requires RIT–T applications to other RIT–T projects to use the inputs, assumptions and scenarios from the most recent IASR unless the RIT–T proponent can provide demonstrable reasons why an addition or variation is necessary. For completeness, this addition extends to the following sections of the draft RIT–T instrument:

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<sup>126</sup> NER, clause 5.15A.3(b)(7)(ii).

<sup>127</sup> NER, clause 5.15A.3(b)(7)(i).

<sup>128</sup> NER, clause 5.15A.3(b)(7)(iv).

- **Method for determining the discount rate:** The draft RIT–T instrument requires the RIT–T proponent to treat the discount rate as they would with other ISP parameters (or inputs in the most recent IASR for other RIT–T projects). That is, the RIT–T proponent must apply the discount rate in the ISP and can vary this parameter if it can demonstrate why the variation is necessary. The draft RIT–T instrument adds that any variation must be consistent with a commercial discount rate appropriate for the analysis of a private enterprise investment in the electricity sector, and that is consistent with the cash flows being discounted. In practice, we expect that the discount rate used for RIT–T projects and the ISP would align, given the CBA guidelines require AEMO to use the same approach to setting the discount rate as otherwise required in the RIT–T instrument.
- **Developing scenarios:** The RIT–T proponent must adopt the ISP scenario/s that AEMO has identified as relevant for that project. While the RIT–T proponent can depart from this requirement if it provides demonstrable reasons for why an addition or variation is necessary, the CBA guidelines limit such demonstrable reasons to where there is a material change in circumstances that AEMO is yet to reflect in a new ISP or ISP update. For other RIT–T projects, the RIT–T proponent must adopt scenarios from the most recent IASR (unless it provides demonstrable reasons for why an addition or variation is necessary). While there is flexibility to depart from ISP scenarios for both types of RIT–T projects, the corresponding guidelines clarify that such departures will be more relevant for other RIT–T projects, which are likely to be smaller and simpler. If the RIT–T proponent departs from the scenarios used in the most recent ISP, it must comply with the RIT–T instrument's general requirements for reasonable scenarios and demonstrate why the variation is necessary. These general requirements align with the requirements for developing reasonable scenarios in the current (version 1.0) of the RIT–T instrument.
- **Market modelling:** Following from the NER<sup>129</sup>, the RIT–T proponent must, in so far as practicable, adopt the market modelling from the ISP. While this NER requirement only applies to actionable ISP projects, we consider there will be other RIT–T applications that will also benefit from adopting the ISP market modelling. In particular, if ISP market modelling is only applied 'in so far as practicable', this should not cause any disproportionate burden for RIT–T applications to other RIT–T projects. As such, the draft RIT–T instrument also specifies that for other RIT–T projects, the RIT–T proponent may, in so far as practicable, adopt the market modelling from the ISP.
- **Proposing new classes of costs/benefits:** If the RIT–T proponent wants to propose a new class of costs or benefits to quantify, we must agree this in writing before the draft report is made available to other parties. In contrast, for other RIT–T projects, the RIT–T proponent must obtain our written approval before the consultation report is made available to other parties (which is consistent with the current version of the RIT–T instrument). This difference arises because actionable ISP projects will not have a consultation report.

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<sup>129</sup> NER clause 5.15A.3(b)(7)(vi).

- **Weighting reasonable scenarios:** AEMO will provide the likelihood-based weights to apply to the scenarios that it has identified as relevant to the actionable ISP project (where it identifies multiple relevant scenarios). While RIT–T applications to other RIT–T projects will also apply likelihood-based weightings, the RIT–T proponent will need to determine those weightings if it departs from the ISP scenarios. Given this, the draft RIT–T instrument states that for other RIT–T projects, scenarios will be weighted by their likelihood of occurring and consistently with the likelihood-based weightings in the ISP where scenarios are taken from the ISP.
- **Market benefit classes to quantity:** Following from the NER, the RIT–T proponent must quantify the market benefit classes in the relevant ISP, and may consider other classes in accordance with the CBA guidelines.<sup>130</sup> In contrast, for other RIT–T projects, the draft RIT–T instrument maintains the current prescription on which classes of market benefits to quantify.

In addition to the above changes, the draft RIT–T instrument also includes the following:

- An updated definition of 'state of the world' to recognise that this must capture the effects of actionable ISP projects, as well as other projects (such as existing, committed, anticipated and modelled projects). This addition reflects that the NER now include 'actionable ISP project' as a new type of project that will be treated in a specific way in RIT–T applications.
- An addition to the definition of 'modelled project' to provide, for completeness, that where a RIT–T proponent adopts the market modelling from the ISP, ISP projects that are not actionable ISP projects (that is, future projects and ISP development opportunities) are usually modelled projects. This clarification highlights a consequence of using the ISP modelling.
- Requirements around how RIT–T proponents are to include committed projects, anticipated projects and modelled projects (along with actionable ISP projects) when modelling different states of the world. Previously only the RIT–T application guidelines discussed how RIT–T proponents should treat committed, anticipated and modelled projects. Given the treatment of these projects is particularly important for promoting system-wide planning and the use of AEMO's modelling under the ISP framework, we consider that the treatment of committed, anticipated, modelled and actionable ISP projects should be a RIT–T requirement rather than guidance.

## 6.2 Other amendments

The draft RIT–T instrument includes some additional, non-controversial amendments that do not stem from the ISP framework. These amendments aim to reflect updates to the NER, improve clarity, or improve applicability.

We have updated the draft RIT–T instrument to reflect a rule change that allows a preferred option to have a negative net economic benefit if it is to address an identified need relating to providing inertia network services required under NER clause 5.20B.4 or system strength services required under NER clause 5.20C.3. In contrast, version 1.0 of the RIT–T

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<sup>130</sup> NER, clause 5.15A.3(b)(4)



instrument only allows a preferred option to have a negative net economic benefit where the identified need is for reliability corrective action.

To improve clarity, the draft RIT–T instrument specifies that 'any *cost* or *market benefit* which cannot be measured as a *cost* or *market benefit* to those who produce, consume and transport electricity in the *market* may not be included in any analysis under the *RIT–T*'. This differs from version 1.0 of the RIT–T instrument, which uses the phrase '*generators, distribution network service providers, transmission network service providers* and consumers of electricity' as opposed to 'those who produce, consume and transport electricity in the *market*'. This amendment should be uncontroversial because the wording in version 1.0 of the RIT–T instrument intends to be equivalent to our proposed wording (which simply reflects the NER wording on the RIT–T's purpose). This would help to avoid a lack of clarity as to whether the current wording could result in interpreting 'those who produce, consume and transport electricity in the *market*' too narrowly to potentially exclude some electricity service providers like demand aggregators and battery providers.

To improve applicability, we have updated references to penalties for failing to meet 'environmental targets' or 'the renewable energy target' to refer to 'government-imposed instruments' instead. This recognises that government-imposed instruments on the electricity sector will not necessarily be limited to environmental targets, but might include other factors, such as reliability instruments.

## 7 Updates to the RIT–T application guidelines for non-ISP projects

The RIT–T application guidelines guide RIT–T proponents on how to apply the legally binding RIT–T instrument. The next version of the RIT–T application guidelines (version 4.0) will only provide guidance for RIT–T projects that are not actionable ISP projects. The new CBA guidelines will provide corresponding guidance for actionable ISP projects.

We have endeavoured to limit updates to the RIT–T application guidelines to the minimum changes necessary to introduce the ISP framework (section 7.1). However, we have also made some other amendments to reflect NER updates, improve clarity or maintain relevance (section 7.2).

### 7.1 Amendments following from the ISP framework

Following the ISP framework, the draft RIT–T application guidelines include the following updates:

- **Selecting inputs:** we have simplified our previous guidance on selecting reasonable inputs. This simplification reflects that in the draft RIT–T instrument, we are proposing to require RIT–T proponents to use inputs, assumptions and scenarios from the most recent IASR. While RIT–T proponents can vary, omit or add ISP parameters, they must demonstrate why doing so is necessary. As such, our guidance on 'selecting reasonable inputs' mainly provides general guidance for when departing from, or considering whether to depart from the ISP parameters (which include, among other things, the discount rate).
- **Removing guidance tailored to actionable ISP projects:** we have removed guidance and worked examples relating to actionable ISP projects, since these projects will fall outside the scope of the RIT–T application guidelines. This includes the example on 'using the ISP to inform the assessment of a transmission extension to a REZ'. This also includes the section and example on 'whole of network planning in a RIT–T'.
- **Selecting reasonable scenarios:** similar to our guidance on selecting inputs, our guidance on selecting reasonable scenarios mainly covers what to consider when departing from the scenarios in the IASR. We flag that we expect there will be circumstances where it would be reasonable for a RIT–T proponent to omit an ISP scenario when applying the RIT–T to a RIT–T project that is not an actionable ISP project. This is because many RIT–T projects are modest in size and scope relative to the comprehensive analysis that would be required to explore all of the scenarios in the most recent IASR.
- **Actionable ISP projects:** our guidance specifies that actionable ISP projects must form part of all states of the world, consistent with the treatment of committed projects wherever this level of detail is relevant/material to the analysis. This is similar to our guidance for RIT–T applications on actionable ISP projects, except for recognising that this level of detail will not always be relevant or material to the analysis. We tie this

guidance into how the ISP should guide RIT–T proponents when estimating benefits that accrue across regions.

- **Market development modelling:** our guidance recognises that RIT–T proponents can adopt market development modelling from the ISP in so far as practicable. We have emphasised the 'in so far as practicable' element to maintain our previous guidance on how it may be appropriate to limit the modelling of market benefits to load-flow modelling. We have also clarified that where a RIT–T proponent adopts the market modelling from the ISP, it will usually treat ISP projects that are not actionable ISP projects as 'modelled projects'.
- **ISP updates:** under our guidance on 'reapplication of the RIT–T', we have added that if changes to key ISP parameters trigger an ISP update, the RIT–T proponent should actively consider whether there has been a change in circumstances that materially affects its RIT–T project.
- **5.16.6 determinations:** we have removed references to and guidance on NER clause 5.16.6 determinations, given this clause will be removed from the NER. Given that the relevant trigger for future non-ISP contingent projects might still include an AER determination that the preferred option satisfies the RIT–T (that is, a determination equivalent to the old '5.16.6 determination'), we provide general guidance on how we might perform such an assessment.

## 7.2 Other amendments

The draft RIT–T instrument includes some additional, non-controversial amendments that do not stem from the ISP framework. These amendments include:

- Reflecting previous NER changes on managing power system fault levels and the rate of change of power system frequency.<sup>131</sup> Following these NER changes, a preferred option can have a negative net economic benefit if the identified need is to provide inertia/system strength services required under NER clauses 5.20B.4/5.20C.3. This rule change also exempts a RIT–T project from a RIT–T application where the proposed expenditure is an inertia/system strength service payment or for a network investment to provide inertia/system strength under NER clauses 5.20B.4/5.20C.3, and:
  - the TNSP was not obligated to provide the inertia network services for that inertia sub-network or the system strength services for that fault level node before AEMO gave the shortfall notice; and
  - the shortfall notice gives less than 18 months to make the inertia network or system strength services available.
- Reflecting that since last updating the RIT–T application guidelines:
  - We finalised our review of VCRs. This has reduced the need for guidance on this area as RIT–T proponents will now use the VCR estimates that we publish and update annually.

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<sup>131</sup> AEMC, *Rule determination: National electricity amendment (Managing power system fault levels) rule 2017*, 19 September 2017; AEMC, *Rule determination: National electricity amendment (Maintaining the rate of change of power system frequency) rule 2017*, 19 September 2017.

- We finalised our industry practice application note for asset replacement planning.<sup>132</sup> This results in updates to references rather than to the substance of our guidance.
- There was a policy change that meant the National Energy Guarantee would not proceed, but a RRO would be introduced. This results in updates to references rather than to the substance of our guidance.

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<sup>132</sup> AER, *Industry practice application note: Asset replacement planning*, January 2019.

## 8 Forecasting best practice guidelines

The FBPG will assist AEMO in undertaking comprehensive engagement with stakeholders regarding its forecasting processes and practices. This way, AEMO's forecasting methods, assumptions, and inputs will take into account reasonable stakeholder expectations. The FBPG will recognise that comprehensive engagement is particularly valuable for AEMO's:

- inputs, assumptions and scenarios, and associated forecasting and modelling applied in the ISP; and
- reliability forecasts, which are a critical input to the statutory requirements under the RRO.

We have based the draft FBPG on the interim FBPG that currently applies to the RRO, but have re-structured the document to increase clarity. We have also expanded the content so the FBPG can apply to both the ISP and reliability forecasts. A number of stakeholder submissions supported our decision to base the FBPG on the interim FBPG.<sup>133</sup>

This section explains our draft FBPG, including how we have incorporated input from stakeholders (also summarised in table 6). It does this by explaining why we:

- set out specific consultation procedures—that is, the forecasting best practice consultation procedures and single stage process (section 8.1)
- prescribe specific binding requirements relating to the ISP (section 8.2)
- provide binding considerations and other guidance relating to the ISP (section 8.3)
- update guidance relating to reliability forecasts from the interim FBPG (section 8.4).

### 8.1 Consultation procedures

The draft FBPG set out two specific consultation procedures—the forecasting best practice consultation procedures and the single stage process.

#### 8.1.1 Forecasting best practice consultation procedures

The forecasting best practice consultation procedures are currently set out in the interim FBPG, on which we have based the FBPG.<sup>134</sup> Section 2.3 of our final determination for the interim FBPG sets out our rationale for originally introducing these procedures.<sup>135</sup> We modelled these consultation procedures off the rules consultation procedures and noted the

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<sup>133</sup> Hydro Tasmania, *Submission re: AER guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 10; ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 20; Origin, *Submission: AER guidelines to make the ISP actionable – Consultation on issues paper*, 17 January 2020; PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 4, AEC, *Submission: Guidelines to make the ISP actionable*, 17 January 2020, p. 2.

<sup>134</sup> AER, *Interim forecasting best practice guidelines*, September 2019, pp. 15–16.

<sup>135</sup> AER, *Final determination: Interim forecasting best practice guidelines*, September 2019, pp. 6–7.

stakeholder support for AEMO to follow these procedures when reviewing their forecasting processes at least every four years.<sup>136</sup>

In the draft FBPG, we maintain that AEMO must follow these procedures to review its Forecasting Approach at least every four years. We have also applied this requirement to AEMO when developing or updating its ISP methodology. However, we have amended these procedures by adding that where AEMO summarises and responds to submissions, it should also explain whether and how it has incorporated specific input from submissions. This added nuance directs AEMO to consider whether and how it can incorporate stakeholder input, thereby taking a broader focus than justifying its position. This addition also incorporates submissions raised by several stakeholders for AEMO to provide reasons for where it has or has not adopted stakeholder recommendations.<sup>137</sup>

## 8.1.2 Single stage process

The single stage process is limited to consulting on a draft report before publishing a final report. We did not include this process in the interim FBPG. However, we have now added it to (1) provide a fit-for-purpose consultation process for developments that do not necessitate multiple stages of consultation, and (2) clearly distinguish the requirement for AEMO to review its approach every four years from its requirement to *apply* its approach more regularly. The single stage process will apply when AEMO:

- makes smaller updates to its Forecasting Approach outside of the four year cycle
- develops/updates a reliability forecast in preparing an electricity statement of opportunities (ESOO), or the inputs, assumptions and scenarios in preparing an IASR (noting that AEMO may combine the IASR with the ESoo)
- makes smaller updates to the ISP methodology outside of the four year cycle
- consults on new information and its impact on the optimal development path under NER clause 5.22.15(b)—as required before performing an ISP update.

## 8.2 Binding requirements relating to the ISP

The draft FBPG propose to place binding requirements on AEMO when developing the ISP. These include requirements for AEMO to do the following:

- Follow the 'forecasting best practice consultation procedures' to review its Forecasting Approach at least every four years (and follow the single stage process to review a discrete component of its Forecasting Approach within the four yearly cycle if AEMO considers a material change in circumstances justifies an earlier review). The Forecasting Approach includes AEMO's detailed forecasting processes and practices (which include forecasts underpinning the ISP, reliability forecasts, and other AEMO forecasts). AEMO is also required to make its Forecasting Approach and associated

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<sup>136</sup> Specifically, ERM Power and Snowy Hydro supported AEMO performing such a review two years after its first application, and every four years thereafter. EUAA submitted favoured more frequent review, at least in the first instance.

<sup>137</sup> ECA, *Submission: ISP guidelines issues paper*, 17 January 2020, p. 2; ENGIE, *Submission re: Issues paper 'Guidelines to make the ISP actionable'*, 17 January 2020, p. 9; AGL, *Submission to converting the ISP into action: Draft rule*, 17 January 2020, p. 3; CEC, *Converting the ISP into action: Consultation on draft ISP rules*, 17 January 2020, p. 3.

review schedule clearly available on its website. This clarity and transparency is valuable given AEMO may use its discretion to set its Forecast Approach out in multiple documents and undertake its 'four yearly review' in a staggered fashion.

- Follow the best practice consultation procedures to review its ISP methodology at least every four years (and follow the single stage process to review its ISP methodology more frequently if AEMO considers a material change in circumstances justifies an earlier review).
- Follow the single stage process when developing and updating scenarios, inputs and assumptions in its IASR.
- Follow the single stage process when consulting on new information and its impact on the optimal development path under NER clause 5.22.15(c).
- No later than 20 business days after publishing an IASR or ISP methodology, provide a compliance report to us describing how it has complied with the requirements and considerations in the FBPG. This requirement will assist us in preparing our IASR transparency review report under NER clause 5.22.9, and AEMO in satisfying itself that it has been compliant with the FBPG.

In considering where to make consultation processes binding requirements, we had regard to the following submissions:

- Origin submitted that AEMO should consult on modelling outputs, and this should be required in the NER but could alternatively be in the FBPG. We consider the NER achieve this by requiring AEMO to consult on its draft ISP.<sup>138</sup> Moreover, where AEMO uses models to derive forecasts in the IASR, it will consult on these modelling outputs as part of the single stage process in the draft FBPG. In addition to these requirements, the draft FBPG provide guidance on how it is also best practice to consider whether additional forums would be valuable for sharing information on the ISP outputs (for example, consultation on preliminary modelling outcomes).<sup>139</sup>
- EUAA considered the FBPG should provide for extensive consultation at all stages.<sup>140</sup> The draft FBPG require AEMO to follow specific consultation processes when developing/reviewing its ISP methodology, the inputs, assumptions and scenarios in the IASR and consulting on the impact of new information on the optimal development path. The draft FBPG also set out best practice consultation principles and practices that AEMO must consider alongside the binding consultation requirements in the NER. These NER requirements include publishing an ISP timetable, consulting on an IASR and draft ISP, soliciting non-network options, establishing an ISP consumer panel, holding a public forum on the draft ISP, and maintaining an ISP database.<sup>141</sup>
- MEU called for strong consultation and checks around ISP updates, and EnergyAustralia submitted that the FBPG should require AEMO to inform relevant stakeholders promptly

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<sup>138</sup> NER, clause 5.22.11.

<sup>139</sup> Origin, *Submission: ESB converting the ISP into action - Consultation on draft ISP rules*, 17 January 2020, p. 4.

<sup>140</sup> EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 11.

<sup>141</sup> In order, see NER clauses 5.22.4, 5.22.8, 5.22.11, 5.22.12/5.22.14(c)(1), 5.22.7, 5.22.11(b), 5.22.16.

of any ISP updates.<sup>142</sup> The single stage process provides transparency and facilitates stakeholder input around decisions concerning ISP updates, and additional consultation steps would likely be disproportionate for updating the ISP within the two-year ISP cycle. Moreover, the draft FBPG require AEMO to assess the impact of new information as soon as practicable after that new information becomes available. If AEMO determines that the new information materially changes the need for or characteristics of an actionable ISP project, then it must commence preparing an ISP update as soon as practicable, or it is otherwise required to prepare an ISP update under NER clause 5.22.15.

### 8.3 Considerations and guidance relating to the ISP

The draft FBPG provide AEMO with the following binding considerations that it must demonstrate having regard to when developing the ISP:

- **Consumer engagement:** The draft FBPG specify that, when developing the ISP, AEMO must consider the principles in the AER's 'consumer engagement guideline for network service providers', as well as a set of specific consultation practices and principles in the draft FBPG. We considered stakeholder input when developing these considerations. For instance:
  - EUAA favoured prescribing how an ISP consumer panel should operate, which would include requiring AEMO to follow the AER's consumer engagement guideline.<sup>143</sup> Rather than prescribing requirements for an ISP consumer panel in the FBPG (which are now prescribed NER clause 5.22.7), the draft FBPG states that AEMO should also follow our consumer engagement guideline for network service providers.
  - EUAA and MEU raised concerns regarding the time and resource constraints that stakeholders (especially consumer groups) face in providing detailed input into the ISP consultation process.<sup>144</sup> EUAA and Delta specifically suggested that AEMO should provide sufficient time for stakeholders to consider material before public forums.<sup>145</sup> The draft FBPG set out consumer engagement principles to help address these concerns, including that AEMO should provide stakeholders with sufficient time to digest information before public forums. New provisions in the NER also seek to address these concerns by creating an ISP consumer panel and AER transparency reviews.<sup>146</sup>
  - Several stakeholders recommended timeframes for ISP processes. Some of these suggestions related to timeframes that the ESB has since reflected in NER.<sup>147</sup> We

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<sup>142</sup> MEU, *Submission: Converting the ISP into action - Response to draft decision*, 17 January 2019, p. 6; EnergyAustralia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 4.

<sup>143</sup> EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 6.

<sup>144</sup> EUAA, *Supplementary submission: AER ISP guidelines*, January 2020, p. 1; MEU, *Supplementary submission: Guidelines to make the ISP actionable*, 2 February 2020, p. 4.

<sup>145</sup> Delta, *Submission: Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 2; EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, p. 5.

<sup>146</sup> NER clauses 5.22.7, 5.22.9, 5.22.13.

<sup>147</sup> ENA, *Guidelines to make the ISP actionable: Response to AER's issues paper*, 17 January 2020, p. 8; TasNetworks,



had regard to ENGIE's submission for AEMO to release ISP materials progressively and as early as possible<sup>148</sup> when we proposed the principle that information should be as timely and accessible as possible.

- Some stakeholders proposed requiring AEMO to consult on potential ISP projects.<sup>149</sup> Rather than setting a requirement, the draft FBPG state that AEMO must consider, as a consultation practice, transparently disclosing all key inputs. The draft FBPG clarify that while the optimal development path is an output of the ISP, specific network investment options are also modelling inputs that AEMO and TNSPs develop out of the joint-planning process. As such, this information should be publicly available, preferably in the IASR. Including this information in the IASR would allow AEMO to consider whether reasonable network and non-network options that stakeholders propose could form part of the optimal development path before it publishes the draft ISP.
- **Forecasting principles:** The draft FBPG provide a set of practices and principles that AEMO must consider when developing its Forecasting Approach. We recognise that this approach is less prescriptive than what many consumer groups have proposed.<sup>150</sup> However, we consider it would be counter-productive to provide a highly prescriptive approach for AEMO to follow. Firstly, forecasting requires AEMO to apply its expert judgement and take into account different sources of information/modelling techniques, so prescription can undermine its ability to do this effectively. In addition, prescription could also stifle continuous improvement initiatives, which would undermine AEMO's ability to respond to stakeholder input and improve its forecasting methodologies. As such, by requiring AEMO to consider principles-based guidance, be highly transparent, and have strong stakeholder consultation, we have sought to balance the benefits of accountability against the benefits of allowing AEMO to apply its expert judgement. We have endeavoured to incorporate stakeholder input when developing principles-based considerations. For instance, we have specified that AEMO's Forecasting Approach must consider using scenario and sensitivity analysis for individual forecasts, consistent with input from PIAC.<sup>151</sup>
- **Publishing information:** As part of the consumer engagement and forecasting principles discussed above, the draft FBPG include considerations for AEMO to have regard to when publishing key pieces of information. In forming these considerations, we have had regard to what stakeholders consider are key pieces of information. For instance, the FBPG specify that AEMO should publish material with the objective to:
  - Allow stakeholders to understand the key inputs and assumptions driving the results, so that they can replicate/interrogate the results, and allow AEMO to hold

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*Submission re: guidelines to make the ISP actionable*, 16 January 2020, p. 2; Delta, *Submission: Consultation on the draft ISP rules*, 17 January 2020, pp. 2–3.

<sup>148</sup> ENGIE, *Submission re: Issues paper 'Guidelines to make the ISP actionable'*, 17 January 2020, p. 9.

<sup>149</sup> MEU, *Submission: Converting the ISP into action - Response to draft decision*, 17 January 2019, p. 4; ERM Power, *Submission re: Issues paper – Guidelines to make the ISP actionable*, 22 January 2020, p. 2.

<sup>150</sup> ECA, *Submission: ISP guidelines issues paper*, 17 January 2020, p. 2; QFF, *Submission re: Issues paper - Guidelines to make the ISP actionable*, 17 January 2020, p. 3; EUAA, *Submission: AER guidelines to make the ISP actionable*, January 2020, pp. 2–3.

<sup>151</sup> PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 6.

itself to account by ensuring the mechanics and assumptions behind its analysis are transparent. These principles should encourage AEMO to publish full ISP models, consultant reports, methodologies used by external data providers, materials from stakeholder consultations, technical/cost information provided by TNSPs, and forecasting methodologies/inputs. Various submissions called for AEMO to publish this information.<sup>152</sup>

- Provide stakeholders with the opportunity to interrogate the results and provide input throughout the process. This principle should encourage AEMO to publish preliminary results and its forecasting methodologies/inputs, as suggested by Delta and PIAC, respectively.<sup>153</sup>
- Allow stakeholders to have access to similar data to promote a balanced discussion where otherwise some stakeholders would be privy to better information than others. This principle should encourage AEMO to publish materials from stakeholder consultations, and technical/cost information provided by TNSPs, as suggested by Delta.<sup>154</sup>

In addition to the binding considerations, the draft FBPG also provide guidance to assist AEMO when developing the ISP. This guidance includes:

- **AER involvement and issues register:** AEMO should facilitate active AER involvement to improve our knowledge of AEMO's inputs and consultation when developing any ESOO/IASR. While not required, doing this would assist us in preparing our IASR review report under NER clause 5.22.9, thereby facilitating a faster and smoother review process. Moreover, to help us see that AEMO has properly considered stakeholder input, the draft FBPG recommend that AEMO develop and maintain an 'issues register' that tracks the stakeholder submissions it has received, including the key issues raised and AEMO's response.
- **Forecast performance reviews:** AEMO should consider whether there is additional information relevant to the accuracy of inputs, assumptions and forecasts used in its ISP that would be valuable to report on when publishing forecast performance information and improvement plans relating to reliability forecasts. This guidance complements and builds upon AEMO's activities under NER clause 3.13.3A(h) for publishing information on performance and improvement plans relating to reliability forecasts. It also encourages processes for continuous improvement or error correction loops, which ECA and PIAC suggested.<sup>155</sup>

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<sup>152</sup> Different suggestions were proposed by Origin, *Submission: AER guidelines to make the ISP actionable – Consultation on issues paper*, 17 January 2020, p. 4; Delta, *Submission: Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 2; Energy Australia, *Submission: AER – Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, pp. 3, 5; ENGIE, *Submission re: Issues paper 'Guidelines to make the ISP actionable'*, 17 January 2020, p. 9; PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 6.

<sup>153</sup> Delta, *Submission: Guidelines to make the ISP actionable – Issues paper*, 17 January 2020, p. 2; PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 6.

<sup>154</sup> Delta, *Submission: Consultation on the draft ISP rules*, 17 January 2020, pp. 2–3.

<sup>155</sup> ECA, *Submission: ISP guidelines issues paper*, 17 January 2020, p. 4; PIAC, *Submission to the AER issues paper – Guidelines to make the ISP actionable*, 4 February 2020, p. 6.

## 8.4 Changes relating to reliability forecasts

As well as applying to the ISP, the FBPG will replace the interim FBPG currently in place for the RRO. Given we only recently developed the interim FBPG, we have endeavoured to minimise substantive changes to the reliability forecast component of the FBPG.

Most changes to the interim FBPG do not change the content concerning AEMO's forecasting practices and processes as they relate to a reliability forecast. These changes include:

- Re-structuring and streamlining the content so the FBPG can better accommodate new material concerning forecasts relating to the ISP and consultation process associated with the ISP.
- In response to previous stakeholder feedback, further clarifying the relationship between the 'four yearly process' of updating AEMO's Forecasting Approach and the 'annual process' of applying its approach when developing a reliability forecast to include in the ESOO.

Relatively material changes to the reliability forecast component of the FBPG include:

- Making the four yearly process for AEMO to review its Forecasting Approach a binding requirement. This responds to the new NER clause that allows us to specify which parts of the FBPG are binding on AEMO.<sup>156</sup> While binding elements of the FBPG concern the ISP, AEMO's Forecasting Approach applies to AEMO's forecasting processes and practices that underpin the ISP, which will align with its forecasting practices more generally, including for reliability forecasts.
- Specifying a new consultation process for AEMO to follow annually when applying its forecasting approach to produce reliability forecasts in its ESOO (the single stage process) or for minor updates to its Forecasting Approach outside the four-year cycle.

In endeavouring to minimise material changes, we did not make material changes in response to the following submissions:

- The AEC, which considered the interim FBPG should include a target to indicate what constitutes best practice and to allow us to test compliance.<sup>157</sup> The draft FBPG still include the NER obligation from the interim FBPG for AEMO to conduct forecast performance reviews and develop improvement plans, at least annually.<sup>158</sup> This NER obligation aims to promote transparency and continuous improvement, rather than to test compliance.
- ECA, which considered the interim FBPG focussed too much on consultation procedures and not enough on the interactive nature of developing inputs.<sup>159</sup> The draft FBPG have a strong focus on consultation. However, the re-structured document more clearly highlights the key best practice forecasting principles.

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<sup>156</sup> NER clause 5.22.5(j).

<sup>157</sup> AEC, *Submission: Guidelines to make the ISP actionable*, 17 January 2020, p. 2.

<sup>158</sup> NER. clause 3.13.3A(h).

<sup>159</sup> ECA, *Submission: ISP guidelines issues paper*, 17 January 2020, p. 3.

## 9 RIT–D and RIT–D application guidelines

We are not proposing any changes to the RIT–D regulatory instrument or RIT–D application guidelines in response to the NER provisions to make the ISP actionable. We did not identify any clear areas of the RIT–D or RIT–D application guidelines that require updates following from the new ISP framework. Moreover, while our issues paper raised that the RIT–D may need to reflect RIT–T updates in response to the ISP reforms, submissions generally did not comment on this area. Ergon Energy and Energex noted that distribution projects arising out of the ISP are 'development opportunities' rather than actionable projects and suggested that the CBA guidelines articulate these differences and assess the impact of any potential changes required for the RIT–D application guidelines.<sup>160</sup>

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<sup>160</sup> Ergon Energy and Energex, *Submission to the AER consultation on guidelines to make the ISP actionable –Issues paper*, 17 January 2020, p. 2.

## **Appendix A: Summary and response to submissions**

This appendix summarises and responds to input that stakeholders provided regarding:

- the CBA guidance for the ISP
- guidance and requirements concerning RIT–Ts for both actionable ISP projects and other RIT–T projects
- the FBPG.

This is set out in the sections below.

## Cost benefit analysis guidelines (for the ISP)

The submissions discussed in Table 4 concern how the CBA guidelines apply to the ISP. Most questions in the issues paper relate to this area. Table 4 sets out a summary of relevant submissions by topic/issue, and our proposed response.

**Table 4: Submissions relevant to the CBA guidelines (for the ISP)**

Broad issue	Summary of relevant submission/s	Proposed response
Objective of guidelines	<p>Using incorrect criterion, it is not cost minimisation nor net benefit maximisation, but social welfare maximisation. The optimal plan must, by definition, maximise expected net benefit (Monash University, pp. 6, 8).</p> <p>The objective of the CBA guidelines should refer to the promotion of ISPs that identify the optimal development path that ‘contributes to the efficient development’ of the NEM (rather than ‘optimising’ the net economic benefit) (ENA, pp. 4, 7, TasNetworks, p. 3).</p> <p>AEMO should seek to maximise the net economic benefit, consistent with the current RIT–T application guidelines (AEC, p. 1, Origin, p. 2).</p> <p>The term “optimise” in relation to the net economic benefit of the ISP’s optimal development path is potentially vague, and could be separately explained in terms of efficiency in seeking to maximise net economic benefit, subject to prudent treatment of uncertainty and concepts of no or least regret (EA, p. 5).</p> <p>The objective should not be only to ‘optimise the net economic benefit’. The objective needs to balance economic benefit with</p>	<p>The draft CBA guidelines maintain the objective in the issues paper for the RIT–T and the ISP. Optimising net economic benefits has a broader interpretation in the ISP than the RIT–T, allowing AEMO flexibility to use a risk averse decision making approach when selecting an optimal development path.</p> <p>We consider it is important the ISP and RIT–T continue to be centred on optimising and maximising net economic benefits across the market:</p> <ul style="list-style-type: none"> <li>• We consider this is consistent with the efficiency objective, because net benefit maximisation is the standard approach used in CBAs<sup>161</sup> to promote efficient investment.</li> <li>• We consider a net economic benefit objective is more fit for purpose than a social welfare maximisation objective, because it is consistent within market-wide costs and benefits, rather than society-wide costs and benefits. The NEO is similarly focussed on electricity services, the supply of electricity and the national electricity system.</li> </ul>

<sup>161</sup> See section 4.3.6.

perceived risk (regret level) of each option (ECA, p. 3).

The objective should refer to promoting an ISP that optimises and/or promotes the long-term interests of consumers (as defined in the NEO) rather than the net economic benefit of those who produce or transport electricity. The ISP guideline objective should not necessarily include a net economic benefit should be primarily for consumers as it is consumers that will pay for the investments (PIAC, p. 7, MEU, p. 6).

The objective should more explicitly refer to addressing some of the unique characteristics and challenges of projects which would make up an ISP (see submission for detail) (PIAC, p. 7).

- We do not consider regret level is the only way to capture risk and as such would inappropriately constrain the objective.
- We consider a market-wide test is in the long term interest of consumers because costs and benefits to producers and transporters of electricity are assumed to be passed through to consumers. Attempting to estimate the proportion of wholesale and/or retail market price impacts that are passed through to consumers is prone to error and distortions.
- We acknowledge the importance of presenting distributional effects in the ISP, but consider this is more appropriately captured in the methodology than the objective.
- We consider the objective captures the unique characteristics of the ISP, and these are considered throughout the draft CBA guidelines.

#### Prescription vs flexibility

Several stakeholders consider the AER guidelines to make the ISP actionable should be more prescriptive. This includes general comments on the overall level of prescription, specific areas where more prescription should be applied (e.g. assigning probabilities/likelihoods to scenarios), and suggestions for the CBA guidelines to mirror the RIT–T application guidelines. There was also a suggestion to increase prescription in the guidelines for the 2022 ISP as a transitional protection, and then review the level of prescription after (ENGIE, pp. 2, 3, 7, AEC, p. 2, QFF, p. 2, Delta, pp. 2, 3, Origin, pp. 1, 2, 3, EA, pp. 3-4, EUAA, pp. 3-4, 6, ERM, pp. 2-4, MEU, pp. 2-4, 6, 8).

However, there are also some stakeholders who consider the level of flexibility for AEMO proposed in the issues paper is appropriate,

We consider the draft CBA guidelines provide a balance between the two competing views on prescription versus flexibility.

The draft CBA guidelines provide AEMO with significant flexibility in specifying its inputs, assumptions and scenarios. This is particularly appropriate due to the AER's new transparency review role in the NER.<sup>162</sup>

The draft CBA guidelines apply a higher level of prescription (while still providing AEMO with flexibility) to the CBA methodology and interactions with the RIT–T. This is because they are areas where economic CBA principles strongly apply and there is value in maintaining alignment with the RIT–T for actionable ISP projects. The draft CBA guidelines do provide AEMO with significant flexibility in selecting an optimal development path, but balance this

<sup>162</sup> NER, clauses 5.22.13 and 5.22.9.

or should be increased. This includes general comments and specific areas where flexibility is required. Some stakeholders supported flexibility to choose the optimal development path subject to transparent and rigorous consultation, sensitivity testing, reasons and/or justification. Another considered phrases like 'such that the analysis is not skewed by unrealistic events' should not be used in the guidelines (Hydro Tas, p. 3, TransGrid, p. 1, ENA, pp. 3, 9, 11, 14, TasNetworks, pp. 3-5).

There were also several submissions that suggested requirements for AEMO to consult on specific elements of the CBA, and/or increased justification requirements (Delta, p. 2, Origin, p. 3, EA, pp. 3-4, ENA, pp. 8, 11-12, ECA, p. 3, ERM, p. 3, MEU, pp. 6-8, EUAA, p. 9).

with specific transparency requirements to justify its approach to risk (see 'Choosing an optimal development path').

The draft CBA guidelines and FBPG include provisions to promote AEMO transparency, consultation and justification throughout the ISP process.

#### Inputs and assumptions

The AER should provide more specific guidance on economic inputs and assumptions, including on matters such as underlying GDP growth forecasts, the appropriate discount rates and the VCR. These are complex issues and prescription would be appropriate to guard against over-investment. The AER could provide more guidance on specific values to be used and how they should be used in the CBA (Origin, p. 2, EA, p. 5, EUAA, p. 7).

Inputs should be up to date (EA, p. 5).

The principle of transparency should be supported by requiring AEMO to make input data easily accessible to stakeholders, as well as potentially other standards such as replicability (EA, p. 5).

There is no guarantee that getting inputs from reputable independent sources means that they are reliable estimates. Indeed, there may well be benefit in AEMO further investing in its own capability for forecasting some of these inputs (ECA, p. 3).

The draft CBA guidelines provide specific guidance on the discount rate and VCR, but do not provide guidance on GDP growth forecasts. This is because GDP forecasts do not need to be specific to the electricity sector, and we consider there is less ambiguity on an appropriate value(s) than, say, the discount rate.

The draft CBA guidelines include principles and processes to promote up to date and transparent inputs. The AER's new transparency review role in the NER should also assist with transparency.<sup>163</sup>

We consider independent and reputable sources can include inputs generated through AEMO's own system operation data. AEMO can itself be a reputable and independent source, provided it is sufficiently transparent in its methodology and reasoning.

We support the importance of depicting the underlying distribution (or range) of critical inputs, and where the chosen value(s) lie. The

<sup>163</sup> NER, clause s 5.22.13 and 5.22.9.



Where a particular forecast result or input comprises a range of values rather than a single value, visual representation and commentary on that information should seek to depict the distribution of that range rather than (or at least in addition to) extracting a single instance. Where for brevity or illustrative purposes a single number is provided or case depicted, we consider information should be provided as to how the range was reduced to that single value. AEMO should continue seeking means to convey the uncertainty of its forecasts in communications (PIAC, p. 11).

Uncertainty must be reflected in the discount rate (ENGIE, pp. 2, 5).

draft CBA guidelines include guidance to promote this.

The draft CBA guidelines allow for uncertainty to be reflected in the discount rate, provided it is associated with the systematic risk of the expected cash flow streams. The discount rate should generally not be used to manage uncertainty associated with factors such as forecasting error.<sup>164</sup>

Reasonable scenarios

Introduce a scenario development process (details in submission) that ensures assumptions are internally consistent within a scenario and appropriately capture the range of uncertainty (ENGIE, pp. 3-4).

AEMO should express the likelihood/probability of each scenario on a quantitative basis (at least in terms of a range) (EA, p. 5, Monash University, pp. 9-10, AEC, p. 2, Delta, p. 3, Origin, pp. 1, 3, EUAA, pp. 6, 9, 10, MEU, pp. 7-8).

Scenarios should only include exogenous variables - currently, they include endogenous variables (e.g. variables that are controlled by the Government or regulators) that should instead be included in the optimisation (Monash University, pp. 10-11).

There should be an emphasis on ensuring the central planning scenario represents a consensus and median view among informed stakeholders (Hydro Tas, p. 4).

ISP could consider emissions trajectories beyond this point [20

The draft CBA guidelines include principles-based guidance on constructing scenarios, with some changes from those set out in the issues paper. We consider a principles-based approach would produce better outcomes than prescription, particularly as this better supports the flexibility required for continuous improvement and for responding stakeholder input. We consider many of ENGIE, EA and ECA's suggestions represent principles rather than prescription and align well with the principles in our draft CBA guidelines.

The draft CBA guidelines provide a high-level objective to facilitate AEMO to explore the impact of major uncertainties affecting the costs, benefits and need for investments in an optimal development path.

The draft CBA guidelines clarify that stakeholder consultation should inform what constitutes a 'reasonable range' of scenarios. We consider that 'unrealistic' to the point of skewing results differs from 'highly unlikely', but have further clarified this distinction by

<sup>164</sup> Productivity Commission, *Valuing the future: the social discount rate in cost benefit analysis*, April 2010, p. x.

years] if it is to accurately reflect the investment appetite of the sector's current participants (Hydro Tas, p. 4).

ISP scenarios should specifically analyse the correlation between global climate and regional weather change; network asset capabilities and security and their ability to respond to the ISP requirements; and changes in the system and regional load patterns (including minimum demands) (EQ, p. 2).

What constitutes a "reasonable range" of scenarios should be more clearly defined. This is likely to be most effectively approached through consultation in preparation for the ISP modelling (Delta, p. 2).

The selection of the 'planning' scenario will require clear explanation from AEMO regarding its reasoning and its consideration of stakeholder inputs (Delta, p. 2).

The guidelines should identify an objective or reasons for developing scenarios to guide AEMO (EA, p. 5).

The AER may provide some distinction between scenarios (which relate to a set of internally consistent assumptions and "state of the world") as opposed to sensitivities, which involve varying one or more inputs within a scenario. The AER could give guidance on the need for more or less scenarios and sensitivities in reflection of the computational burden and uncertainty/ materiality involved for particular CBAs (EA, p. 5).

Some of the inputs vary across scenarios, and the intention of the scenarios is to reflect end states not just pathways. In particular if a scenario is modelling the achievement of a net zero carbon energy system it is important that the inputs are tested to ensure that in aggregate they achieve the scenario objective (ECA, p. 3).

The description of the scenarios to be chosen needs to reflect the purpose to which they are being put. The scenarios need to reflect

noting that scenarios should be 'stretching'.

In the draft CBA guidelines, AEMO must identify the most likely scenario for the purposes of NER clause 5.22.5(e)(3). In our proposed framework for selecting an optimal development path, we require AEMO assign likelihood-based weights to all scenarios (although they do not have to rely on these). We consider this provides a balanced approach that allows AEMO to provide subjective numerical weights that reflect the likelihoods of scenarios occurring, without having to assign specific quantitative probabilities to each scenario—we acknowledge the challenges of that approach.

We agree that scenarios should only contain variables that are exogenous to the development paths. However, government policies or regulatory settings are not necessarily endogenous, as the factors governing changes to these may be independent to transmission planning and investment. In the draft CBA guidelines we apply the principle of exogeneity, but leave AEMO discretion in the execution.

The draft CBA guidelines provide guidance to distinguish between scenario analysis and sensitivity testing.

plausible future system environments taking into consideration the possible changes in technology and society over the widest range of foreseeable options (ECA, p. 4).

Caution the AER's support for AEMO's discretion in the number and nature of reasonable scenarios (ERM, p. 3).

#### Development paths

The choice of development paths should represent the very different options involved. There should be extreme paths that are based on 'build the least amount of new transmission' and 'build the least amount of new generation' (ECA, p. 5).

A missing element is the process by which AEMO chooses 'candidate projects' for including in the modelling from which the projects that constitute the optimal development path are chosen. The modelling does not consider every possible decision on the siting of a new generation source or storage asset, nor every possible transmission augmentation. The list of candidate projects should include a reason why, before the modelling, the project is considered 'feasible' (ECA, p. 4).

AEMO should be required to assess 'staged' as well as 'un-staged' development paths (EUAA, p. 6).

It is unclear how AEMO will set out development paths when the same project can occur in multiple development paths but at different timetables on each path (EUAA, p. 9).

The selection of development paths should not be limited to only sequential ISP projects, but may also include the assessment of different ISP projects which have the potential to meet the stated need (ERM, p. 3).

Announced, 'real-world' projects should be given additional consideration over and above theoretical modelled proposals (Hydro Tas, p. 5).

The draft CBA guidelines provide more information on how AEMO identifies development paths for the ISP CBA, and links our guidance to this process.

We agree that development paths should reflect a representative sample of the full range of possible transmission investment combinations, including different levels of overall transmission investment, and have provided guidance in the CBA guidelines to support this.

AEMO's development paths for the purposes of the CBA are based on projects that may become ISP projects (that is, actionable ISP projects, future ISP projects or ISP development opportunities). This does not preclude generation and non-network projects from a development path.

In the draft CBA guidelines, AEMO must have regard to development paths that contain option value (that is, incorporate staging decisions).

AEMO's development paths can consider the same ISP project at different timetables. Varying timing of projects across development paths is a requirement in the draft CBA guidelines.

AEMO's process for identifying development paths considers different ISP projects which have the potential to meet the stated need.

We consider fairness and efficiency of risk-allocation and cost-recovery are distributional effects. We include these in our

As part of the commercial considerations for selecting a set of development paths, the ISP should also consider the fairness and efficiency of both risk-allocation and cost-recovery (PIAC, p. 9).

guidance for selecting an optimal development path, which occurs after the valuation of costs and market benefits. However, we also consider distributional effects are more effectively assessed when the development paths capture a broad range of investment choices, consistent with the objective in the draft CBA guidelines.

Counterfactual development path

The counterfactual development path must not include discretionary expenditures (ENGIE, p. 2).

Counterfactual should not include any ISP projects that are not committed. It should include anticipated, necessary or demand driven intra-regional replacement and augmentation investments (TasNetworks, p. 4, Hydro Tas, p. 6, Delta, p. 2, ENA, pp. 10-11, EUAA, p. 9).

Committed projects should exclude any projects that have not reached final investment decision (Delta, p. 2).

AER's initial position on the counterfactual suggests that the optimal development path may consider projects in aggregate, which risks including projects which may not be economically successful in their own right. (AEC, p. 2).

Do not support the inclusion in the counterfactual of projects that have had development works undertaken in response to prior ISP requirements (Delta, p. 2).

CBA guidelines should provide further guidance on the counterfactual, such as when an actionable ISP project is committed (ENA, pp. 10-11, EUAA, p. 9).

One challenging issue in defining the counterfactual is how system security will be modelled over a 20-year horizon (including assumptions made about how matters such as inertia and system strength would be managed without transmission investments). Further clarification should be provided on this in the CBA guidelines (ENA, pp. 10-11).

The draft CBA guidelines are consistent with most submissions on this issue. However, they clarify that small intra-regional augmentation and replacement investments are part of AEMO's market development modelling associated with the counterfactual development path, not part of the counterfactual development path per se. Committed ISP projects should also be part of this market development modelling.

The draft CBA guidelines provide definitions for committed and anticipated projects.

We consider the value of the ISP undertaking a whole-of-system assessment is considering transmission projects at the development path level (see 'Individual project viability' below).

We consider AEMO, as the system operator, is best placed to consider how system security will be modelled over a 20-year planning horizon. However, the market development modelling used to value the market benefits of each development path in each scenario should forecast supply and demand outcomes to meet the power system needs set out in the NER. We consider the power system needs will inform how system security will be modelled over a 20-year planning horizon.

We agree the counterfactual development path is not a 'do nothing' scenario, and the associated market development modelling should include the transmission investment that would likely occur without the ISP (that is, business as usual replacement investment and certain intra-regional augmentation investment).

The selection of the counterfactual development path should include minor network replacement, upgrades, augmentations and alternative generator development plans (ERM, p. 3).

Identifying a single counterfactual might be difficult so the CBA guidelines should define what the criteria are for developing the counterfactual. The AER needs to define at what stage of these other projects AEMO is to use to develop the counterfactual as well as for its various development pathways (MEU, p. 7, EUAA, p. 9, ENA, pp. 10-11).

The counterfactual must not be defined as a 'do nothing at all' scenario, but rather as a BAU-scenario without major, strategic investments other than those already committed or likely to commit. As such, the counterfactual should contain replacement and small intra-regional augmentation which would reasonably be expected to progress in the absence of an ISP-like process. This should not be limited to network investment, but also extend to investments and retirements in centralised generation, decentralised generation, distribution network investment, consumer behaviour and the development of ancillary or supporting markets such as those for demand response (PIAC, p. 10).

Individual project viability

All ISP projects should be individually viable, and not "carried" by related projects (AEC, p. 2).

Modelling should be carried out not only for individual projects but for different combinations of projects, to ensure there is no double counting of benefits. Specifically, the ISP must assess as a separate activity the combined net benefit of all projects that are included in priority (group 1) projects and near term (group 2) projects. As part of this assessment, the deletion of one or more of the projects should be included to test if the inclusion (or deletion) provides an increase in the net benefit (MEU, p. 3).

We consider the value of the ISP undertaking a whole-of-system assessment is considering transmission projects at the development path level. This allows for projects that may not be individually viable, but provide greater net economic benefits when undertaken alongside other projects in an optimal development path.

However, we do consider it important that each ISP project in an optimal development path makes a positive contribution to net economic benefit of the development path as a whole—that is, have a positive incremental net economic benefit under AEMO's decision making approach.

<p>Costs</p>	<p>Further guidance on the assumed costs of potential ISP transmission projects should be included in the CBA guidelines (TasNetworks, pp. 2, 4).</p> <p>Further guidance should be included in the CBA guidelines on the assumed costs of potential ISP projects, and in particular, that these costs should be based on cost estimates provided by the relevant TNSPs (as a requirement), unless AEMO has a valid reason to depart from these estimates (which should be transparently set out and consulted on by AEMO) (ENA, p. 12, Hydro Tas, p. 1).</p> <p>Support the quantification of costs and market benefits on a probabilistic basis where methods and data for doing so are robust and are part of market practice (EA, p. 7).</p>	<p>The draft CBA guidelines include further guidance on valuing costs and market benefits of development paths. This includes discretionary guidance for AEMO to work with TNSPs and/or non-network proponents to develop cost estimates for the ISP projects in each development path.</p> <p>The draft CBA guidelines do not require AEMO to use probabilities when valuing costs, as only direct costs of ISP projects are valued. However, where there is a material degree of uncertainty in the costs of an ISP project, the draft CBA guidelines require the cost to be valued as the probability weighted present value of the direct costs of the ISP project under a range of different cost assumptions. This is consistent with the RIT–T instrument.</p>
<p>Market benefits</p>	<p>Consideration of market benefits should include analysis of competition benefits resulting from proposed ISP investments (Hydro Tas, pp. 3, 5).</p> <p>Transparency should be provided as to the calculation of all of market benefit categories as part of the draft and final ISPs, in the same manner that TNSPs currently report on the breakdown of the outcomes of the NPV assessment by market benefit categories in their RIT–Ts. This should be a requirement in the CBA guidelines (ENA, p. 11).</p> <p>The AER should not prescribe that some market benefits should be estimated by assigning probabilities to specific events (such as HILP events), as this would be overly prescriptive (ENA, pp. 11-12).</p> <p>AEMO should be required to value market benefits of credible options using multiple scenarios (EUAA, p. 6).</p> <p>Where an ISP project only provides a net benefit on the assumption that a specific level of new uncommitted energy generation</p>	<p>Clause 5.22.10(c)(1)(viii) of the NER includes competition benefits as a class of market benefits. Clause 5.22.10(c)(2)-(3) of the NER requires AEMO to consider all listed classes of market benefits as material unless it can provide reasoning. As such, competition benefits should be considered in the ISP CBA.</p> <p>The draft CBA guidelines recommend AEMO present its methodology(ies) for valuing each material class of market benefit (discretionary). The also require AEMO to present, for each development path, information related to the stream of annual market benefit cash flows and the present value of total market benefits, including a breakdown of total market benefits by market benefit class.</p> <p>The draft CBA guidelines do not require AEMO to use probabilities when valuing some classes of market benefits, which is a change from the issues paper. We consider AEMO is best placed to determine the methodology for valuing each market benefit class, provided it is transparent and informed by stakeholder consultation.</p>

resource expenditure occurs in tandem with that network project, it should be the total costs of network and generation that must deliver a net benefit (ERM, p. 4, EUAA, p. 9).

Support the quantification of costs and market benefits on a probabilistic basis where methods and data for doing so are robust and are part of market practice (EA, p. 7).

CBA guidelines should require AEMO to provide significant detail regarding their selected locations for new generation resources used in the scenarios, including justification of their selection (ERM, p. 4).

The draft CBA guidelines require AEMO to value the market benefits of each development path under each scenario. Many of the market benefit classes are valued on the basis of avoided costs, taking network and generation together.

Modelled generation (and other non-network) investment is an output of market modelling. As such, it is driven by our guidance in the CBA guidelines and FBPG for the inputs, assumptions and scenarios stage of the ISP. However, the draft CBA guidelines do set out a consideration for AEMO to present the modelled generation (and other non-network) projects that flow from the ISP projects in each development path under each scenario.

#### HILP events

The guidelines should require AEMO to appropriately and defensibly temper the impacts of HILP or similar events in their modelling yet provide some flexibility for what mechanism they choose to do so (PIAC, p. 10).

The CBA guidelines should prescribe how HILP events are to be considered. We are particularly concerned about AEMO taking a very conservative approach to HILP events (EUAA, pp. 6, 8-9).

HILP events should be probability weighted. The paper is not clear how the AER intends AEMO to test HILP events. This could be clarified further in the guidelines (Hydro Tas, p. 6).

Supports the AER proposed approach to HILP events in that they should be treated consistently with the rest of the cost-benefit analysis, i.e. their value is adequately described by the simple multiplication of their probability and consequence. If HILP events were ascribed an exaggerated value it would skew the results for a group of arbitrarily selected events (AEC, p. 2).

The guidance provided on the treatment of HILP events and matters that should be reflected in scenarios or sensitivity analysis, should be less prescriptive than in the issues paper (ENA, p. 4).

The draft CBA guidelines do not provide specific guidance on the treatment of HILP events in the ISP. This is because we consider AEMO is best placed to determine the methodology to value each class of market benefits, provided it is transparent and informed by stakeholder consultation. The impact of HILP events may affect market benefit classes in the CBA, such as changes in involuntary load shedding.

We are open to providing further guidance on HILP events if warranted.

Externalities	<p>It is important to internalise externalities (positive and negative) resulting from 'network effects' of individual transmission / non-network investments (Monash University, pp. 11-12).</p> <p>It is important to reflect the externalities of increased and adverse weather events, such as the risks of fire, flood and wind impacting on transmission assets (Hydro Tas, p. 6).</p>	<p>The draft CBA guidelines define externalities as economic impacts (costs or benefits) that accrue to parties other than those who produce, consume and transport electricity in the market (see NER clause 5.16.1(c)(9)). We do not consider this precludes the valuation of positive or negative market benefits associated with 'network effects' that accrue to those who produce, consume and transport electricity in the market, provided they fall within a market benefit class listed in the NER.<sup>165</sup></p>
Distributional effects	<p>The ISP should specify where, for any given project, any one group of consumers may not be better off on balance of their share of costs and benefits (PIAC, p. 10).</p>	<p>We support the presentation of key distributional effects in the ISP analysis, and have included this in the draft CBA guidelines in the section on selecting an optimal development path.</p>
Choosing an optimal development path	<p>Need additional guidance and more quantitative assessment in choosing an optimal development path. ENGIE also proposes two additional parameters (see 'Cross checks / methodology') (ENGIE, p. 7, ERM, pp. 3-4).</p> <p>The guidelines should require AEMO to take a probability weighted average of market benefits to determine the optimal development path that maximises net economic benefit (Monash, pp. 9-10, Delta, p. 3, Origin, p. 1, 3, MEU, pp. 7-9, AEC, p. 2, EUAA, p. 6, 9-10).</p> <p>The AER could require AEMO to explicitly identify the potential risks under each scenario and seek to describe potential non-network solutions that could mitigate the risk should the scenario eventuate (Delta, p. 3).</p> <p>Where AEMO pursues a least regrets or other approach that does not maximise net benefits, further obligations should be placed on AEMO to describe the extent of any 'inefficiency' in its optimal development path, with related guidelines or thresholds dealing</p>	<p>The draft CBA guidelines retain AEMO flexibility in selecting an optimal development path, as this is a decision making point which requires the use of judgement in an uncertain environment. We also consider this supports the flexibility required for continuous improvement and for responding to stakeholder input.</p> <p>However, given stakeholder concerns, we have included additional requirements for AEMO in selecting an optimal development path. These are focussed on promoting transparency and facilitating stakeholder engagement in AEMO's decision making process. These include comparing its decision making approach to a risk neutral approach with likelihood-based weightings, and undertaking sensitivity testing and/or cross checks.</p> <p>We also incorporate the ENA's view that AEMO's approach to selecting the optimal development path should reflect its view of customers' level of risk aversion (rather than AEMO's own level of risk aversion).</p>

<sup>165</sup> NER, clause 5.22.10(c)(1).



with tolerance for this (EA, p. 2).

Least worst regret modelling is generally seen as being conservative and leading to over-investment (Origin, p. 3).

AEMO's approach to selecting the optimal development path should reflect its view of customers' level of risk aversion (rather than AEMO's own level of risk aversion, as referred to in the issues paper) (ENA, p. 13).

AER's reference to the optimal development path being 'robust across most scenarios' is not clear and is unlikely to provide material guidance since the scenarios can be determined by AEMO (ENA, p. 14).

The guidelines should reinforce that CBA is a tool to assist decision makers and note that investment options can be expected to have negative net benefits under some scenarios. Network options should be rated on a least regret basis as well as on maximum return (ECA, p. 3).

It is particularly important that the CBA guidelines do not unduly restrict the discretion AEMO is afforded by the ISP Rules to consider wide range of matters when selecting an optimal development path (TransGrid, p. 1, ENA, p. 3).

We do not propose to preclude AEMO from using a least worst regrets approach to inform its decision on selecting an optimal development path, which is a risk averse decision making approach. However, the draft CBA guidelines do require AEMO to identify the potential 'cost' of taking a risk averse decision making approach (relative to a risk neutral approach). This helps AEMO identify and make transparent the level of risk aversion incorporated into its decision making.

#### Sensitivity testing

Sensitivity testing is useful, but not too many. There should be an obligation on AEMO to examine the feasibility of using tornado diagrams when examining the output of the modelling (ENGIE, p. 6).

CBA guidelines should encourage AEMO to undertake threshold analysis, to identify how key variables would need to change for the optimal development path to no longer be considered optimal (TasNetworks, p. 5, ENA, p. 13).

The CBA guidelines should not prescribe that sensitivity analysis

The guidance on sensitivity testing in the draft CBA guidelines recognise the need to balance:

- the value of sensitivity testing the robustness of the CBA output to its input assumptions, with
- the resource cost of additional modelling runs, and the risk assessment already undertaken through scenario analysis.

The draft CBA guidelines provide discretionary guidance on threshold analysis, or 'boundary values' for important input assumptions (such as the discount rate) at which the optimal

always be conducted in relation to each development path and each scenario. Rather, sensitivity analysis should be guided by the outcomes of the ISP scenario analysis and focussed on the key parameters that may affect the choice of optimal development path. This part of the guidelines should be classified as AEMO discretion (TasNetworks, p. 5, ENA, pp. 12-13).

Sensitivity analysis should include the absence of some or all federal or state policy interventions (Hydro Tas, p. 7).

Sensitivity analysis should be informed by international experience of market trends / developments (Hydro Tas, p. 7).

AEMO should present and consult on its sensitivity analysis as part of the draft ISP rather than being presented separately (ENA, p. 13).

Sensitivity analysis should be used to identify which of the assumptions has the biggest effect on the outcomes (which then provides a basis for reviewing inputs), and to identify whether the model is susceptible to instability effects from the interaction of variables. Sensitivity analysis is not a process of 'fine tuning' scenarios (ECA, p. 5).

There should be a requirement to undertake sensitivity testing for each development path and each scenario rather than leave that to AEMO's discretion (EUAA, p. 6, 10, MEU, p. 8).

The same level of transparency and consultation is needed on the sensitivities as for other inputs, assumptions and probabilities (EUAA, p. 10, MEU, p. 8).

Should consider how confidence and uncertainty can be visually represented and otherwise communicated in a way that supports understanding by stakeholders (PIAC, p. 11).

development path changes. They also note that sensitivity testing could be informed by up-to-date, relevant and comparable international experience of market trends and developments.

The draft CBA guidelines do not prescribe how AEMO is to conduct sensitivity testing, as we consider flexibility allows for continuous improvement and for responding stakeholder input. As such, while we provide some recommendations, we have not required sensitivity testing on particular inputs (e.g. government policies), nor required sensitivity testing for each development path and each scenario.

Given the draft CBA guidelines incorporate sensitivity testing as part of the framework for selecting an optimal development path, we would expect AEMO to present and consult on its sensitivity testing as part of the draft ISP. This promotes transparency.

We agree that sensitivity testing should identify which input assumptions have the biggest effect on the outcomes, and is not a process of 'fine tuning' scenarios. We consider the draft CBA guidelines make this clear.

We agree there is value in considering how confidence and uncertainty can be visually represented and otherwise communicated in a way that supports understanding by stakeholders. As such, we have included this as a discretionary element in the draft CBA guidelines.

Cross checks / Capital efficiency of investments should be examined alongside net

The draft CBA guidelines require AEMO undertake sensitivity

methodology present value as a factor that may influence planning decisions (should be prescribed in CBA guidelines). This ensures capital-intensive projects with marginal returns are not preferred to cheaper projects with similar returns. This suggests that the CBA guidelines should include rate of return as an assessment measure, since this considers the capital employed (AEC, p. 2, EA, pp. 3-4).

AEMO should specify the minimum return on investment that a project must deliver which is commensurate with the level of uncertainty. AEMO should also specify the maximum downside allowable in any of the scenarios tested for a project to be selected (ENGIE, p. 7).

More economics should be included in the ISP analysis (Monash, p. 4).

Market-based modelling should be conducted in addition to the cost-based modelling - this should include wholesale market and retail market price impacts (Monash University, pp. 12-13, ENGIE, p. 6, EA, pp. 3-4).

There should be a consideration of contract market impacts (EA, pp. 3-4).

Consideration of ancillary services costs are already prescribed in the NER. Their importance will grow with more variable renewable investment and will also likely to be material for particular plant types (e.g. batteries). As such they may warrant detailed modelling (EA, pp. 3-4).

An alternative approach (detailed in the submission) to benefit modelling would provide a comparative basis of ISP project costs with greater accuracy (ERM, pp. 4-5).

AEMO should carry out a consumer benefits test to balance the price vs reliability balance and to identify any transfer of wealth being made from consumers to generators for any of the ISP

testing and/or cross checks as part of the framework for selecting an optimal development path. However, while they provides a number of suggestions, they do not prescribe which cross checks (if any) AEMO must undertake or how it must undertake them. We consider this is in line with our overarching approach to provide AEMO with a reasonable level of flexibility in the CBA guidelines.

The suggestions we provide in the draft CBA guidelines are largely based on stakeholder submissions.

We consider the draft CBA guidelines provide economic guidance on conducting a rigorous CBA for the purposes of preparing an ISP and applying the RIT-T to actionable ISP projects. AEMO can choose to incorporate more economics in its ISP analysis, so long as it is consistent with the binding requirements of the CBA guidelines (and the FBPG).

Clause 5.22.10(c)(1)(vi) of the NER includes changes in ancillary services costs as a class of market benefits. Clause 5.22.10(c)(2)-(3) of the NER requires AEMO to consider all listed classes of market benefits as material unless it can provide reasoning. As such, if ancillary services costs are growing in importance, AEMO should value them in the ISP CBA.

We have not adopted ERM's alternative approach to benefit modelling in the market benefits section of the draft CBA guidelines. This is because the ISP is conducted at a development path, not individual project level (see response to 'Individual project viability' above). However, the draft CBA guidelines do set out a consideration for AEMO to present the modelled generation (and other non-network) projects that flow from the ISP projects in each development path under each scenario. This would provide transparency for stakeholders on the certainty of generation (and other-non-network) development associated with an optimal development path.

projects (MEU, p. 5).

The ISP’s CBA methodology should include analysis and consideration of the fairness and efficiency of both risk-allocation and cost-recovery of candidate ISP projects (PIAC, p. 9).

Classification of projects	The CBA guidelines should define the status of ‘shovel-ready’ works (TasNetworks, pp. 2-3).	The NER sets out the terminology for classifying projects in a development path, and we consider it is for AEMO to determine how 'shovel ready' works should be classified in an ISP.
Identified need	<p>The identified need should not bias the development of credible options in a RIT–T towards any one solution. It should be the TNSP that ultimately determines the preferred credible option to meet it (TasNetworks, p. 5).</p> <p>The identified need should be expressed as per the AER’s existing RIT–T application guidelines (EA, p. 7).</p> <p>There may be a need to provide additional guidance on how the identified need for an actionable ISP project is specified, as this will frame the alternative options and scenarios that need to be considered at the RIT–T stage. The identified need should be described at the least specific functional description that cannot be misinterpreted (ENA, pp. 14-15).</p> <p>The identified need of investment assessment processes should be clearly linked to the consumer benefit in the guidelines. An identified need should not be described to maintain a certain optimal development path if it overstates the need of consumers and alternative solutions are found (ERM, pp. 2, 5).</p>	<p>The guidance on the identified need for actionable ISP projects in the draft CBA guidelines are consistent with most stakeholder submissions. They are consistent in principle with the existing RIT–T application guidelines, but includes additional guidance to acknowledge the identified need for an actionable ISP project is driven by the overall optimal development path—each actionable ISP project in an optimal development path makes a particular contribution towards achieving a system-wide optimised solution. It also provides a worked example for additional guidance.</p> <p>Our guidance requires AEMO to describe the identified need relating to an actionable ISP project as the objective to be achieved by investing in the network. This ensures the identified need does not bias the credible options in a RIT–T towards a specific solution or technology.</p> <p>We agree that the identified need should explain how the objective is in the long term interests of consumers, and have included guidance along these lines in the draft CBA guidelines.</p>
Option value	<p>Option value is an integral component of CBA and should be included in the ISP analysis (ENGIE, p. 7).</p> <p>Guidelines should provide further clarity on the methodology and granularity required for staging and options analysis in the ISP and RIT–Ts for actionable ISP projects (TasNetworks, p. 1).</p>	<p>The draft CBA guidelines provide more clarity on incorporating and capturing option value in the ISP.</p> <p>We agree that option value is an integral component of CBA and should be included in the ISP analysis. As such, in the draft CBA guidelines AEMO must have regard to selecting development paths</p>

Where AEMO is constrained in conducting option value analysis, this could give rise to a potential inconsistency between RIT–T outcomes and the ISP optimal development path requiring further consideration as part of the ‘feedback loop’ (EA, p. 7).

Issues paper concludes that AEMO should consider option value where practicable, which appears inconsistent with the requirement in the draft NER (ENA, p. 15).

The guidelines should be explicit in requiring each option to be assessed for staged completion with the impact of the later cash flow incorporated into the net present value calculation (MEU, p. 4).

Option value requires assessment of scenario probability. At a high level it may be inconsistent to weight scenarios for the purposes of option analysis but not do this more broadly in the cost benefit analysis of candidate development paths (Hydro Tas, p. 8).

that involve staging projects, such that option value can be assessed through the CBA. We consider it would be too prescriptive to require AEMO to stage projects in all development paths, as this may not always be possible.

We consider staged credible options assessed in RIT–Ts for actionable ISP projects would be designed to meet the identified need described in the ISP. As such, we consider inconsistency and challenges in passing the ‘feedback loop’ are very unlikely.

We agree AEMO must value market benefits associated with option value in the ISP CBA because it is a class of market benefits under clause 5.22.10(c)(1)(ix) of the NER. However, while this can be done effectively at a development path level, we consider it may not be practical for AEMO to fully explore and capture option value for every individual ISP project in its selected development paths. These more granular staging considerations may be more effectively captured in applying the RIT–T, which is a single project CBA.

We recognise the challenge raised by Hydro Tasmania. However, we consider option value does not require the assessment of scenario probability. While it requires a weighted approach, the weights can be adjusted for risk. In any case, the draft CBA guidelines provide AEMO with the flexibility to use its scenario analysis to capture option value, or to estimate it separately.

Non-network options (NNOs)

Non-network options should be considered on an equal footing with network options. For this to occur, non-network options should be identified and considered in parallel with network options. This would require non-TNSP stakeholders to be involved in the process of identifying options. Stakeholders wishing to propose non-network options should be included in the joint planning process (Monash University, p. 18, Delta, pp. 2-3).

TNSP engagement on NNOs should be mandated in the ISP

The draft CBA guidelines provide more clarity on considering non-network options in the ISP—pre-draft ISP (through early engagement) and post-draft ISP (through the formal call for non-network option proposals). This should promote non-network options being considered on an equal footing with network options, as raised by several stakeholders.

The joint planning process is set out in the NER, and out of scope for the draft CBA guidelines. However, the draft CBA guidelines set

(TasNetworks, pp. 2, 5, ENA, pp. 15-16).

No new NNOs (outside of those identified in the final ISP) should be included as part of the analysis in the draft report when applying a RIT–T to actionable ISP projects (TasNetworks, p. 5, ENA, pp. 15-16).

May be beneficial to allow AEMO and TNSPs to receive non-network proposals at any time. The CBA guidelines could set out a minimum information requirement for proposals to be accepted (EA, p. 7).

CBA guidance on NNOs should cover best practice engagement with potential proponents of NNOs (ENA, p. 15).

If a change occurs which impacts the identified need, this may affect the technical characteristics of NNOs—this should be clarified in the CBA guidelines (ENA, p. 16).

AEMO should be required to consider all reasonable network development projects proposed by stakeholders during the consultation process and provide reasons for not providing support to progress a project to the ISP project assessment phase. Early consultation is also important (ERM, p. 2).

Consideration of non-network options should reflect the fact that the non-network options relevant at an ISP-level are likely to be different to those for many other RIT–Ts due to the larger scale and strategic nature of the system needs they are addressing (PIAC, p. 12).

Modelling of non-network options should be forward-looking and include the expected growth in size, capacity and sophistication of the market for non-network services in the future and not be unduly limited to responses AEMO may receive as part of consultation on the ISP (PIAC, p. 12).

out a consideration for AEMO to undertake early engagement with non-network proponents, consistent with the RIT–T application guidelines.

We acknowledge the importance of AEMO engaging with TNSPs in its preliminary review of non-network option proposals, and this is required in NER clause 5.22.12(c). However, in the draft CBA guidelines AEMO must have regard to including consumer stakeholders too, which provides additional accountability.

The NER does not preclude non-network options from being provided to AEMO or RIT–T proponents at any time during the transmission planning process, and the draft CBA guidelines require early engagement in the ISP process. We do not agree with precluding new non-network options from being considered in the RIT–T process for actionable ISP projects. We do not consider this promotes non-network options being considered on an equal footing with network options.

The draft CBA guidelines do not include guidance on best practice engagement with non-network proponents or other stakeholders. Guidance on stakeholder consultation is covered in the FBPG.

If a change occurs which impacts the identified need, we consider this will affect the technical characteristics of network and non-network options. This may result in an ISP update under clause 5.22.15 of the NER.

Under clause 5.22.12(d) of the NER, AEMO is required to undertake a preliminary review of all non-network option proposals, and provide its assessment in the final ISP. The draft CBA guidelines provide additional considerations to promote transparency of AEMO's assessment and reasoning.

Clause 5.22.12(a) of the NER requires AEMO's notice requesting submissions for non-network options to provide sufficient detail on the technical characteristics required. While we agree modelling of

non-network options in the ISP should be forward looking, we do not prescribe this level of detail in the draft CBA guidelines.

**Feedback loop** There may be advantages in having different decision rules behind the ISP’s optimal development path and the maximisation of net benefits in RIT–Ts (e.g. as a type of cross-check). There may be some flexibility for AEMO to reconcile different methodological approaches and outcomes where the TNSP’s alternative preferred option still addresses the identified need and forms part of the ISP’s optimal development path (EA, pp. 1-2).

AER should provide some guidance in the CBA guidelines on how the feedback loop will be applied (ENA, pp. 5, 19).

The feedback loop should ensure that the preferred option meets the “identified need”, rather than a requirement to mirror the preferred project defined in the ISP. The guidelines should require the preferred option to meet the “identified need” at greatest net benefit (ERM, p. 5).

We agree that the feedback loop is flexible and does not require identical decision making frameworks (or decision rules) in the ISP and RIT–T to function effectively and promote ISP and RIT–T alignment.

The draft CBA guidelines provide guidance on how the feedback loop will be applied.

We agree the feedback loop should ensure the preferred option meets the identified need, rather than a requirement to mirror the candidate project defined in the ISP. We have provided corresponding guidance in the draft CBA guidelines. The RIT–T requires the preferred option to maximise net economic benefit across the market.

**ISP / RIT–T alignment** Need to ensure uniformity between the assessment approach adopted for the ISP and that adopted for the RIT–T processes (QFF, p. 2, TransGrid, p. 1, Origin, pp. 1, 2, ENA, pp. 3, 5).

CBA guidelines should ensure that inputs, assumptions, scenarios and modelling are transparent and consistently applied across the ISP and RIT–Ts (ENGIE, pp. 4-5, Origin, pp. 1, 2).

However, further clarity on [option value] may be required to ensure consistent approaches between ISP and RIT–T processes (TasNetworks, p. 4, EA, p. 7).

The draft CBA guidelines apply the same broad CBA steps and approach to valuing costs and market benefits between the ISP and RIT–T. The main differences are those required for assessment at a development path level, and the flexibility provided to AEMO in selecting an optimal development path.

The draft CBA guidelines set out a framework for the ISP and RIT–T in selecting an optimal development path and preferred option respectively. The ISP framework has more flexibility than the RIT–T framework. However, we allow AEMO to specify the identified need and assign scenarios to RIT–T proponents in a way that ensures alignment between the ISP and RIT–T.

**Dispute resolution guidance** Guidance in the CBA guidelines on disputes procedures should be consistent with that already included in the RIT–T application guidelines (TasNetworks, p. 6).

The draft CBA guidelines provide consistent guidance on dispute resolution between the ISP and RIT–Ts for actionable ISP projects. This is discretionary guidance based on explaining the

	<p>Some changes in wording from the current AER guidance will be necessary to reflect the more restricted scope for disputes in the ISP, and RIT–Ts for actionable ISP projects (ENA, p. 21).</p> <p>The AER can assist in providing clarity on the process for raising a dispute (ERM, pp. 5-6, MEU, pp. 11-12).</p>	<p>requirements in the NER. The only difference between the guidance for ISP and RIT–T disputes are those dictated by the NER (for example, ISP disputes are restricted to particular ISP processes, whereas RIT–T disputes can be on any conclusions made in the conclusions report).</p>
CBA guidelines development	<p>In developing the CBA guidelines, the AER should provide the rationale where it chooses to deviate from the existing RIT–T application guidelines (Origin, p. 2).</p> <p>AER’s decisions to classify elements into each category should be clearly described and subject to periodic review (PIAC, p. 8).</p> <p>We think that worked examples are always helpful for consumers seeking to understand and engage in the ISP process (EUAA, p. 9).</p> <p>There is no need for worked examples on the CBA steps, would be good to have worked examples for issues that are less clear like option value (ENA, p. 9, TasNetworks, p. 4).</p>	<p>This explanatory statement provides our rationale for where we have deviated from the existing RIT–T applications guidelines.</p> <p>This explanatory statement describes our decisions on classifying the level of prescription associated with elements of the CBA guidelines. We will review these when we review the CBA guidelines, in accordance with the NER.</p> <p>We have provided a number of simplified worked examples in the draft CBA guidelines, including on issues that are less clear than the broad CBA steps.</p>
Distribution network consideration	<p>The ISP potentially excludes consideration of large-scale distribution connected projects. However, distributors have a significant level of generation connecting to their networks, particularly in Queensland. As such, the implications for distribution connected generators should be considered in any ISP modelling (EQ, p. 2).</p> <p>The ISP defines 'actionable ISP projects' as either being a transmission asset, or a non-network option. Distribution projects are considered under the ISP as “development opportunities”. Noting the majority of customer-owned DER, energy storage and electrification of transport impacts on distribution networks (both LV and Medium Voltage), these differences should be articulated in the guidelines (EQ, p. 2).</p>	<p>The ISP seeks to incorporate information on large-scale distribution connected projects in its modelling. However, the draft CBA guidelines do not prescribe the technical requirements of inputs to the ISP modelling given AEMO’s technical expertise.</p> <p>The NER sets out the distinction between actionable ISP projects and ISP development opportunities. As such, we do not articulate the differences in the draft CBA guidelines.</p>
Public policy	The CBA guidelines should provide additional guidance on how	The NER provides the requirements on AEMO around



needs	<p>AEMO and TNSPs are to incorporate public policy needs in the modelling. For example, this could include a requirement for AEMO and TNSPs to explicitly model a scenario that excludes the public policy in question (Origin, pp. 1-2).</p> <p>“Public policy needs” should not be included in AEMO’s assessment of the optimal development path (AEC, p. 2).</p>	<p>incorporating public policy needs into the ISP. We do not provide guidance on this in the draft CBA guidelines. We also seek to balance prescription and flexibility in the draft CBA guidelines. We do not prescribe what can and cannot be included in AEMO’s scenario or sensitivity analysis (see responses to 'Reasonable scenarios' and 'Sensitivity testing').</p>
Qualitative considerations	<p>There may be benefit in prescribing qualitative considerations in the CBA methodology (EA, p. 6).</p> <p>Supports inclusion of qualitative analysis of the scenarios in the ISP which will make the process a more transparent and robust contribution to decision making (Hydro Tas, p. 6).</p>	<p>We do not prescribe qualitative considerations for the CBA methodology in the draft CBA guidelines. This is because the ISP and RIT–T CBAs are focussed on market-wide economic costs and benefits, consistent with the NEO. They do not consider social costs and benefits, which are generally harder to quantify.</p>
Renewable energy zones (REZs)	<p>The ISP may present a clear system plan for the development of REZs. However, there is a risk of developing transmission assets in the absence of new connecting generator development. The AER should consider whether the ISP guidelines could minimise this risk through placing limitations on the number of REZs approved for construction at any given time (ERM, p. 4).</p>	<p>We do not place limitations on the number of REZs approved for construction at any given time in the draft CBA guidelines. We consider this is not an appropriate level of prescription on AEMO. There are also other mechanisms to manage the risk of developing transmission assets in the absence of new connecting generator development.</p>

## RIT–T guidance and requirements

The submissions in table 5 concern how the RIT–T instrument and CBA guidelines/RIT–T application guidelines apply to RIT–T applications for ISP/non-ISP projects. Many of these submissions responded to questions 14 and 15 of the issues paper, which sought input on our proposed approach to the RIT–T application guidelines for RIT–T projects.

Moreover, some submissions to the ESB on the draft ISP rule changes provided input that is relevant to the RIT–T. We have flagged where input has come from submissions to the ESB rather than to us on our issues paper.

**Table 5: Submissions relevant to the RIT–T**

Submission	Summary	Proposed response
Consistency with current RIT–T instrument and application guidelines	<p>The approach proposed in the issues paper to making incremental changes to the current RIT–T application guidelines is sensible. There should be some minor amendments to the current guidelines to acknowledge the differences between ISP and non-ISP projects (Hydro Tasmania, p. 9; TasNetworks, p. 6, Delta, p. 3; EUAA, p. 11; PIAC, p. 13).</p> <p>The CBA guidelines should mirror the existing RIT–T application guidelines, with deviations limited to addressing the different circumstances of the ISP (Origin, pp. 1, 5).<sup>166</sup> Changes to the RIT–T application guidelines should be limited to removing consultation reports and presuming reliance on ISP input parameters for ISP projects. The processes for non-ISP projects should remain unchanged (AEC, p. 1, Energy Australia, pp. 7-8).</p>	<p>We have endeavoured to limit changes to the RIT–T application guidelines for non-ISP RIT–T applications to facilitate consistency and to draw on AEMO's work (e.g. by requiring non-ISP RIT–Ts to use inputs, assumptions and scenarios in the IASR unless they provide demonstrable reasons for why an addition or variation is necessary).</p> <p>We have based the RIT–T guidance for actionable ISP projects on the RIT–T application guidelines in the first instance. However, we have adjusted this guidance to support an evaluation framework that is consistent with the ISP. This has resulted in a small number of more material changes (e.g. requiring the RIT–T proponent to include other actionable ISP projects in all states of the world, which are discussed in section 5 of this explanatory statement).</p>
Treatment of other actionable	<p>Supports including actionable ISP projects in the base case (Hydro Tasmania, p. 9; ENA, pp. 3, 5; ENGIE, p. 8; TasNetworks, p. 6). Plus:</p>	<p>We have maintained our position in the issues paper. Plus:</p> <ul style="list-style-type: none"> <li>No deviation should be necessary because there will be an ISP</li> </ul>

<sup>166</sup> Submission to the ESB. Origin, *ESB: Converting the ISP into action – Consultation on draft ISP Rules*, 17 January 2020.

## ISP projects

- TasNetworks supports deviating from this approach where more accurate and/or up to date information becomes available (p. 6).
- ENA also supports this approach for non-ISP projects (p. 17). Delta submits that non-ISP projects should be cognisant of the impact of actionable ISP projects as there is potential to include benefits from other projects if the RIT–T application is poorly framed (p. 3).
- ENA also supports flexibility on whether to include ISP projects that are not actionable in the base case across all scenarios (ENA, p. 17).

Does not support including other actionable ISP projects in the RIT–T base case (Energy Australia, p. 2; EUAA, p. 11; ERM Power, p. 4). To avoid overstating the efficiency of such projects, Energy Australia would rather include the optimal development path in a scenario or conduct joint RIT–T assessments where the benefits of projects are highly correlated. EUAA has concerns with the robustness of some of the actionable ISP projects and with double-counting benefits from related ISP projects. ERM Power is also concerned with double-counting benefits and submits that where benefits associated with a network development option rely on other network options, the CBA should include the total cost of all projects required to realise the benefit. RIT–T assessments of ISP projects should not rely on the likelihood (and benefits) of other related projects progressing (AGL, p. 3).

Origin does not express a preferred option, but the chosen option should be applied consistently across RIT–T applications. If the AER proceeds with its proposal in the issues paper, it should also show a third counterfactual which excludes other actionable projects and development opportunities, or include the impact of other actionable projects/development opportunities as a sensitivity (Origin, p. 4).

update where new information affects projects in the optimal development path.

- Our approach also applies to non-ISP projects. However, this is only where this information is relevant/material, which may not be the case for some non-ISP projects (e.g. small, intra-regional replacement projects).
- The draft RIT–T instrument proposes usually treating ISP projects that are not actionable ISP projects (i.e. ISP development opportunities and future projects) as modelled projects. To promote a consistent assessment framework, our approach is to require TNSPs to apply AEMO's analytical approach rather than to have flexibility.

We are not convinced that including other actionable ISP projects in all states of the world would double-count market benefits. Rather, it would avoid double-counting benefits where multiple projects are expected to produce the same benefit. While suggestions to conduct joint RIT–T assessments are sensible, the CBA that AEMO performs in the ISP would have this function. Suggestions to include a scenario without the optimal development path is consistent with the current RIT–T application guidelines approach. This has less merit under the new ISP framework where AEMO is recommending a set of coordinated investments based on a robust and transparent NEM-wide CBA

We have proposed a consistent approach across RIT–Ts applications for actionable ISP projects and other RIT–T projects. While Origin's suggestion would provide useful transparency, it is not clear that the benefits would be justified by the additional analytical burden required to undertake the task.

Treatment of modelled generation	<p>Supports the AER's proposal for RIT–T assessments to include modelled generation in assessing actionable ISP projects (ENGIE, p. 8; QFF, p. 3; ENA, p. 3). QFF considers this approach will ensure the REZ models that the ESB and AEMC are developing would be included into, and strengthen, AEMO's forecasting approaches and modelling (QFF, p. 3). Where the actionable ISP project is a transmission investment for a REZ, the generation investment expected to be enabled (as identified in the ISP) would be included in the credible option state of the world (ENA, p. 6, 18). Where an ISP project only provides a net benefit on the assumption that a specific level of new uncommitted energy generation resource expenditure occurs in tandem with that network project, it should be the total costs of network and generation that must deliver a net benefit (ERM Power, p. 4).</p> <p>Is concerned with the issues papers' approach on how to treat ISP modelled generation and is concerned about 'funding roads to nowhere' (EUAA, p. 11).</p> <p>The approach proposed in the issues paper for treating generation modelled in the ISP would not allow TNSPs to consider the full value of REZ transmission investments. Modelled generation for a REZ transmission investment should be in the base case for both actionable ISP projects and non-ISP projects (TransGrid, p. 2).</p>	<p>Each state of the world without the credible option should contain the modelled generation that occurs without the ISP project in each respective scenario. In addition, each state of the world with the credible option should contain modelled generation associated with that project in each respective scenario as shown in the ISP development opportunities. This is consistent with our position in the issues paper, although is re-worded to recognise that there will likely be more than two states of the world given RIT–T proponents will explore multiple reasonable scenarios is the ISP specifies that multiple scenarios are relevant. Formally, the draft RIT–T instrument reflects this by clarifying that where a RIT–T proponent adopts the market modelling from the ISP, ISP projects that are not actionable ISP projects are usually modelled projects.</p> <p>Our proposed approach is consistent with the current treatment of modelled generation, but solidifies the authority given to the market development modelling in the ISP. This approach will capture the cost of new generation build that follows the credible option.</p> <p>We do not support TransGrid's suggestion, which is conceptually equal to assuming that modelled generation in REZs already exists and simply requires new transmission infrastructure to bring the electricity to market. This would overstate the net benefits by ignoring the construction costs of new generation build.</p>
Selecting scenarios	<p>RIT–T applications to ISP projects need to include multiple scenarios rather than being limited to the central scenario (EUAA, p. 11; Origin, p. 6, Energy Australia, p. 2; Hydro Tasmania, p. 9). Doing so will allow TNSPs to evaluate alternative credible options and option value without materially increasing the time required to undertake the RIT–T (ENA, pp. 5, 19). Doing otherwise would reduce</p>	<p>For actionable ISP projects, we require the RIT–T proponent to use the scenarios that the ISP specifies as relevant to that project/identified need (which must always include the most likely ISP scenario). This approach should support a consistent assessment approach between the ISP and RIT–T, limit the computational burden, and allow the RIT–T to evaluate alternative</p>

	<p>consistency between the RIT–T process and the ISP (Origin, p. 6; Hydro Tasmania, p. 9).<sup>167</sup></p> <p>Guidance on when to restrict the RIT–T assessment to the central scenario would be useful (e.g. relevancy, project size, how much credible options vary from the ISP candidate option) (ENA, pp. 19–20).</p> <p>Scenarios should be common to all ISP/RIT–T assessments. TNSPs should not be able to develop new scenarios to suit specific augmentations (ENGIE, pp. 3, 8).</p>	<p>credible options and option value wherever doing so is relevant to the identified need.</p> <p>AEMO, rather than TNSPs, will use its discretion to determine what scenarios should be applied in the RIT–T assessment.</p> <p>While we have not provided TNSPs discretion to add new scenarios when applying the RIT–T to actionable ISP projects, they have this discretion for other RIT–T projects (see section 5.1).</p>
Weighting scenarios / alignment	<p>The assessment approach between the ISP and RIT–T for actionable ISP projects should align in selecting coherent net benefit outcomes (TransGrid, p. 1; QFF, p. 2, PIAC, p. 9<sup>168</sup>).</p> <p>When TNSPs consider multiple scenarios, it should adopt the same considerations as AEMO rather than being restricted to weightings based on probabilities or likelihoods. There must be a consistent assessment approach between the ISP and the RIT–T for actionable ISP projects to get a coherent outcome (ENA, p. 3, 5, 20). If AEMO has flexibility in selecting the optimal development pathway, then similar methods must be available to TNSPs, including altering the projects in the base case where more accurate/up-to-date information is available (TasNetworks, p. 2)</p> <p>RIT–Ts should continue to weight scenarios based on their likelihood of occurring (Hydro Tasmania, p. 9). Origin also supports this approach for the ISP and RIT–T (pp. 1, 2).</p>	<p>The draft RIT–T instrument requires RIT–T proponents to apply the likelihood-based weightings in the ISP to weight reasonable scenarios when assessing actionable ISP projects. Given AEMO can build the ISP’s specific considerations of risk into the identified need, the economic assessment framework underpinning the ISP and RIT–T should produce a coherent outcome.</p> <p>Requiring RIT–T proponents to apply the ISP scenarios that the ISP identifies as relevant to the project (along with the likelihood-based weightings in the ISP) should be more effective in providing this consistency than if we provided TNSPs with general flexibility, which requires TNSPs to subjectively interpret AEMO’s exercise of discretion.</p> <p>RIT–T will continue to use weightings based on the likelihood of scenarios occurring).</p>
Soliciting non-network	<p>Favours maintaining the current RIT–T guidance on considering NNOs and facilitating responses from NNO proponents (ENGIE, p.</p>	<p>Under NER clause 5.15A.3(b)(8), the RIT–T must specify that the RIT–T proponent is not required to request submissions for NNOs or</p>

<sup>167</sup> Submission to the ESB. Origin, *ESB: Converting the ISP into action – Consultation on draft ISP Rules*, 17 January 2020.

<sup>168</sup> Submission to the ESB. PIAC, *Submission to ESB on draft ISP Rules*, 17 January 2020.

options (NNOs) in ISP RIT-Ts	<p>8; EUAA, p. 11). RIT-T proponents should continue to call for and consider NNOs throughout the RIT-T process (Origin, p. 1).<sup>169</sup></p> <p>The CBA guidelines should clarify that TNSPs need not solicit further NNOs at the draft report stage as the key point of engagement with NNO providers will now occur at the ISP stage (ENA, p. 6, 16; TasNetworks, p. 4<sup>170</sup>).</p>	<p>otherwise seek to identify NNOs in addition to what was assessed in the ISP or submitted to AEMO in response to actionable ISP projects that were only in the final ISP.</p>
Simplifying and streamlining	<p>Supports eliminating duplication between the ISP and RIT-T for actionable ISP projects (ECA, p. 2, Energy Australia, p. 2, QFF, p. 2). However, essential controls must be maintained (QFF, p. 2) and the outcomes should not be compromised (Hydro Tasmania, p. 9).</p> <p>The guidelines should provide some principles around balancing computation burden against materiality and uncertainty (Energy Australia, p. 2).</p>	<p>We have endeavoured to eliminate duplication between the ISP and RIT-T where possible, without compromising the outcomes. We are interested in stakeholder views whether we have balanced these objectives effectively and if we can make specific improvements.</p>
Inputs	<p>RIT-T proponents must use ISP input data, regardless of whether or not the RIT-T is for an actionable ISP project (ENGIE, p. 8). The ISP and RIT-Ts must consistently apply inputs, assumptions, scenarios and modelling (Origin, p. 1). RIT-T proponents should use the latest available forecasts published by AEMO (Origin, p. 6).<sup>171</sup></p> <p>Where AEMO receives new information that materially alters the outcome of a RIT-T that has or will soon commence, but chooses not to update the ISP, this should not prevent RIT-T proponents from using the updated information (AGL, p. 2).<sup>172</sup></p>	<p>The draft RIT-T instrument requires the use of ISP parameters when applying RIT-Ts to actionable ISP projects and the use of inputs, assumptions and scenarios in the most recent IASR for other RIT-T projects (unless there are demonstrable reasons why an addition or variation is necessary). This should lead RIT-T proponents to use AEMO's latest available forecasts.</p> <p>The NER and the RIT-T enable RIT-T proponents to depart from ISP parameters if they identify what they have done and demonstrate why it was necessary. For actionable ISP projects, such departures would only be permitted for new information that is</p>

<sup>169</sup> Submission to the ESB. Origin, *ESB: Converting the ISP into action – Consultation on draft ISP Rules*, 17 January 2020.

<sup>170</sup> Submission to the ESB. TasNetworks, *Re: Converting the ISP into action*, 16 January 2020.

<sup>171</sup> Submission to the ESB. Origin, *ESB: Converting the ISP into action – Consultation on draft ISP Rules*, 17 January 2020.

<sup>172</sup> Submission to the ESB. AGL, *Submission to the converting the ISP into action: Draft Rule*, 17 January 2020.

		yet to be reflected in the ISP or ISP update.
Modelling	The AER's guidelines should place an obligation on AEMO and the RIT–T proponents to conduct market modelling that is more representative of the NEM outcomes and behaviours in the cost-based analysis (ENGIE, p. 2). <sup>173</sup>	Our proposed revisions to the RIT–T require market development modelling to be adopted from the ISP in so far as practicable. Under NER clause 5.22.5(e), we must provide flexibility to AEMO in its approach to modelling. However, AEMO will apply the principles and follow the consultation processes in our FBPG when developing its ISP methodology and when modelling as part of its forecasting processes and practices for the ISP.
Level of prescription	Guidance should not be more prescriptive for the RIT–T assessment than what the NER imply for the ISP assessment (ENA, p. 3, 5).	The ISP framework is predicated on AEMO exercising its technical judgement within an economic framework, and on TNSPs applying AEMO's analytical process at a more granular level. Under this framework, AEMO will necessarily have more flexibility than TNSPs.

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<sup>173</sup> Submission to the ESB. ENGIE, *Re: Response to consultation on draft ISP Rules – Actionable ISP*, 17 January 2020.

## Forecasting best practice guidelines

The submissions in Table 6 relate to the FBPG, which cover how AEMO should develop, consult on and publish its IASR and ISP methodology. Responses to Question 17 of the issues paper are relevant to the FBPG, which cover 'what areas of the ISP stakeholders require further transparency and/or consultation to engage effectively in the process'? Moreover, some submissions to the ESB on the draft Rule changes for the ISP provide input that is relevant to the FBPG. We have flagged where input has come from submissions to the ESB rather than to us on our issues paper.

**Table 6: Submissions relevant to the FBPG**

Broad issue	Summary of relevant submission/s	Proposed response
Ex-post reviews and continuous improvement	<p>ISP projects that are implemented should undergo ex-post review to test if the outcome reflects the modelling that was used. This will provide feedback as to whether the assumptions and key inputs used were justified, which will increase the accuracy for future projects (MEU, p.4; PIAC, p. 7).<sup>174</sup> The forecasting methodology should incorporate an 'error correction loop' using the performance of predicted values against historical values as an input into future predictions, so that performance can improve over time (PIAC, p. 6).</p> <p>The FBPG should emphasise the process of continuous improvement; how to make the next input assumptions more robust in describing future states of nature (ECA, p.4).</p>	<p>The draft FBPG propose that AEMO perform forecast performance reviews to promote transparency and continuous improvement. This aligns with the need for AEMO to perform forecast performance reviews for reliability forecasts under the interim FBPG.</p> <p>The draft FBPG set out requirements for AEMO to review its Forecasting Approach at least every four years. It also provides a shorter process for more frequent/discrete reviews to better facilitate continuous improvement initiatives.</p>
ISP updates	<p>The FBPG should require AEMO to promptly inform stakeholders associated with any ISP updates, including as they arise out of ex-post reviews of forecasts, as this may materially affect investment decisions being progressed as a result of the ISP (EnergyAustralia, p. 4).</p>	<p>The final ESB rules require AEMO to assess the impact of new information as soon as practicable after that new information becomes available. If AEMO determines that the new information materially changes the need for or characteristics of an actionable IPS project, then under the draft FBPG, AEMO must commence</p>

<sup>174</sup> In submissions to the ESB on the draft ISP Rules. MEU, *Converting the ISP into action: Response to draft decision*, 17 January 2020; PIAC, *Submission to ESB on draft ISP Rules*, 17 January 2020.



	<p>Is it unclear if ISP updates will be subject to the same requirements as apply to the scheduled ISP activities. ISP updates should be required to follow the same process controls, consultation and checks as scheduled ISP developments (MEU, p. 6).<sup>175</sup></p>	<p>preparing an ISP update as soon as practicable.</p> <p>NER clause 5.22.15 provides requirements for ISP updates, which include AEMO needing to follow consultation requirements set out in the FBPG. This requires AEMO to follow a single stage consultation process.</p>
<p>Consistency with the interim FBPG</p>	<p>Supports basing the FBPG on the interim FBPG or making the FBPG as consistent as possible with interim FBPG (Hydro Tasmania, p. 10; ENA, p. 20; Origin, p. 4, AEC, p. 2).</p> <p>A notable omission from the interim FBPG is a target to indicate what constitutes best practice. The interim FBPG focus on process, which AEMO could meet whilst producing forecasts that are significantly inaccurate when compared with data after the event. Recommends AER include measures within the FBPG (e.g. targets for accuracy over specified time periods) to test compliance (AEC, p. 2).</p> <p>The interim FBPG focussed too much on consultation procedures and not enough of the interactive nature of developing inputs (ECA, p. 3).</p>	<p>We are basing the FBPG on the interim FBPG. Changes to existing elements of the interim FBPG will mainly be structural rather than concerning substance, ensuring similarity.</p> <p>Ex-post forecast accuracy differs from whether the forecasts were reasonable in expectation, and therefore will not be used for compliance. However, the draft FBPG require forecast performance reviews to promote transparency and continuous improvement.</p> <p>The draft FBPG more clearly distinguish consultation procedures from forecasting principles. While consultation remains a significant component, the draft FBPG provide additional content on forecasting principles, including around constructing scenarios and selecting reasonable inputs and assumptions.</p>
<p>Responding to stakeholder feedback</p>	<p>Suggests that for ISP development process steps, AEMO should be obligated to publish its decision and rationale in response to stakeholder feedback, including reasoning where recommendations are/are not adopted (AGL, p. 3; CEC, p. 3; ENGIE, p. 9).<sup>176</sup> Delta submitted that AEMO should do this when forming ISP scenarios (Delta, p. 2). ECA added that the FBPG should include the requirement for AEMO to respond transparently to submissions and</p>	<p>The NER require AEMO to respond to stakeholder submissions.<sup>177</sup> The draft FBPG include this requirement for when AEMO develops the Inputs, Assumptions and Scenarios Report (IASR), ISP methodology, and ISP updates. This will include responses to input during the formation of scenarios, since the IASR sets out the ISP scenarios. The draft FBPG also clarify that when responding to submissions, AEMO should explain whether and how it has</p>

<sup>175</sup> MEU submission to the ESB. MEU, *Converting the ISP into action: Response to draft decision*, 17 January 2020.

<sup>176</sup> In submissions to the ESB on the draft ISP Rules. AGL, *Submission to the converting the ISP into action: Draft Rule*, 17 January 2020; CEC, *Converting the ISP into action: Consultation on draft ISP Rules*, 17 January 2020.

<sup>177</sup> NER, clauses 5.22.8(b)(3), 5.22.14(b)(4) and (c)(3), 5.22.15(e)(2).

	explain whether and how it has incorporated proposed changes (ECA, p. 2).	incorporated specific input from submissions.
Publishing information	<p>Stakeholders submitted that the following material should be published in a timely manner:</p> <ol style="list-style-type: none"> <li>1. The full ISP/RIT–T models (Origin, p. 4).</li> <li>2. Preliminary results (Delta, p. 2)</li> <li>3. Consultant reports (Delta, p. 2)</li> <li>4. The scope of work for engagement with, and methodology used by, external data or information providers (Delta, p. 2).</li> <li>5. Materials provided at public forums and to a subset of stakeholders (Delta).<sup>178</sup></li> <li>6. Materials (Delta).<sup>179</sup></li> <li>7. All technical and cost information provided by TNSPs and AEMO during the options development process (Delta).<sup>180</sup></li> <li>8. Materials that the AER prescribes AEMO and TNSPs to publish during consultation (Energy Australia, p. 2).</li> <li>9. Easily accessible input data and transparency of approach such that stakeholders can test the realism of results or replicate results (Energy Australia, pp. 3, 5).</li> <li>10. AEMO's modelling process documentation and the methodologies for input data preparation and output data interpretation must be complete with reference to relevant</li> </ol>	<p>Given the draft FBPG set out principles-based consultation and forecasting practices, we have converted this numbered information into principles to realise the intent of providing this information. That is, AEMO should publish material to:</p> <ul style="list-style-type: none"> <li>• Allow stakeholders to understand the key inputs and assumptions driving the results, so that they are capable of replicating or interrogating the results (1, 9, 10, 11)</li> <li>• Hold itself to account by ensuring the mechanics and assumptions behind its analysis are transparent (1, 3 4, 9, 11)</li> <li>• Provide stakeholders with the opportunity to interrogate the results and provide input throughout the process (2, 11)</li> <li>• Allow stakeholders to have access to similar data to promote a balanced discussion where otherwise some stakeholders would be privy to better information than others (5, 6, 7)</li> <li>• Moreover, the NER require AEMO to publish key ISP inputs in the IASR and the ISP database.<sup>181</sup> Also, the draft FBPG specify that AEMO should set out the key elements of its Forecasting Approach — and specifies what these key elements should include. AEMO's methodology for output data interpretation will be set out in its ISP methodology, which must comply with the CBA guidelines.</li> </ul>

<sup>178</sup> Delta submitted the NER should require this to the ESB. Delta, *Consultation on draft ISP Rules*, 17 January 2020, pp. 2-3.

<sup>179</sup> Delta submitted the NER should require this to the ESB. Delta, *Consultation on draft ISP Rules*, 17 January 2020, pp. 2-3.

<sup>180</sup> Delta submitted the NER should require this to the ESB. Delta, *Consultation on draft ISP Rules*, 17 January 2020, pp. 2-3.

<sup>181</sup> NER, clauses 5.22.8(a); 5.22.16(a)(2).

documents from experts (ENGIE, p. 9)

11. Forecasting methodologies and inputs should be transparent and open to stakeholder scrutiny (PIAC, p. 6).

Timeframes/ deadlines	<p>Stakeholders recommended that timeframes be provided for:</p> <ul style="list-style-type: none"><li>• The IASR in the NER (ENA, p. 8). Also, developing ISP inputs and assumptions to avoid the risk that subsequent changes are unduly compressed (TasNetworks, p. 2).</li><li>• The maximum time for AEMO to release materials relating to ISP development in the NER (Delta, pp. 2-3).<sup>182</sup> ENGIE noted that timing for such should be progressive and as early as possible (ENGIE, p. 9).</li><li>• Minimum timeframes for providing information to stakeholders before a public forum or panel (Delta, p. 2). Similarly, EUAA considered it unreasonable to expect consumer advocates to provide informed responses on a slide pack with high-level information distributed a couple of days prior to consultation (p. 5).</li></ul>	<p>The draft FBPG do not prescribe timeframes for process steps (other than minimum timeframes for consultation), which are set out in the NER instead. Rather, the draft FBPG provide best practice consultation principles, which cover the importance of:</p> <ul style="list-style-type: none"><li>• Information being as timely and accessible as possible.</li><li>• Providing stakeholders with sufficient time to digest information before public forums.</li></ul>
Consumer engagement	<p>If AEMO has an ISP panel to engage with stakeholders, there should be more prescription around how the panel is to operate (e.g. requirement to follow the AER's consumer engagement guideline and to develop a stakeholder engagement plan) (EUAA, p. 6).</p> <p>AEMO can improve its consumer/stakeholder engagement by:</p> <ul style="list-style-type: none"><li>• Dedicating specialist resources to the task.</li><li>• Becoming a signatory to the Energy Charter.</li></ul>	<p>NER clause 5.22.7 provides detailed prescription around how the ISP consumer panel will operate. As such, the draft FBPG do not prescribe additional requirements.</p> <p>Section 2.1 of the draft FBPG provides principles for best practice consultation, which should guide AEMO in developing the ISP. For example, this section:</p> <ul style="list-style-type: none"><li>• Refers AEMO to the AER's consumer engagement guideline.</li><li>• Refers to how resourcing specialist internal resources and</li></ul>

<sup>182</sup> Submission to the ESB. Delta Electricity, *Consultation on draft ISP Rules*, 17 January 2020.

- Moving up the IAP2 spectrum from predominately inform (base level) with some consultation (second level), towards having more 'consult' and 'involve' and in some cases, 'collaborate' (p. 4).

There is insufficient time and resources for consumers and other stakeholders to provide the necessary detailed input into the ISP consultation process, such as the assumptions and modelling methodology (EUAA, p. 1; MEU, p. 4)<sup>183</sup>

Since the past is going to be even less effective in predicting the future (with climate change) it is even more important to discuss forecasts in detail with representative stakeholders to identify structural breaks (ECA, pp. 2-3).

consumer panels/consultative committees aligns with the principle of building consumers' capacity to engage in complex matters.

- Highlights the value of being aware of when more stakeholder involvement or collaboration is warranted rather than simply informing

Prescription on AEMO

Does not accept that AEMO is the forecasting expert and is concerned with AEMO's forecasting performance in the past (ECA, p. 2; QFF, p. 3). AEMO must be subject to the same level of scrutiny as a TNSP (QFF, p. 3).

The AER's Guidelines, at least as they apply to the 2022 ISP, should be more prescriptive for AEMO given this is the start of the actionable process. AEMO's forecasting transparency could be improved, as could its focus on costs to consumers (EUAA, pp. 2, 3).

We are satisfied that the new ISP rules and FBPG will require a transparent and principles-based forecasting approach that will facilitate continuous improvement. While we anticipate AEMO improving its capabilities over time, we are not convinced that a prescriptive approach to forecasting in the first instance will achieve better results.

Uncertainty

Forecasting inputs and outputs should incorporate a range of scenarios where degrees of confidence are expressed (PIAC, p. 6).

The interim FBPG provided guidance on scenario and sensitivity analysis for reliability forecasts. The draft FBPG extend this guidance to forecasts more generally for the ISP, as well as

<sup>183</sup> Supplementary submissions to the AER's ISP guidelines. See EUAA, *Supplementary submission: AER ISP guidelines*, January 2020; MEU, *Supplementary submission: Guidelines to make the ISP actionable*, 2 February 2020.

Scope of consultation required in the FBPG

AEMO should not just consult on the ISP input assumptions, but also the modelling outputs (this requirement is better in the NER, but could alternatively be in the FBPG) (Origin, p.4).<sup>184</sup>

The FBPG must provide for extensive consultation at all stages (EUAA, p. 11).

AEMO's consultation should not be limited to key inputs and assumptions, but should also include the network options considered (MEU, p. 4<sup>185</sup>; ERM Power, p. 2). The FBPG must include consultation requirements for developing potential ISP projects at the initial development stage. AEMO should be required to consider all reasonable network development projects proposed by stakeholders and provide reasons for not progressing a project to the ISP project assessment phase (ERM Power, p. 2).

Suggests the FBPG provide guidance for the various interactions required between AEMO, TNSPs and stakeholders (ENA, p. 21).

providing some additional guidance on constructing ISP scenarios.

Where AEMO uses forecasting models to derive forecasts in the IASR, AEMO will need to consult on these modelling outputs as part of the single stage process in the draft FBPG. AEMO will also need to consult on outputs in the draft ISP. The draft FBPG add that it would be best practice to consider whether additional forums would be valuable for sharing this information (e.g. consultation on preliminary modelling outcomes).

The NER provide consultation requirements for the ISP, including around publishing an ISP timetable, IASR and draft ISP, as well as holding a public forum on the draft ISP maintaining an ISP database. In line with the NER, the draft FBPG prescribe specific consultation requirements for the IASR, ISP methodology, ISP updates, and forecasts used in the ISP more generally. The draft FBPG also set out best practice consultation principles and practices.

When explaining that AEMO should employ the consultation practice of 'transparently disclosing all key inputs', the draft FBPG explain that the optimal development path is an output of the ISP, specific network investment options are also modelling inputs that are developed out of the joint-planning process between AEMO and TNSPs. As such, this information should be publicly available, preferably in the IASR.

The draft FBPG provide some guidance to this effect through prescribing 'forecasting best practice consultation procedures' and the 'single stage process'. The NER also set out joint-planning requirements between AEMO and TNSPs.

<sup>184</sup> Submission to the ESB. Origin, *ESB: Converting the ISP into action – Consultation on draft ISP Rules*, 17 January 2020.

<sup>185</sup> Submission to the ESB. MEU, *Converting the ISP into action: Response to draft decision*, 17 January 2020.

## Appendix B: Glossary and shortened forms

This appendix sets out a glossary of key terms and list of shortened forms.

### Glossary

Table 7 provides the description of key terms used in this explanatory statement.

**Table 7: Key terms**

Term	Description
Actionable ISP project	<p>Defined in NER chapter 10 as a project:</p> <ul style="list-style-type: none"> <li>that relates to a transmission asset or non-network option the purpose of which is to address an identified need specified in an ISP and which forms part of an optimal development path</li> <li>for which a project assessment draft report is required to be published in the ISP that identifies that project.</li> </ul>
Anticipated project	<p>Anticipated project means a project which:</p> <ul style="list-style-type: none"> <li>does not meet all of the criteria for a committed project; and</li> <li>is in the process of meeting at least three of the criteria for a committed project (as listed in the 'committed project' definition below).</li> </ul>
Base case	<p>In a RIT–T application, a situation in which the <i>credible option</i> is not implemented by, or on behalf of the <i>RIT–T proponent</i>.</p> <p><i>For a definition of the 'base case' development path in the ISP, see the definition for the 'counterfactual development path' below.</i></p>
Committed project	<p>Committed project means a project that meets the following criteria:</p> <ul style="list-style-type: none"> <li>the proponent has obtained all required planning consents, construction approvals and licenses, including completion and acceptance of any necessary environmental impact statement;</li> <li>construction has either commenced or a firm commencement date has been set;</li> <li>the proponent has purchased/settled/acquired land (or commenced legal proceedings to acquire land) for the purposes of construction;</li> <li>contracts for supply and construction of the major components of the necessary plant and equipment (such as generators, turbines, boilers, transmission towers,</li> </ul>

	<p>conductors, terminal station equipment) have been finalised and executed, including any provisions for cancellation payments; and</p> <ul style="list-style-type: none"> <li>the necessary financing arrangements, including any debt plans, have been finalised and contracts executed.</li> </ul>
Consideration	A binding element of the CBA that AEMO must have regard to
Costs	The present value of the direct costs of a credible option or development path. The classes of costs are set out in the NER (clause 5.15A.2(b)(8), 5.15A.3(b)(6), 5.22.8(d)).
Counterfactual development path	The status quo or base case that AEMO uses to compare the development paths in the ISP CBA
Cross checks	Cross checks can inform the accuracy of an outcome by 'sense checking' it against information from other sources.
Credible option	Defined in NER clause 5.15.2(a) as being an option (or group of options) that: (1) addresses the identified need; (2) is (or are) commercially and technically feasible; and (3) can be implemented in sufficient time to meet the identified need, and is (or are) identified as a credible option in accordance with paragraphs (b) or (d) (as relevant).
Development path	Defined in NER clause 5.10.2 as a set of projects in an ISP that together address power system needs.
Discretionary element	A non-binding element of the CBA guidelines
Distributional effects	Distributional effects consider the distribution of costs and market benefits of an optimal development path—that is, who receives the benefits and who pays the costs.
Forecasting Approach	AEMO's detailed forecasting processes, practices and methodologies that underpin the ISP, reliability forecasts and other relevant AEMO material. This approach includes the details set out the FBPG
Forecasting best practice consultation procedures	The procedures set out in appendix A of the FBPG
Future ISP project	<p>Defined in NER clause 5.10.2 as a project:</p> <ul style="list-style-type: none"> <li>that relates to a transmission asset or non-network option the purpose of which is to address an identified need specified in an ISP and which forms part of an optimal development path</li> <li>that is forecast in the ISP that identifies the project, to be an actionable ISP project in the future.</li> </ul>
Identified need	Defined in NER chapter 10 as the objective a network service provider or a group of network service providers seeks to achieve

	by investing in the network in accordance with the NER or an ISP
ISP	Defined in NER chapter 10 as a plan developed and published by AEMO under rule 5.22 as amended by an ISP update from time to time. The ISP provides a whole of system plan for the efficient development of the power system that achieves power system needs. It identifies an optimal development path that contains ISP projects, some of which trigger the application of a RIT–T, or preparatory activities.
ISP candidate option	Defined in NER clause 5.10.2 as a credible option specified in the ISP that the RIT–T proponent must consider as part of a RIT–T for an actionable ISP project.
ISP development opportunity	Defined in NER clause 5.10.2 as a development identified in an ISP that does not relate to a transmission asset or non-network option and may include distribution assets, generation, storage projects or demand side developments that are consistent with the efficient development of the power system.
ISP parameters	Defined in NER clause 5.10.2 as, for an ISP project: <ul style="list-style-type: none"> <li>• the inputs, assumptions and scenarios set out in the most recent IASR;</li> <li>• the other ISP projects associated with the optimal development path; and</li> <li>• any weightings specified as relevant to that project.</li> </ul>
ISP project	Defined in NER clause 5.10.2 as an actionable ISP project, a future ISP project or an ISP development opportunity.
ISP update	Defined in NER chapter 10 as an update to an Integrated System Plan published by AEMO under NER clause 5.22.15.
Market benefits	The present value of the benefits of a credible option or development path, or a benefit to those who consume, produce and transport electricity in the market, that is, the change in producer plus consumer surplus. The classes of market benefits are set out in the NER (clause 5.15A.2(b)(4), 5.15A.3(b)(4), 5.22.8(c)).
Modelled project	Modelled project means a hypothetical project derived from market development modelling in the presence or absence (as applicable) of the relevant: <ul style="list-style-type: none"> <li>• development path (for the ISP)</li> <li>• credible option (for a RIT–T application)</li> </ul>
Net economic benefit	Net economic benefit equals the market benefits less costs.
Non-network option	Defined in NER chapter 10 as 'a means by which an <i>identified need</i> can be fully or partly addressed other than by a <i>network</i>



	<p><i>option</i>'.</p> <p>For avoidance of doubt, the AER interprets this definition to mean that non-network options:<sup>186</sup></p> <ul style="list-style-type: none"> <li>• Involve 'non-network assets—that is, assets that are not used to convey or control the conveyance of electricity to customers, and that are not connection assets. For instance, non-network assets might include assets that customers use to reduce their demand for electricity, or assets on which expenditure is undertaken by a third party; or</li> <li>• Can also include options that involve some expenditure on a network asset, but not expenditure on network assets alone.</li> </ul>
Optimal development path	Defined in NER chapter 10 as a development path identified by AEMO as the optimal development path in the most recent ISP in accordance with rule 5.22.
Other Party	Any other party than a Participant (where Participant is defined below)
Participant	A Registered Participant under clause 2.1 of the NER or any other party in their capacity as a consumer, producer or transporter of electricity in the market
Preferred option	Defined in NER clause 5.15A.1(c) as the credible option that maximises the present value of net economic benefit to all those who produce, consume and transport electricity in the 'market'. <sup>187</sup>
Preparatory activities	<p>Defined in NER clause 5.10.2 as activities required to design and to investigate the costs and benefits of actionable ISP projects and if applicable, future ISP projects including:</p> <ul style="list-style-type: none"> <li>• (detailed engineering design;</li> <li>• route selection and easement assessment work;</li> <li>• (cost estimation based on engineering design and route selection;</li> <li>• preliminary assessment of environmental and planning approvals; and</li> <li>• council and stakeholder engagement.</li> </ul>
Power system needs	<p>The power system needs are, as defined in clause 5.22.3(a) of the NER:</p> <ul style="list-style-type: none"> <li>• the reliability standard</li> </ul>

<sup>186</sup> The AER provides the interpretation in AER, *Consultation paper: Demand management incentive scheme and innovation allowance mechanism*, January 2017, p. 20.

<sup>187</sup> Where chapter 10 of the NER defines 'market' as any of the markets or exchanges described in the NER, for so long as the market or exchange is conducted by AEMO.

	<ul style="list-style-type: none"> <li>• power system security</li> <li>• system standards</li> <li>• standards or technical requirements in Schedule 5.1 or in an applicable regulatory instrument.</li> </ul>
Requirement	A binding element of the CBA guidelines that AEMO must achieve
RIT-T	Defined in NER chapter 10 as the test developed and published by the AER in accordance with clauses 5.15A.1 and 5.16.2 as in force from time to time, and includes amendments made in accordance with clause 5.16.2. It is a CBA that assesses credible options to address an identified need, and identifies the credible option that maximises the present value of net economic benefit to all those who produce, consume and transport electricity in the market (the preferred option).
Scenario analysis	Scenario analysis entails developing/describing a range of different scenarios and exploring how different development paths produce different market benefits across each scenarios. Through this, AEMO gains a comprehensive understanding of what states of the world could arise with and without each development path in place under different sets of external circumstances. Scenario analysis is one way to assess the risk or uncertainty of a given development path, focussing that associated with an unknown future market environment.
Scenario	Different future external market environments that are used in a CBA to assess and manage uncertainty about how the future will develop. They are based on variations to input variables and parameters that drive supply and demand conditions (for example, population growth, coal and gas prices, etc.).
Sensitivity testing	Sensitivity testing varies one or multiple inputs to test how robust the output of its CBA is to its input assumptions (for example, underlying plant operation assumptions).
Single stage process	the process set out in appendix B of the FBPG
State of the world	A state of the world is a detailed description of all of the relevant market supply and demand characteristics and conditions likely to prevail to meet the power system needs if a development path proceeds in a given scenario. This includes generation, network and load development and operating requirements.

## Shortened forms

Table 8 provides a list of shortened forms used in this explanatory statement.

**Table 8: Shortened forms**

Shortened form	Full form
actionable ISP project	as defined in the NER chapter 10
AEC	Australian Energy Council
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CBA	cost benefit analysis
COAG EC	The Council of Australian Governments Energy Council
conclusions report	project assessment conclusions report
consultation report	project specification consultation report
DER	distributed energy resources
draft report	project assessment draft report
ECA	Energy Consumers Australia
ENA	Energy Networks Australia
ESB	Energy Security Board
ESOO	electricity statement of opportunities
EUAA	Energy Users Association of Australia
FBPG	forecasting best practice guidelines
GDP	Gross domestic product
IASR	Inputs, assumptions and scenarios report
ISP	Integrated System Plan
MCA	multi-criteria analysis
MEU	Major Energy Users
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules

non-ISP projects	projects identified outside the ISP process
NNO	Non-network option
NTNDP	national transmission network development plan
Other Party	a party other than a Participant
other RIT–T projects	RIT–T projects that are not actionable ISP projects
Participant	a registered participant under the NER or any other party in their capacity as a consumer, producer or transporter of electricity in the market
PIAC	Public Interest Advocacy Centre
QFF	Queensland Farmers' Federation
REZ	renewable energy zone
RIT–D	regulatory investment test for distribution
RIT–T	regulatory investment test for transmission
RRO	Retailer Reliability Obligation
TAPR	Transmission annual planning report
TNSP	transmission network service provider
VCR	value of customer reliability

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