# Draft Application Guidelines for the RITs 

Submission to the Australian Energy Regulator 7 September 2018

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## 1. Summary

Energy Networks Australia welcomes the opportunity to respond to the Australian Energy Regulator's (AER's) published draft amendments to the RIT-T and RIT-D Application Guidelines and the accompanying Explanatory Statement (together the 'draft guidance'), and also appreciates the open discussion at the recent Public Forum.

Energy Networks Australia continues to support the AER's position expressed throughout this consultation process that it is important to achieve a balance in the RIT Application Guidelines between providing helpful and practical guidance to stakeholders on the AER's expectations of RIT assessments, whilst retaining flexibility for businesses to apply the RITs in the most appropriate way to individual circumstances. Energy Networks Australia considers that the AER's proposed guidance goes a long way to achieving this balance.

The draft Guidelines provide many useful clarifications and additional guidance:
» Energy Networks Australia supports the clarifications provided in relation to stakeholder engagement, which build on the AER's Consumer Engagement Guidelines and suggest additional actions which may be considered 'best practice'.

- Energy Networks Australia's suggests that it may be worth also providing guidance to non-network proponents, and in particular encouraging early engagement with NSPs during the RIT process to ensure that there are no undue delays in the assessment process due to additional material needing to be provided.
» Energy Networks Australia supports the AER's explicit recognition that safety can be a driver (and therefore the 'identified need') for a repex investment. We have suggested an additional example for inclusion in the guidelines that is focused on a safety-driven investment, to provide further clarification on this point.
» Energy Networks Australia supports the AER's recognition that the appropriate Value of Customer Reliability (VCR) can vary across different types of RIT applications, depending on the nature of the customers affected and the duration and extent of outages, including that the VCR may be higher for 'high impact low probability' events.
- Energy Networks Australia recognises that the AER has now been tasked with developing appropriate VCR estimates by 31 December 2019. It will be important that these estimates are fit-for-purpose for RIT applications.
- Prior to the development of these new VCR estimates, it will be necessary for network businesses to adopt the currently available VCR estimates for RIT applications. The AER has acknowledged that the current AEMO VCR estimates may need to be adjusted to be fit for purpose for RIT assessments.
This submission focuses on the following areas in which Energy Networks Australia considers that the proposed guidance provided by the AER could be further refined:
» Energy Networks Australia generally considers helpful the additional guidance and examples provided in relation to the presumptive link between AEMO's Integrated System Plan (ISP) and subsequent RIT-T applications and appreciates the AER's engagement on this point.
- However, in order for the ISP to act as a 'circuit breaker' in addressing uncertainty and enabling subsequent RITs to be concluded in a timely manner to bring solutions to market sooner, TNSPs should have regard to the highpriority ISP modelled projects (eg, 'Group 1' and 'Group 2') in the base case for a RIT assessment, across all reasonable scenarios. The AER's current guidance stops short of endorsing this approach and suggests scenarios should be considered where these investments do not proceed, prior to them becoming committed.
- Energy Networks Australia is concerned that this approach will mean that RIT assessments become dependent on the weightings given to other network developments proceeding, even where these other investments have also been identified as priority investments in the ISP. Energy Networks Australia therefore requests that the AER consider amending its guidance to establish a presumption that all Group 1 and Group 2 ISP projects would be included in the base case for RIT assessments, where relevant.
Energy Networks Australia generally supports the AER's additional guidance in relation to the choice of an appropriate base case, and the distinction now made between a 'do nothing' base case (appropriate for augmentation RITs) and a 'Business as Usual' (BAU) base case (appropriate for RITs applied to replacement projects and programs).
However, Energy Networks Australia suggests two amendments are made to this updated guidance:
- where a BAU base case is adopted, the expenditure in that base case may include minor capex (below the relevant RIT threshold) as well as operating and maintenance expenditure and risk costs; and
- for RITs being conducted for the replacement of secondary systems (or other assets where there are legislative redundancy requirements), the BAU base case may include capital expenditure to replace that asset at the end of its technical life (ie, the BAU base case may reflect one of the RIT options for replacement).
Energy Networks Australia supports the AER's recognition that the impact of distribution investments on the wholesale market (and in particular on changes in fuel consumption due to changes in dispatch outcomes) may become an increasingly important aspect of RIT-D applications, particularly as the uptake of Distributed Energy Resources (DER) increases.
- Given this, Energy Networks Australia suggests that the RIT-D Guidelines include a general recognition that 'changes in fuel consumption' is a relevant 'other benefit' category that DNSPs may consider where it is expected to be material, rather than requiring DNSPs to apply to have this benefit included for each individual RIT-D where it becomes relevant.
- This approach will provide greater certainty to DNSPs and stakeholders in relation to the expected treatment of these wider wholesale market impacts from DER investments ahead of the RIT-D process, whilst also avoiding an administrative step which would appear to be of limited value.
" Energy Networks Australia supports the AER's proposed approach to deducting funding from any source (whether from a party within the electricity market or from an external party) from the capital costs of an investment, for the purposes of assessing whether the investment meets the relevant RIT threshold.
- However, Energy Networks Australia continues to believe that the same approach should be taken as part of the RIT assessment itself, as funding from any source (whether within or external to the electricity market) will reduce
the costs that customers bear through regulated network charges, which is the focus of the RITs.
- The AER's proposed approach of only deducting funding from external parties within the RIT assessment itself risks leading to investments that provide net market benefits to the market not proceeding.
" Energy Networks Australia supports the additional guidance provided by the AER in relation the assessment of option value, and considers that the level of guidance provided is appropriate.
- Energy Networks Australia requests that the AER also clarifies in the final guidelines that where an option includes a clear decision rule that reflects external circumstances, then all stages of a preferred option that comply with that decision rule are deemed to have passed the RIT, and a further RIT for subsequent stages is only required where there is been a material changes in circumstance (ie, a change that could be reasonably expected to lead to the preferred option identified in the conclusions report no longer being the preferred option) - consistent with NER 5.16.4(z3)(3) and 5.17.4(t)(3)
Whilst being generally supportive of the AER's approach in the above areas (subject to the clarifications noted), there is one area where Energy Networks Australia considers the AER should reconsider its proposed guidance:
" Energy Networks Australia does not consider that the AER has currently addressed the COAG Energy Council's direction to it to consider the appropriate weighting of High Impact Low Probability (HILP) events. The additional guidance set out by the AER for HILP events amounts to re-stating current practice, and does little to avoid sub-optimal investment decisions. Under the current guidance, HILP will not influence RIT outcomes as a consequence of the low weighting applied to these events (which is required to reflect their probability of occurring), even where higher VCR values are allowed.
" Energy Networks Australia continues to believe that businesses should have the ability to propose weights for HILP scenarios that would align the benefits from avoiding HILP events in a way that is consistent with community expectations, where they have evidence to support those weights. Such an approach is consistent with economic theory as it enables highly adverse outcomes to be avoided in a way that minimises regret.

Section 2 sets out the further clarifications we consider are required regarding the link between the ISP and the RIT-T. Energy Networks Australia has limited its comments at this stage on the interaction between the ISP and the RIT-T to the updating of the RIT-T Application Guidelines. We have not sought to comment on the applicability of the RIT-T to operationalising the ISP, and note that that issue is being considered as part of separate processes being undertaken by the Energy Security Board (ESB) and the AEMC.

Sections 3 to 7 of this submission discuss the remaining areas above in more detail. Section 8 outlines a number of more minor suggested clarifications and drafting changes to both the RIT-T and RIT-D Application Guidelines to reduce the scope for potential ambiguity and/or to express the guidance more clearly.

While the proposed drafting changes in our submission generally build on the material in the draft RIT-T guidelines, Energy Networks Australia considers that similar changes are required to the RIT-D guidelines.

## 2. Link with the ISP and the RIT-T

Energy Networks Australia supports the additional guidance and examples provided in relation to the presumptive link between AEMO's ISP and subsequent RIT-T applications, including the clarification that other network investments included in the ISP network development path can be included as modelled projects in a subsequent RIT.

Allowing the network development path provided in the ISP to inform the base case for subsequent RIT-Ts provides greater certainty, helps to define the scope of the market modelling exercise for the RIT-Ts and leads to a more efficient process, with the potential to bring solutions to market in a timely fashion.

Energy Networks Australia considers that the guidance regarding the treatment of ISP 'modelled projects' in a RIT-T could be further clarified. In particular, the draft guidance states that: ${ }^{1}$

> "A RIT proponent... may use investments identified in the ISP to form the basis for a credible option to meet an identified need.... [but] should not, as a practice, treat the network development pathway as a series of projects that will occur across all reasonable scenarios" [emphasis added]

Energy Networks Australia understands that the AER's concern relates to projects that are included in the ISP but which are contingent on particular circumstances emerging, and so which may not go ahead in all circumstances.

Energy Networks Australia considers that, where projects in the ISP are considered necessary in the immediate or medium-term, then TNSPs should have regard to these projects in the base case for all relevant reasonable scenarios. For clarity, we propose that this relates only to the 'Group 1' and 'Group 2' projects in the current ISP, ie, those that meet the following definitions: ${ }^{2}$
» Group 1: Near-term construction to maximise economic use of existing resources the 2018 ISP states that these projects are those where immediate investment in transmission should be undertaken, with completion as soon as practicable; ${ }^{3}$ and
» Group 2: Developments in the medium-term to enhance trade between regions, provide access to storage, and support extensive development of REZs - the 2018 ISP states that Group 2 projects are where action should be taken now, to initiate work on projects for implementation by the mid-2020s. ${ }^{4}$
${ }^{1}$ AER, Draft revisions of the application guidelines for the regulatory investment tests, Explanatory Statement, July 2018, p. 38.
${ }^{2}$ AEMO, Integrated System Plan, July 2018, pp.7-9.
${ }^{3}$ The 2018 ISP classifies three projects as 'Group 1' - ie: (1) increase transfer capacity between New South Wales, Queensland, and Victoria by 170-460 MW; (2) reduce congestion for existing and committed renewable energy developments in western and north-western Victoria; and (3) remedy system strength in South Australia.
${ }^{4}$ The 2018 ISP classifies five projects as 'Group 2' - ie: (1) establish new transfer capacity between New South Wales and South Australia of 750 MW (RiverLink); (2) increase transfer capacity between Victoria and South Australia by 100 MW; (3) increase transfer capacity between Queensland and New South Wales by a further 378 MW (QNI); (4) efficiently connect

In identifying these Group 1 and Group 2 projects, AEMO has considered a range of different future scenarios. These investments (in combination) were found to have positive market benefits across all of these scenarios.
Energy Networks Australia requests that the AER provide clarification in the final Guidelines that the presumption should be that TNSPs have regard to all Group 1 and Group 2 modelled projects in the ISP in the base case for all relevant reasonable scenarios, for RIT-T assessments that affect the wholesale market. This would be consistent with the findings of the ISP and enable RIT-T assessments to proceed in a more timely fashion, since individual TNSPs would not have to model iterations of all potential developments across the NEM. It would also minimise unnecessary delays/disputes as to how these high-priority projects should be captured in the assessment.
Where ISP projects are more uncertain, or contingent on certain events, then the AER's guidance that they be included in some but not all reasonable scenarios as part of a RIT-T assessment is appropriate. The current 'Group 3' projects in the ISP would fit this description, ie, longer-term developments to support REZs and system reliability and security.

We support the AER's view in the Explanatory Statement that, if the ISP's status is formalised under the NER, the ISP inputs and assumptions may be treated as 'default' in subsequent RIT-T applications as opposed to a 'starting point', ${ }^{5}$ subject to NSPs retaining the flexibility to refine those assumptions based on local or more up-to-date information. Energy Networks Australia notes that it may be more appropriate to use alternative sources of information where these are more up-to-date, or more appropriate to the particular circumstances.

Energy Networks Australia also supports the AER's draft guidance that the ISP can be used to identify credible options to meet a clearly defined identified need. This could be the default approach to RIT-Ts for projects in the ISP and note that it does not preclude the consideration of other credible options and, in particular, smaller/lowercost options for meeting, or helping to meet, the identified need.

Energy Networks Australia has limited its comments at this stage on the interaction between the ISP and the RIT-T to the updating of the RIT-T Application Guidelines. We have not sought to comment on the applicability of the RIT-T to operationalising the ISP and note that that issue is being considered as part of separate processes being undertaken by the ESB and the AEMC.

[^0]
## 3. Characterisation of the 'BAU' base case

The AER has provided further guidance for both the RIT-D and RIT-T on how to characterise the base case. In particular, with the exception of a reliability corrective action for RIT-Ds, ${ }^{6}$ the Guidelines state that the base case is where a credible option is not implemented to meet the identified need - this is referred to as either:

- a 'do-nothing' base case for RIT-T augmentation projects (whether or not it is to meet a service standard or provide a net market benefit) and a 'do nothing' base case for RIT-D augmentation projects (where it is to provide a net market benefit); or
- a 'BAU' base case for repex projects or programs (whether or not it is to meet a service standard or provide a net market benefit).

Furthermore, the draft guidelines state that for RITs applied to replacement projects/programs: ${ }^{7}$

> "The 'BAU' base case should refer to a state of the world where the [RIT-T or RIT-D] proponent does not retire the poor condition element nor implement any other relevant credible option to meet the identified need. In this instance, the base case must incorporate the operational and maintenance expenditure required to allow the ageing element to remain in service as effectively as possible for as long as possible. The 'BAU' base case may include credible BAU expenditure relating to the deteriorating asset to manage safety risk, environmental risk and equipment protection to the extent this expenditure meets legal obligations or is consistent with efficient industry practice"

We discuss three areas in-turn below where additional guidance would be beneficial in relation to the 'BAU' base case'.

### 3.1 Clarification that the BAU base case may also include minor capex

Energy Networks Australia broadly supports the concept of a 'BAU' base case for RIT assessments for replacement projects/programs, and the recognition that this base case should reflect the credible expenditure necessary to manage safety risk, environmental risk and equipment protection to the extent required by legal obligations or consistent with good electricity industry practice.

Energy Networks Australia suggests that the draft guidelines be amended to acknowledge that the 'credible BAU expenditure relating to the deteriorating asset' may include minor capex (below the threshold for application of the RIT-T or RIT-D, as relevant) as well as operational and maintenance expenditure. This is consistent with

[^1]that good electricity industry practice, as replacement of parts within an aging asset may be undertaken in order to prolong the overall life of that asset and/or to manage safety and environmental risks.

Energy Networks Australia suggests that the amendment required to the above section of the draft Guidelines is as follows:

In this instance, the base case must incorporate the operational and maintenance expenditure and any minor capital expenditure (below the [RIT-T or RIT-D] threshold) required to allow the ageing element to remain in service as effectively as possible for as long as possible.

### 3.2 Clarification that BAU base case may also include 'risk costs'

The draft guidance states that the 'BAU' base case may include credible BAU expenditure relating to the deteriorating asset to manage safety risk, environmental risk and equipment protection to the extent this expenditure meets legal obligations or is consistent with efficient industry practice.

Energy Networks Australia considers that it would be helpful to clarify in the guidelines that the BAU base case may also include costs such as the expected (ie, probability-weighted) collateral damage for assets that pose an explosive failure risk or environmental risk (eg, oil leaks or bushfires). These expected costs are commonly referred to as 'risk costs' and their inclusion in the planning process for replacement expenditure has been previously recognised by the AER. ${ }^{8}$

Energy Networks Australia suggests that the amendment required to draft guidelines is as follows: ${ }^{9}$
> "The 'BAU' base case may include credible BAU expenditure relating to the deteriorating asset to manage safety risk, environmental risk and equipment protection to the extent this expenditure meets legal obligations or is consistent with efficient industry practice, as well as
> quantified 'risk costs' consistent with those estimated in the NSPs risk cost modelling"

Energy Networks Australia expects that the 'risk cost' framework will be a central feature of the AER's forthcoming note on planning for asset replacement. Our commentary in this section relates only to the AER's task at-hand (ie, updating the RIT Guidelines) and not on the specific approaches or assumptions taken to estimating various risk costs.

[^2]
### 3.3 BAU base case for replacement may reflect a credible option in some circumstances

The updated guidance regarding a 'BAU' base case for RITs for replacement projects/programs does not allow for the base case to reflect a credible option.

While Energy Networks Australia considers this broad approach appropriate for the majority of repex RITs, there are specific situations where this approach may not be appropriate and may result in the need for time-consuming modelling of future network outcomes (lengthening the time and resources required for the RIT) which will not influence the final RIT outcome and investment.

For example, where the asset is required to reflect redundancy (duplication) obligations in the NER, ${ }^{10}$ such as for protection systems, there may be no immediate consequences of delaying replacement of the asset in isolation, such as an increase in expected unserved energy or an increase in expected safety risk costs. However, the lack of immediate consequences reflects an assumption that the replacement of other similar assets continues to occur at the end of their technical life. ${ }^{11}$ Clearly, the same question of delaying replacement would apply equally to these other assets.

In order to adequately model the impact of delaying replacement of a specific asset under a RIT, it would be necessary to assess this in the context of similar delays being made to the replacement of other assets, increasing the probability of concurrent asset failure. Whilst possible, such modelling would not be a straight-forward or proportionate exercise. More fundamentally, undertaking this analysis would not be likely to change the outcome of the RIT assessment. This is because a RIT conducted against a BAU base case that includes replacement expenditure at the end of technical life does not affect consideration of the relevant range of alternative options. In particular the RIT would still include consideration of:
» a staged replacement approach;
» a partial replacement;
» a smaller-sized asset; and
» whether the asset continues to be needed, or whether a credible option could be to reconfigure the network to remove the need to replace the asset, potentially combined with network support.

Energy Networks Australia considers it important that the Guidelines provide flexibility for NSPs to define a BAU base case as appropriate for specific RIT assessments. In some instances, this may include proactive capex being incurred in the BAU base case (with the result that the BAU base case represents a credible option). This would avoid the need to model an unrealistic outcome, and would result in greater alignment between the RIT-D and RIT-T approaches in this area.

[^3]
## 4. Probabilistic weighting of 'HILP' events risks sub-optimal investments


#### Abstract

The COAG Energy Council in its earlier review of the RIT-T tasked the AER in reviewing its RIT Guidelines with considering how to 'better weight' HILP events, to better reflect public expectations. ${ }^{12}$ Energy Networks Australia does not consider that the AER has to date adequately considered the issue of how to appropriately weight HILP events, in updating its RIT guidelines.

The draft guidance states that HILP events should be included as explicit scenarios, with the benefits estimated using an appropriate VCR that reflects the value of electricity to customers affected by the event, which may be higher than standard VCR estimates (where the business can reasonably support this view). The AER states that any such HILP scenarios should be weighted on the basis of its probability of occurring. In effect the AER guidance simply restates the approach that is currently adopted in practice, and has to date led to consideration of HILP events not being material in determining the outcome of RIT assessments, even though the consequences for significant communities including major population centres may be severe.


An example would be where a second transmission line is required for augmentation, whether the route should be exactly the same as the current line or whether there is benefit in having improved resilience in the NEM by adopting a different route for the second line. Selection of a different route may incur additional costs, but would reduce the risk that a storm or bushfire would cause a simultaneous trip of both transmission lines, thereby reducing the impact of any such storm on major population centres.
The AER's proposed guidance in this area therefore does nothing to further the effective consideration of HILP events in determining the investment that will further the long term interests of consumers.
While the draft guidance does endorse the use of higher VCR values for HILP events, where this can be reasonably supported, Energy Networks Australia notes that even where higher VCR values are used, the low probability of these events occurring means that, in many instances, the inclusion of HILP scenarios will not alter the RIT-T outcome. Indeed, the rationale for looking at appropriate means of weighting these scenarios is that the current approach of probability weighting effectively ensures that such events are never material to the outcome of the RIT assessment.

This was identified in the COAG Energy Council's review of the RIT-T, which states: ${ }^{13}$
"The true economic costs of these outages are often difficult to quantify through metrics such as the Value of Customer Reliability (VCR),
particularly given the associated challenges in ascertaining customers'

[^4]> willingness to pay to avoid such outages which are typically widespread and prolonged in nature. Current modelling methodologies used to determine costs and benefits under the RIT-T focus may underweight such events. This is because they use a probabilistic approach which means under repeat tests the effect of high impact events may not be adequately taken into account due to the small probabilities of these events occurring."

The requirement for scenarios to be weighted on the basis of probability is a requirement that the AER introduced in the wording of the RITs, rather than being a NER requirement. The AER expresses the view that choosing an alternative weighting would have no reasonable economic basis and would only serve to 'distort the outcome of the test'. ${ }^{14}$

Energy Networks Australia disagrees with the AER's view that alternative weightings would have no reasonable economic basis. Allowing flexibility regarding the weighting of HILP scenarios is consistent with 'regret theory', which is a well-accepted economic approach for efficient decision-making. In particular, regret theory is based on the intuition that a decision maker choosing between options, is concerned not only about the direct outcome but also about the outcome that would have been received had a different decision been made (ie, the possible 'regret'). ${ }^{15}$

The concept of regret, and how it relates to electricity network planning, is summarised well in the Handbook of Power Systems, ie:16
> "The risk associated with the uncertainty of low frequency phenomena such as deliberate outages is modelled by the regret felt by the network planner after verifying that the selected decision is not optimal, given the
> future that actually occurs. The notion of regret is a well-established approach to measure risk in decision making under uncertainty (Bell 1982;

> Loomes and Sugden 1982). Within the framework of vulnerabilityconstrained transmission network expansion planning, the regret or loss for an expansion plan in a given scenario is defined as the difference between the system load shed for this expansion plan under the considered scenario and the minimum system load shed in this scenario that would have been attained by the network planner if there were prior knowledge that this scenario would take place. Therefore, the network planner is influenced by the possibility that the level of damage will not be sufficiently close to the
> lowest possible (ideal) value, that is, what would have occurred if the actual scenario had been known at the time of decision making"

The example below illustrates the importance of considering the weighting of HILP events in identifying the preferred investment in line with community preferences on avoidance of regret.

[^5]Suppose there are two credible options for addressing a system security obligation in a particular jurisdiction - namely:

- Option 1 - a lower-cost option (costing $\$ 20$ million), which provides the minimum level of system security; and
- Option 2 - a higher-cost option (costing $\$ 25$ million), which provides additional system security.

Further, suppose that there are two key relevant future states of the world that affect the expected market benefits under each option - summarised by the two scenarios below:

- Scenario 1 - reflecting a state of the world where a HILP event does not occur over the analysis period; and
- Scenario 2 - reflecting a state of the world where the HILP event does occur over the analysis period (with a probability of occurring of 1 per cent).

The table below summarises the estimated market benefits under each option, for each scenario, as well as the probability of each scenario occurring.


The table below illustrates the net market benefits of each credible option using the probability of each scenario occurring to weight the scenarios. In particular, it shows that Option 1 is the preferred option, even though it provides only slightly higher net market benefit ( $\$ 2$ million) and if Scenario 2 unfolds there will be a significant cost to the market of $\$ 300$ million (reflecting, for example, the value of unserved energy to end customers).


The table below shows the net market benefits where a higher weighting is applied to Scenario 2. Instead of assuming a 1 per cent weighting for Scenario 2 based on the probability of it occurring, the table below assumes a 5 per cent weighting, which reflects evidence that customers have a strong preference for avoiding such a severe outage, even if it is unlikely to occur. That is, if the event did occur, customers would regret not having invested the additional $\$ 5 \mathrm{~m}$ in Option 2 to avoid the event. Scenario 1 (in which the event does not occur) is weighted at 95 per cent.

Under this alternate weighting, Option 2 is found to be the preferred option.

|  | Costs | Market benefits <br> (weighted) | Net market <br> benefits | Rank |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Option 1 | $\$ 20 \mathrm{~m}$ | $\$ 4 \mathrm{~m}$ | $-\$ 16 \mathrm{~m}$ | 2 |
| Option 2 | $\$ 25 \mathrm{~m}$ | $\$ 19 \mathrm{~m}$ | $-\$ 6 \mathrm{~m}$ | 1 |

As set out in our earlier submission, Energy Networks Australia suggests that the RIT Guidelines are updated to note that while the AER's expectation is that scenarios will generally be weighted by their probability of occurrence, the RITs provide the flexibility for NSPs to adopt different scenario weightings to reflect customer expectations, where these can be justified.

Energy Networks Australia does not agree that providing this flexibility would allow the network businesses to misrepresent the impact of such events, as any departure from the default expectation of probability weightings would need to be justified, evidence-based and supported by stakeholders through the RIT consultation process.

Energy Networks Australia also does not consider that providing this flexibility will disadvantage smaller scale credible options (eg, control schemes) that may mitigate the impact of HILP events. The RIT analysis would need to consider whether alternative options (including non-network options) would have a higher net market benefit, including in the HILP scenario.

Where sensitivity testing on the weighting used effects the identified preferred option, we would expect that 'boundary values' for the weighting of HILP scenarios would be illustrated.

To this end, Energy Networks Australia has suggested revised wording to sections 3.7 and 3.8 .3 of the draft guidelines for the AER's consideration.

### 3.7 Methodology for valuing market benefits

## ...

As set out in the RIT-T, the market benefit of a credible option is obtained by:
i. comparing, for each relevant reasonable scenario, the state of the world with the credible option in place with the state of the world in the base case; and
ii. weighting any positive or negative benefit derived in (i) by the probability of each relevant reasonable scenario occurring.
While the AER's expectation is that scenarios will generally be weighted by their probability of occurrence, NSPs may adopt different scenario weightings where there is evidence that customers have a strong preference for avoiding certain events. This is expected to be limited to 'HILP' events. When sensitivity testing on the assumed weighting of these events changes the identified preferred option, we expect NSPs to illustrate 'boundary values' for these weights.
...
Appendix A provides guidance and worked examples for each class of market benefit referred to in clause 5.16 .1 (c)(4) of the NER. In addition, the following sections provide guidance on valuing market benefits for a given credible option, which involves three key steps:

1. deriving the states of the world with and without the credible option in place in each reasonable scenario;
2. comparing the relevant states of the world with and without the credible option in place in each reasonable scenario to derive the market benefit of the credible option in each reasonable scenario; and
3. weighting the market benefits arising in each reasonable scenario by the probability of each relevant reasonable scenario occurring.
...

### 3.8.3 High impact, low probability events

A RIT-T will appropriately capture the economic impacts of high-impact, low probability (HILP) events if the RIT-T proponent follows these RIT-T application guidelines in:

- Exploring reasonable scenarios where relevant HILP events occur. For guidance on selecting reasonable scenarios, see section 3.8.1.
- Costing the impact of that HILP event occurring. In costing this event, we would expect the RIT-T proponent include the market benefit categories, changes in involuntary and voluntary load shedding. In valuing these changes in market benefits, the RIT-T proponent should use a VCR that is appropriate to the range and duration of customers that the HILP even would affect. If a RIT-T proponent has supporting evidence, it might be reasonable to associate a high VCR with the HILP event. For guidance on selecting VCR inputs, see section 3.4.3.
- Weighting the economic impact of the event by a reasonable weight, which may reflect underlying customer preferences for avoiding such an event. Where the weighting departs from the probability of the scenario occurring (ie, for 'HILP' events), we would expect any alternate weighting to be justified and evidencebased and supported by stakeholders through the RIT consultation process. estimate of its probability of occurring. For clarity, weighting these events differently to their probability of occurring would have no reasonable economic basis and would only serve to distort the RIT-T outcome. For more information on weighting reasonable scenarios, see section 3.8.2 and 3.9).

Energy Networks Australia notes that the requirement for scenarios to be weighted by the probability of occurring is not reflected in the NER, but rather in the RIT-T and RIT-D themselves.

In addition to updating the guidance (as above), Energy Networks Australia therefore encourages the AER to update the wording of the RITs themselves. In particular, we propose an amendment to the wording of clause (4)(a)(ii) of the RIT-T and (6)(a)(ii) of the RIT-D as follows: 'weighting the benefits [..] by the probability of each relevant reasonable scenario occurring (or by an alternative weighting, where appropriate)'.

## 5. Changes in fuel consumption should be automatically included for RIT-D

Energy Networks Australia welcomes the AER's recognition in its Explanatory Statement ${ }^{17}$ that with the rise in distributed energy resources and the increased sophistication of demand management capabilities it can be expected that distribution investments will increasingly deliver benefits that have traditionally been seen at the transmission level. This includes benefits from changes in fuel consumption arising from different patterns of generation dispatch, as well as changes in ancillary services costs and competition benefits.

However, while the AER acknowledges in the draft guidance that consideration of these benefits is becoming more relevant for RIT-Ds, the draft guidance states that, to the extent a class of market benefit exists in the RIT-T but not the RIT-D (and vice versa), a proponent should apply to include it in its RIT if it expects it to be relevant and material.

Of the benefit categories noted above, changes in fuel consumption can be expected to become a more relevant category for RIT-D assessments on a relatively frequent basis, and are typically a key wholesale market benefit captured in RIT-T assessments. ${ }^{18}$ Energy Networks Australia considers that there would be a benefit from providing guidance in the RIT-D Guideline that this benefit falls within the scope of 'other benefits' that the AER considers maybe assessed where the DNSP considers it may be material, rather than requiring DNSPs to 'apply' to the AER use include this category for each specific RIT-D.

An approach where consideration of changes in fuel consumption is allowed on a default basis where it is material provides greater certainty to the DNSP about what benefits should be considered, ahead of the RIT-D process itself, and therefore will assist internal business assessment. It also avoids what appears to be an unnecessary administrative step.

The AER's response to Energy Networks Australia and SAPN on this point appears potentially inconsistent, as changes in fuel consumption is not currently a benefit category under the RIT-D: ${ }^{19}$

> "The draft RIT application guidelines do not specify the additional classes of market benefits that the Energy Networks Australia and SAPN suggested in their submissions. For instance, they do not include... Energy Networks Australia's suggestion to acknowledge there are circumstances where avoided fuel costs are a benefit category, as this would often fall under the existing market benefit class, changes in fuel consumption

[^6]arising through different patterns of generation dispatch" [emphasis added]

Energy Networks Australia therefore suggests that the final updated guidance on the inclusion of 'other benefits' for the RIT-D should be revised to refer to changes in fuel consumption arising through different patterns of generation dispatch being a relevant 'other benefit' category which the DNSP may include in a RIT-D, where it expects that benefit to be material.

## 6. Treatment of external financial contributions should be consistent

In its draft guidance the AER has accepted the view that in applying the threshold to determine whether a RIT is required, any funding provided by either a party external to the NEM, or within the NEM, should be deducted from the capital costs of the option. ${ }^{20}$ In coming to this view, the AER had regard to earlier views put by the COAG Energy Council. ${ }^{21}$ The AER notes that in both cases, the funding means that the project costs will not be recovered from customers via regulated charges.

However, the draft guidance draws a distinction for the purposes of the RIT assessment itself, where the AER states that only funds from a party outside of the electricity market should be deducted from the capital costs. The AER considers that contributions from parties within the NEM (such as generators) would represent a wealth transfer, and so should not affect the RIT cost benefit assessment as this would be inconsistent with the NER. The AER is also of the view that any funding provided by generators could be recovered by customers via wholesale prices, and so that there may still be a cost to customers.

The RITs are being applied to investigate whether the costs that customers will bear as part of their regulated charges are justified. This view was reflected by the COAG Energy Council:22

> "...the RIT-T only applies to investments that will benefit from regulated revenues; that is, regulated revenues recovered from electricity consumers. It does not apply to investments that are funded from other sources, for example augmentations paid for by generators, merchant interconnectors, or investments funded by governments."

External funding (whether it is from a government, generator or any other party) will reduce the amount that customers have to pay through regulated network charges. Energy Networks Australia therefore considers that there is no need to draw a distinction between which party is providing the funding for the purpose of the RIT assessment itself, just as there is no need to do so in the assessment of project costs against the RIT threshold. Doing so would mean that some investments where the benefits customers receive outweigh the costs customers would bear would not proceed.

Increasingly, network investments have the potential to also provide other nonregulated services to other parties across the electricity supply chain. ${ }^{23}$ For example, a grid-scale battery may be used for network support, but the right to utilise the battery outside of those times may be valued by electricity retailers as a form of hedge, and

[^7]so retailers may be prepared to pay for the right to also use the battery, or to enter into a joint venture arrangement with the network. This would lower the overall costs of the investment required for network support, and therefore the costs that are recovered from customers. Not allowing funding provided by market participants to be taken into account in determining the option cost in the RITs would present a barrier to such joint ventures.

Energy Networks Australia has constructed a simple example to demonstrate how applying a different treatment of funding between assessing projects against the RIT threshold and the subsequent RIT assessment may result in inconsistent outcomes depending on the level of funding from parties in the NEM and, in particular investments not proceeding where the estimated benefits outweigh the costs to be recovered from customers.

Suppose a TNSP is considering an investment with an expected capital cost of $\$ 10$ million and that a generator is going to contribute $\$ 5$ million. Suppose also that the market benefits are estimated to be approximately $\$ 8$ million

Under the draft guidance, this investment would be exempt from having a RIT-T applied to it as the expected capital cost to be recovered from customers (ie \$5 million) would be below the current RIT-T threshold of $\$ 6$ million. In this situation, the TNSP would be able to accept the funding and go ahead with the investment, with the consequence that customers fund a $\$ 5$ million investment that provides $\$ 8$ million of benefit to the market, ie, a net market benefit of $\$ 3$ million.

Now suppose the same situation but the generator is only going to contribute $\$ 3$ million. Under the draft guidance, the investment would not be exempt from having a RIT-T applied as the expected capital cost to be recovered from customers (ie $\$ 7$ million) would be above the current RIT-T threshold. Moreover, the draft guidance would not allow the contribution from the generator to be netted off the capital cost of the investment as part of the RIT-T assessment, and so there would be a net market benefit of $-\$ 2$ million (ie, an overall net market cost) and the investment would not proceed.

Energy Networks Australia considers that, where the resulting cost of the project exceeds the RIT threshold (ie, net of any external contribution), the amount of the external contribution should reduce the capital cost of the option included as part of the RIT analysis (ie, it reduces the effective cost of the option, which is the cost that remains to be recovered from customers through regulated network charges).

This is in contrast to the AER's draft assessment which appears to establish a distinction based on a legal interpretation of certain NER clauses regarding the purpose of the RITs and a definition of the relevant market for the purposes of the cost-benefit analysis. Energy Networks Australia does not agree with the AER that the NER provisions restrict it from allowing funds committed by market participants to be subtracted from the capital costs that are subject to the RIT assessment.

Because the RIT is focused on whether the costs that would be borne by customers in network charges is justified, the netting off of any funding contributions occurs before the RIT-T cost-benefit analysis is conducted. That is, the RIT assessment is being made on the residual costs to be recovered through regulated charges. The consideration of wealth transfers under the RIT is relevant for the subsequent cost benefit analysis,
but does not apply in determining the extent of regulated costs which are subject to that analysis, in just the same way that they are not relevant in determining whether the threshold for needing to conduct a RIT has been met.

The AER draft view that the funding should be excluded because the contribution cost may be passed through to consumers through wholesale price impacts is itself taking distributional impacts between customers and generators (ie, transfers) into account in considering the appropriateness of RIT outcomes. The impact of the investment in terms of the competitiveness of the generation market and future dispatch outcomes would be taken into account as part of the RIT assessment itself. Moreover, it is difficult to conceive of a real world example in which additional transmission would result in a reduction in competition between generators, and therefore an increase in the wholesale market price paid by customers.

## 7. Option Value

The AER has added a more extensive example of option value assessment in the draft guidelines. Energy Networks Australia supports this additional guidance.

Energy Networks Australia considers that there may be benefit in making minor changes to the examples to make clear that a credible option that has option value may involve more than the 'minimum' investment and may therefore be a higher cost than an option that does not have option value. In particular, this relates to the example options given in section 3.2.3 of the draft RIT guidelines. Energy Networks Australia has suggested slight edits to these examples for the AER's consideration below. ${ }^{24}$

### 3.2.3 Developing credible options with option value

A credible option may include a decision rule or policy specifying, not just an action or decision to take now, but also an action or decision to take in the future if the appropriate market conditions arise. For example, where future demand growth is uncertain, the following may all be legitimate credible options:

- Option (a): fully upgrade a transmission line in the immediate term to accommodate all likely demand growth over the next 15-20 years.
- Option (b): upgrade a transmission line to cover likely demand growth in the next five years (without any further consideration of the potential for further growth in the future).
- Option (c): upgrade a transmission line to the minimum extent necessary in the immediate term, but allow for sufficient extra capacity to (perhaps by installing larger towers than necessary) to allow for a relatively low-cost expansion of the network if generation demand growth materialises in the future. This extra capacity under this option would likely incur an additional cost.

In addition, Energy Networks Australia requests that the AER clarifies in the final guidelines that where an option includes a clear decision rule that reflects external circumstances (such as option (c) in the above example), then all stages of a preferred option that comply with that decision rule are deemed to have passed the RIT. A RIT for subsequent stages is then only required where there is been a material changes in circumstance (eg, a change that could be reasonably expected to lead to the preferred option identified in the conclusions report no longer being the preferred option).

This clarification avoids a situation in which a staged option is found to pass the RIT and the external trigger subsequently occurs, but the second stage investment is then delayed due to the need to have to re-run the RIT process for that second stage. For

[^8]clarification, a staged option could involve a series of investments modelled to be required at different times in the future in the initial assessment.

Energy Networks Australia considers that this further qualification is consistent with the requirements of $5.16 .4(\mathrm{z} 3)(\mathrm{s})$ and $5.17 .4(\mathrm{t})(3)$ of the NER regarding reapplication of the RIT-T and RIT-D, respectively.

As the value of flexibility becomes increasingly important, it is likely that more RIT applications will identify staged options as the preferred option. A requirement to rerun the RIT for each stage would increase the regulatory burden on both the businesses and stakeholders, with no corresponding benefit.

Requiring the RIT to be re-run where there is a material change in circumstances will naturally limit the timeframe in which subsequent stages may proceed without a new RIT, as over time there is a greater likelihood of material changes.

In addition, Energy Networks Australia considers any such projects, and specifically whether the 'triggers' for different stages have been met (or are likely to be), will be commented on in the relevant Annual Planning Reports.

## 8. Other suggested clarifications

This section outlines a number of areas where Energy Networks Australia considers the drafting in the final guidelines for the RIT-T and the RIT-D could be amended to provide further clarity.

### 8.1 Adding an example of a safety-driven ‘identified need'

Energy Networks Australia is pleased that the AER has provided clarification that recognises that the identified need for a RIT can be driven by compliance with safetyrelated obligations, now that the RITs are to be applied to replacement projects and programs. ${ }^{25}$

Energy Networks Australia considers that the examples in the guidelines could usefully be expanded to include an example of how to couch a safety-related compliance identified need, ie, where the network considers replacement expenditure is required to address growing safety risks, unrelated to unserved energy considerations.

To this end, Energy Networks Australia has expanded:
" Example 1 in the draft guidelines (ie, 'identified need and credible options') so that it explicitly covers a safety-related identified need - we present this updated version of Example 1 for the AER's consideration on the next page; and
» Example 4 of the RIT-T guidelines (ie, 'characterisation of the base case for meeting a service standard obligation') so that it also explicitly covers a safetyrelated identified need consistent with the updated Example 1 - we present this updated version of Example 4 on the page following the updated Example 1.

While Energy Networks Australia has expanded on these examples from the draft RITT guidelines, it is equally important that this additional guidance is also reflected in the draft RIT-D guidelines.

## Example 1: Identified need and credible options <br> Identified need driven by service standards <br> Changing patterns of generation investment have increased the likelihood of breaching voltage service standards in the next few years.

The identified need in this example is to ensure that voltage standards as outlined in Schedule 5.1 of the NER continue to be satisfied. In stating this identified need, we would expect the RIT-T proponent to explicitly reference the relevant NER clause (or clauses), as well as specify the timing and extent of the breach expected.

[^9]An example of a credible option to address this identified need is the installation of one or more voltage control network elements, such as a static volt-ampere reactive (VAR) compensator.
Identified need driven by safety-related service standards
Routine inspections of a substation have revealed that twelve transformer bushings installed in the 1960s and 1970s are now in poor condition. If the identified bushings remain in service, there is an increased likelihood that a number of these assets will fail in future years, which could result in projectiles, fires and oil spills that present an intolerable risk to those in the immediate vicinity, and potentially the wider area. ${ }^{26}$

The identified need in this example is to maximise expected net market benefits taking into account compliance with a jurisdictional Electricity Safety Act that stipulates that safety risks are managed in accordance with the 'As Low As Reasonably Practicable' (ALARP) principle. In stating this identified need, we would expect the RIT-T proponent to explicitly reference the relevant external compliance requirement (or requirements), as well as specify the timing and extent of the breach expected.
If the investment also avoided involuntary load shedding, this would also be included in the description of the identified need.

In this example, all credible options could include removal of the identified bushings from service to reduce the safety risk to an acceptable level in order to meet the service standard.
Identified need driven by market benefits
[..]
Example 4 Characterisation of the base case for meeting a service standard obligation
[..]
Replacement project to meet a service standard obligation
A RIT-T proponent is considering replacing a poor condition network element so it will continue to meet service standards contained in a jurisdictional regulatory instrument. The instrument may:

- oblige the RIT-T proponent to meet reliability standards (eg, individual feeder standards in the form of maximum levels of load at risk with a single credible contingency): or
- oblige the RIT-T proponent to plan and/or operate its network in a safe manner (eg, managed in accordance with the 'As Low As Reasonably Practicable' principle).

26 While a failure of this type may also result in the unplanned unavailability of parts of the network (and involuntary load shedding), it has been excluded from this example to focus on how a safety-driven identified need should be considered. If the investment also avoided involuntary load shedding, this should also be included in the description of the identified need.

Replacing the element will help avoid breaching those limits as the poor condition element becomes increasingly prone to failure.

The RIT-T proponent must identify the credible option that maximises net economic benefit while meeting the standard. If no credible option that meets the standard offers a net economic benefit, the RIT-T proponent must identify the credible option that minimises net economic detriment while meeting the standard.

The respective base cases for each of the two separate drivers above should be characterised as ongoing operating and maintenance costs as well as minor capital costs (ie, below the RIT-T threshold) associated with meeting these standards using the poor condition assets, in addition to the associated unserved energy and risk costs (respectively).

The RIT-T proponent must consider credible options that take advantage of whatever flexibility the service standard obligation offers to minimise the cost of meeting that standard. This could mean considering options that relate to different locations on the network, that reduce levels of load at risk or potential safety consequences, or where a given option is implemented at different points in time.

### 8.2 Determining the optimal timing of an option

Energy Networks Australia considers that additional clarity could be provided in the final guidelines about determining the trigger year for investment.

The draft RIT-T guidelines state that: ${ }^{27}$
"The trigger point for the timing of the base case would be when the monetised service costs exceed the replacement project costs"

This statement is made in the context of the characterisation of the base case. However, it is unclear whether it is referring to the timing of ultimate capex under the base case (in which case the base case would reflect one of the credible options) or the optimal timing of a credible option considered separately from the base case.

Energy Networks Australia assumes that the statement is referring to the latter (as the former would appear inconsistent with the AER's definition of a 'BAU' base case). Energy Networks Australia suggests that the AER reconsiders its drafting in this section to make its intent clearer, and potentially separates out its discussion of the optimal timing of an option in the final guidelines.

Energy Networks Australia also notes that this guidance is also not currently included in the draft RIT-D guidelines, ${ }^{28.29}$

Energy Networks Australia considers that if guidance is going to be given on assessing the optimal timing of a credible option then it needs to be broadened to include identified needs where there may not always be a monetised service cost

[^10]under the base case. In this instance, we would expect that the optimal timing would be determined by investigating different assumed option timings and selecting the one that maximises the expected overall net market benefits.

### 8.3 Land costs

Section 3.5.2 of both draft guidelines includes the requirement that the RIT proponent should use the market value of land when assessing the costs incurred in constructing or providing credible options. This is a new addition to the RIT-T guidelines and we understand has been included to align with the RIT-D guidelines.

Energy Networks Australia notes that typically the value of new land would be included in a RIT assessment. Energy Networks Australia considers that this qualification to new land should be introduced into the final guidelines.

To this end, Energy Networks Australia suggests the following minor edits to both the draft RIT-T and RIT-D guidelines for the AER's consideration below.

### 3.5.2 The treatment of land

Given that the cost of land may be a cost incurred in constructing or providing a credible option ${ }^{30}$, the value of land should be included as part of a RIT-T assessment to the extent that it has not already been acquired. The purpose of the RIT-T is to identify the credible option that maximises the present value of the net economic benefit to all those who produce, consume and transport electricity in the market. Therefore, the RIT-T proponent should assess all credible options at present values. The RIT-T proponent should therefore use the market value of any such land when assessing the costs incurred in constructing or providing credible options.

### 8.4 Engagement with non-network proponents

Energy Networks Australia supports the additional guidance on stakeholder engagement and considers it consistent with best practice.

Energy Networks Australia considers it would be worthwhile including a new subsection in section 4 of the guidelines (ie, 'stakeholder engagement process in applying the RIT-T') encouraging non-network proponents to engage with NSPs as early as possible regarding potential solutions. This will minimise time spent seeking additional information from non-network proponents in order to ensure that their solutions can be adequately assessed. An early engagement process will also assist non-network proponents with deciding where and how to prioritise their resources in responding to RITs.

Energy Networks Australia notes that many NSPs already engage with potential nonnetwork proponents through various forums or channels in the normal course of business.

[^11]
### 8.5 Discount rate and treatment of risks

The draft guidance states that the default approach should be to adopt the same discount rates for all options in the same RIT assessment, but also allows for different discount rates to be adopted within the same RIT assessment to reflect different option risks.

As highlighted in our earlier submission, the role of the discount rate in the NPV assessment is to calculate the present value of a stream of future costs and benefits. The discount rate is applied to both costs and benefits, including benefits to the market, which are appropriately reflected by the adoption of a commercial discount rate.

The discount rate is not addressing any difference in the perceived risk between different options within the same RIT. The cost of non-network options in the RIT assessment is based on the price which the non-network proponent offers to provide the service. The proponent's view of the 'riskiness' of providing the service should be reflected in its price and does not need to be addressed via the choice of discount rate.

While the draft guidelines allow for different discount rates to be adopted to reflect different option risks, Energy Networks Australia and its members do not consider this would ever be applied in practice as the riskiness of options are reflected in their price/cost. In particular, the AER draft guidance could be interpreted as applying higher discount rates to more risky options (eg, non-network options) compared to less risky options (eg, traditional network options), which Energy Networks Australia considers would be inconsistent with the role of the discount rate in the RIT.

Energy Networks Australia considers, generally, that the discount rates used in any RIT assessment should be appropriate to the nature of the investment being considered.


[^0]:    renewable energy sources through maximising the use of the existing network and route selection of the above developments; and (5) coordinate DER in South Australia.
    ${ }^{5}$ AER, Draft revisions of the application guidelines for the regulatory investment tests, Explanatory Statement, July 2018, p. 37.

[^1]:    ${ }^{6}$ If the identified need is for reliability corrective action, the RIT-D proponent may choose to select a credible option as its base case.
    ${ }^{7}$ AER, Draft Regulatory investment test for transmission application guidelines, July 2018, pp. 14-15; and AER, Draft Regulatory investment test for distribution application guidelines, July 2018, p. 14.

[^2]:    ${ }^{8}$ AER \& EMCa, Asset Retirement Planning, 20 October 2017, AER Offices, Sydney, slides 15-36.
    ${ }^{9}$ AER, Draft Regulatory investment test for transmission application guidelines, July 2018, pp. 14-15; and AER, Draft Regulatory investment test for distribution application guidelines, July 2018, p. 14.

[^3]:    ${ }^{10}$ For example S5.1.9(c) of the NER, which requires provision of sufficient primary and back-up protection systems.
    ${ }^{11}$ Replacement decisions take into account age, condition, technology and operating environment.

[^4]:    ${ }^{12}$ COAG Energy Council, Review of the Regulatory Investment Test for Transmission, 6 February 2017, p. 37.
    ${ }^{13}$ COAG Energy Council, Review of the Regulatory Investment Test for Transmission, 6 February 2017, p. 36.

[^5]:    ${ }^{14}$ AER, Draft revisions of the application guidelines for the regulatory investment tests, Explanatory Statement, July 2018, p. 33.
    ${ }^{15}$ Bell, D. E., Regret in decision making under uncertainty. Operations Research, October 1982, pp. 961-981; Loomes, G. \& R. Sugden, Regret theory: an alternative theory of rational choice under uncertainty, The Economic Journal, December 1982, pp. 805-824; and Diecidue, E. \& J Somasundaram, Regret theory: A new foundation, Journal of Economic Theory, 2017, pp. 88-119. ${ }^{16}$ Rebennack, S., P.M. Pardalos, M.V.F. Pereira \& N.A. Iliadis, Handbook of Power Systems, Springer Heidelberg Dordrecht London New York 2010, p. 373.

[^6]:    ${ }^{17}$ AER, Draft revisions of the application guidelines for the regulatory investment tests, Explanatory Statement, July 2018, p. 42.
    ${ }^{18}$ Changes in ancillary services costs and competition benefits are not routinely included in RITT assessments, as they require substantial modelling assessments which in many cases is disproportionate.
    ${ }^{19}$ AER, Draft revisions of the application guidelines for the regulatory investment tests, Explanatory Statement, July 2018, p. 42.

[^7]:    ${ }^{20}$ AER, Draft revisions of the application guidelines for the regulatory investment tests, Explanatory Statement, July 2018, p. 21.
    ${ }^{21}$ AER, Draft revisions of the application guidelines for the regulatory investment tests, Explanatory Statement, July 2018, p. 20.
    22 COAG Energy Council, RIT-T Review, February 2017, 10.
    ${ }^{23}$ The ability to utilise assets for non-network services needs to be consistent with the AER ring-fencing provisions.

[^8]:    ${ }^{24}$ We suggest changing the reference in Option (c) to 'demand growth', consistent with the rest of the example.

[^9]:    ${ }^{25}$ AER, Draft revisions of the application guidelines for the regulatory investment tests, Explanatory Statement, July 2018, pp. 25-26.

[^10]:    ${ }^{27}$ AER, Draft Regulatory investment test for transmission application guidelines, July 2018, p. 15.
    ${ }^{28}$ AER, Draft Regulatory investment test for distribution application guidelines, July 2018, p. 14.
    29 The AER's explanatory statement suggests the same guidance is intended to apply to both the RIT-T and RIT-D. AER, Draft revisions of the application guidelines for the regulatory investment tests, Explanatory Statement, July 2018, pp. 61-62.

[^11]:    30 NER, cl. 5.16.1(c)(8)(i).

