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7/09/2018

Mr Peter Adams
General Manager, Wholesale Markets
Australian Energy Regulator

By email: RIT@aer.gov.au

Dear Peter,

Submission to draft RIT-T application guidelines

TransGrid welcomes the opportunity to respond to the Australian Energy Regulator's (AER) draft regulatory investment test (RIT-T) application guidelines.

TransGrid is the operator and manager of the high voltage transmission network connecting electricity generators, distributors and major end users in New South Wales and the Australian Capital Territory. TransGrid's network is also interconnected to Queensland and Victoria, and is instrumental to an electricity system that allows for interstate energy trading.

We are pleased that the AER has incorporated elements of TransGrid's proposed changes to the current RIT-T application guidelines made during the first phase of consultation. However, we have concerns that the AER's draft guidelines do not incorporate critical elements of TransGrid's proposal and therefore will not break the current deadlock in delivering the strategic transmission investments necessary for the transformation of the National Electricity Market.

Our comments on the AER's draft RIT-T application guidelines are provided in the submission accompanying this letter. We look forward to continuing to engage with the AER and other stakeholders on this and related matters.If you would like to discuss our submission, please contact Neil Howes, Acting Manager/ Regulatory Policy on 02 9284 3748.

Yours faithfully

Caroline Taylor

Caroline Taylor
Acting Executive Manager Regulation

TransGrid submission

AER draft RIT-T application guidelines

7 September 2018

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1. Introduction

TransGrid welcomes the opportunity to respond to the Australian Energy Regulator's (AER) draft regulatory investment test for transmission (RIT-T) application guidelines.

TransGrid is the operator and manager of the high voltage transmission network connecting electricity generators, distributors and major end users in New South Wales and the Australian Capital Territory. TransGrid's network is also interconnected to Queensland and Victoria, and is instrumental to an electricity system that allows for interstate energy trading.

Australia is in the midst of an energy transformation. This is primarily driven by changing community expectations and choices, advances in renewable energy technologies, retirement of existing generation, and the adjustments required in Australia's economy to meet our international climate change commitments. These changes raise complex issues in relation to the design of the National Electricity Market which must adapt to these changes and provide the basis for low emissions, reliable supply at the lowest cost to consumers over the long run.

The regulatory investment tests, which include the RIT-T and regulatory investment test for distribution (RIT-D), are part of the planning and investment framework in the National Electricity Rules. They are designed to facilitate the consideration of different investment options so that the needs of consumers are met at the lowest cost over the long-term.

In transmission, these options are: undertaking transmission network investment, building new generation capacity, and using demand side measures such as procuring demand response. In practice, a combination of these measures may also be used.

This submission sets out our views on the AER's draft RIT-T application guidelines. We are pleased that the AER has incorporated elements of TransGrid's proposed changes made during the first phase of consultation. However, we have concerns that the AER's draft guidelines do not incorporate critical elements of TransGrid's proposal and therefore will not break the current deadlock in delivering strategic transmission investments necessary for the transformation of the National Electricity Market.

This submission is structured as follows:

- Chapter 2 sets out our views on whether the AER's draft RIT-T application guideline appropriately link to AEMO's Integrated System Plan and further changes we consider necessary to the guidelines to facilitate the delivery of strategic transmission projects in the Integrated System Plan.
- Chapter 3 sets out TransGrid's views on changes made by the AER to the RIT-T application guidelines to accommodate replacement expenditure projects.
- Chapter 4 sets out our views on other changes made by the AER in its draft RIT-T application guidelines.

Our views have been informed by our experience with applying the RIT-T as summarised in Box 1. We have also contributed to the development of the submission by Energy Network Association and support the views in that submission.

Box 1: TransGrid's experience with the RIT-T

The AER identifies that there have been 18 applications of the RIT-T since its commencement in June 2010. TransGrid's experience of the RIT-T in its current form has been limited to two projects:

> The 2012 proposal to upgrade the interconnector between Queensland and NSW (known as QNI)

> The 2017 proposal to alleviate the increasing risk to the supply of electricity to consumers from ageing electricity infrastructure in the inner Sydney area (known as Powering Sydney's Future).

TransGrid has also applied the RIT-D in a joint process with Essential Energy.

We also have RIT-T processes for the following projects currently underway:

> Managing the Risk of Corrosion between Vales Point and Sydney North on Line 22 (consultation commenced on 30 August 2018).

> Managing the South Sydney Substation's Asset Risks (consultation commenced on 3 September 2018).

2. The draft RIT-T application guidelines and AEMO's Integrated System Plan

In its submission to the AER's review of the regulatory investment test (RIT) application guidelines issue paper, TransGrid identified a number of potential changes to the RIT-T application guidelines that would capture and embed the benefits of AEMO's Integrated System Plan into the RIT-T. The changes proposed would ensure that priority projects identified in the Integrated System Plan could be delivered in an efficient and timely manner. This would break the current investment deadlock to facilitate the transition to a lowest cost renewable electricity supply.

The AER has incorporated elements of TransGrid's proposed changes in the draft RIT-T application guidelines and TransGrid is supportive of the changes that the AER has made to better incorporate the Integrated System Plan within the RIT-T framework. However, the AER's draft RIT-T application guidelines do not incorporate a critical element of TransGrid's proposal and therefore will not break the current deadlock in delivering strategic transmission investments. If the AER does not make additional changes to the guidelines to facilitate the delivery of the Integrated System Plan then alternative means of delivering on the Integrated System Plan will need to be delivered by policy makers.

This section sets out TransGrid's views on the AER's draft RIT-T application guidelines and the Integrated System Plan.

2.1 The draft application guidelines acknowledge the link between AEMO's Integrated System Plan and the RIT-T but need to go further

TransGrid welcomes the additional guidance provided in the AER's draft RIT-T application guidelines in relation to the interaction between AEMO's Integrated System Plan and the RIT-T. The AER's draft RIT-T application guidelines have addressed a number of the issues identified in TransGrid's submission to the issues paper. This provides greater guidance as to how the Integrated System Plan can be used in a RIT-T assessment.

Importantly, the AER's draft guidelines explicitly enable a RIT-T proponent to use the material in the Integrated System Plan as a starting point to develop assumptions and inputs to use in a RIT-T analysis. It also acknowledges that RIT-T proponents may use Integrated System Plan scenarios in formulating reasonable scenarios for the RIT-T, and provides an example of how a RIT-T proponent may use Integrated System Plan scenarios to develop RIT-T scenarios. TransGrid notes that the AER has signalled that it would likely adopt a stronger in principle preference for RIT-T proponents to accept the Integrated System Plan assumptions as a default if the Integrated System Plan framework is formalised in the future.

The draft RIT-T application guidelines also provide guidance in relation to how a RIT-T could be applied to analyse the proposed development of a renewable energy zone. The draft RIT-T application guidelines enable a RIT-T proponent to use the Integrated System Plan to articulate the identified need and form a credible option to meet the identified need.

Finally, the draft RIT-T application guidelines provide guidance in relation to how the Integrated System Plan could be used to calculate market benefits, including benefits that accrue to other NEM regions. The example provided by the AER in its draft guidelines is useful to demonstrate how a RIT-T proponent could use the Integrated System Plan to calculate market benefits and is welcomed by TransGrid.

Collectively, TransGrid considers that this guidance will help with the timeliness of formulating the basis of a RIT-T assessment and the communication of this to stakeholders. AEMO undertook extensive consultation in the development of its Integrated System Plan, and the rationale for its assumptions, inputs and scenarios have been well tested and are generally well accepted. Enabling a RIT-T proponent to use this work will result in a more efficient RIT-T process.

However, while a number of these changes do address the issues identified in our submission to the issues paper, TransGrid considers that the draft RIT-T application guidelines do not go far enough in incorporating the Integrated System Plan into the RIT-T framework. The guidance in the draft RIT-T application guidelines will not provide the circuit breaker that is required to deliver the strategic transmission investments identified in the Integrated System Plan. Further consideration in relation to how to more closely link the RIT-T framework and the Integrated System Plan is needed to unlock the significant market benefits that would arise from the delivery of strategic transmission investments in the Integrated System Plan. This is set out further below.

2.2 TransGrid maintains that there should be a closer link between the RIT-T and the Integrated System Plan

The AER's draft guidelines do address some of the issues raised by TransGrid in response to the AER's Issues Paper. However, further changes to the RIT-T application guidelines are needed to ensure that the RIT-T provides an appropriate framework to assess strategic transmission investments such as those identified by AEMO in its Integrated System Plan. Enabling the development of strategic transmission infrastructure will be critical to the delivery of affordable, reliable and secure energy services while transitioning to a lower emissions energy market in line with Australia's Paris Agreement targets into the future.

In its submission to the Issues Paper, TransGrid proposed that the AER's RIT-T application guidelines clarify that when forming the base case of an individual component of the Integrated System Plan in a RIT-T, the RIT-T proponent is required to have regard to AEMO's single recommended development pathway.[1] This would enable the RIT-T to model the benefit of the credible option to the NEM as a whole, but would address issues associated with the uncertainty of the future development of the NEM by taking as given other Integrated System Plan developments. Uncertainty over the future development of the NEM provides the scope for prolonged debate, and ultimately potential dispute, of the assumptions underpinning the RIT analysis, particularly for RIT-T assessments.

This feature of our proposal is crucial. Without clarity in the AER's guidelines that AEMO's recommended development pathway form the base case (in all scenarios), it would be difficult for a TNSP to complete a RIT-T for strategic transmission investments in the NEM in a practical and timely way. This is because, in the current uncertain environment TNSPs may have to model multiple combinations of potential developments across the NEM. This would make it easy for market participants to selectively challenge scenarios and assumptions to frustrate and disrupt the process, where it is in their interest to do so. The use of a single recommended development pathway that is an outcome of least-cost power system modelling would provide a base set of assumptions that are in the interest of consumers as a least-cost development path. This would provide a "circuit breaker" to resolve uncertainty and the potential for dispute. AEMO has consulted publicly and widely and received over 30 submissions on the scenarios and input assumptions for the Integrated System Plan.

In addition, incorporating AEMO's recommended development pathway into the base case would facilitate coordinated development of strategic transmission investments in the NEM by ensuring each individual transmission development project is considered within the context of an over-arching system plan. It would also enable RIT-T proponents to leverage the considerable analysis that AEMO has done in preparing the Integrated System Plan, focusing on the specific project being considered.

If this critical element of our proposal is not adopted then an alternative pathway would be required to deliver the Integrated System Plan. This is discussed in section 2.4.

[1] This is in addition to our submission that the modelling assumptions adopted by AEMO in the Integrated System Plan be adopted in the RIT-T.

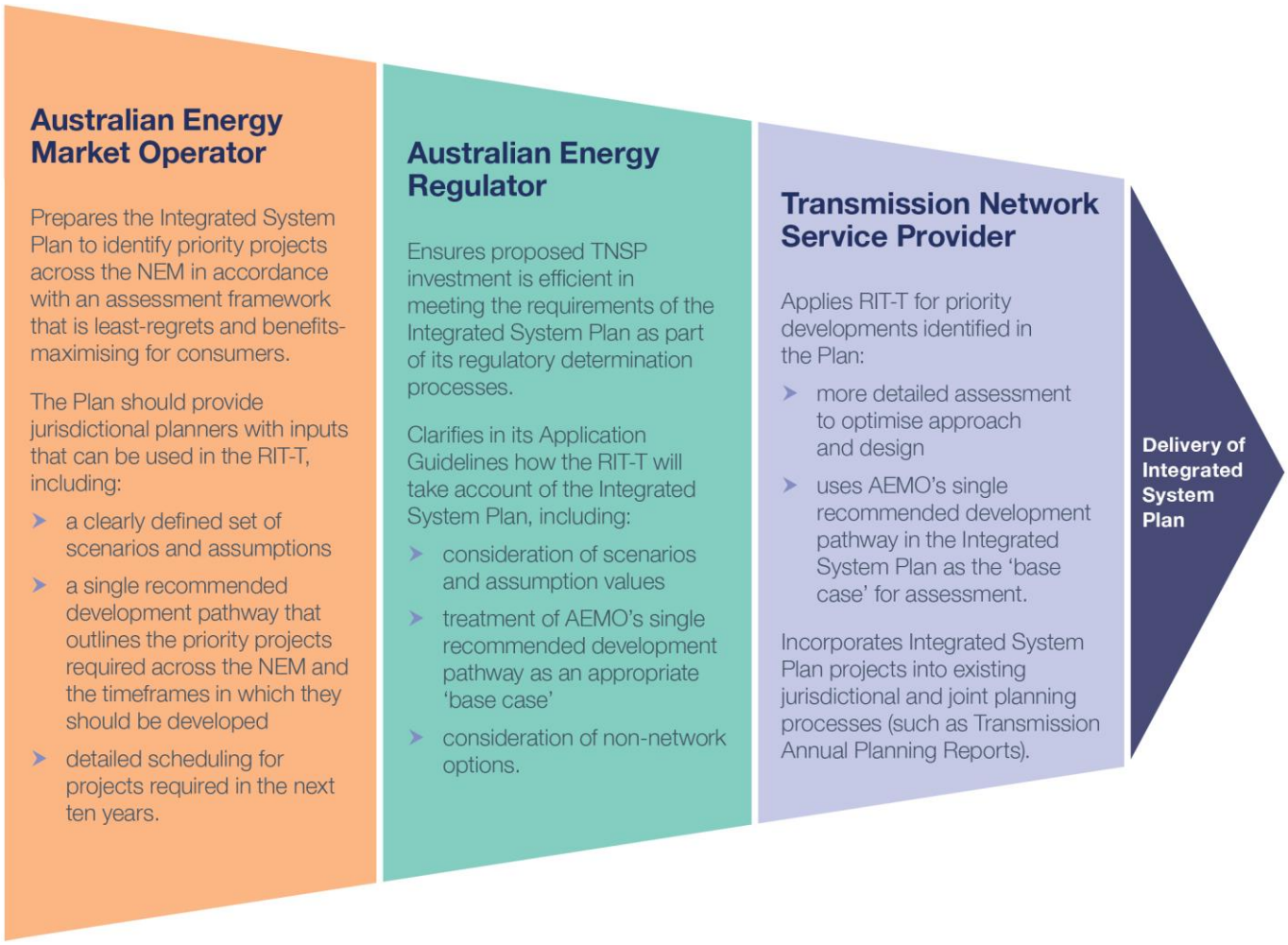
2.3 TransGrid's proposed pathway for efficient delivery of the Integrated System Plan

While the AER has incorporated elements of TransGrid's proposed changes in the draft RIT-T application guidelines, the draft guidelines do not incorporate a critical element of TransGrid's proposal.

In particular, it is critical that the AER RIT-T application guidelines clarify that the RIT-T proponent must have regard to AEMO's single recommended development pathway when forming the base case (for each scenario) of an individual component of the Integrated System Plan. Without this element of our proposal, the RIT-T application guidelines will not provide the certainty required to deliver the Integrated System Plan in an efficient and timely manner.

As set out in our submission to the AER's RIT application guidelines review issues paper, Figure 1 presents TransGrid's proposed process for ensuring that priority projects identified in the Integrated System Plan are delivered effectively.

Figure 1: TransGrid's proposed pathway for efficient delivery of the Integrated System Plan



Attached to this submission are our proposed amendments to the AER's RIT-T application guidelines to implement our proposal in full and break the current deadlock in delivering reliable and lowest cost electricity.

In particular, the amendments cover:

> Mark-ups to AER's RIT-T application guidelines to facilitate the adoption of the identified investment pathway and assumptions in AEMO's Integrated System Plan in the RIT-T. A worked example of how this would operate is also provided.

> A worked example as to how a transmission extension to a Renewable Energy Zone identified in AEMO's Integrated System Plan should be treated under the RIT-T.

2.4 Additional changes to the regulatory framework may be required

If the AER's RIT-T application guidelines do not provide the certainty required to deliver the Integrated System Plan in a timely and efficient manner, an alternative pathway may be required to deliver the Integrated System Plan.

This may involve:

- Ministerial direction to deliver the Integrated System Plan.
- Changes (or derogations) to the National Electricity Rules, such as to recognise the standing of the Integrated System Plan in the regulatory framework, or to exempt priority developments identified in the Integrated System Plan from the RIT-T.
- The development of an alternative (or modified) investment test for strategic transmission projects, which could consider a broader range of economic benefits outside the electricity market (for example the impact of lower wholesale gas and electricity prices on other sectors).
- Establishing a 'conditional RIT-T' to encourage generators to commit to development in the proposed energy zone.

In this context TransGrid notes that at its 10 August 2018 meeting, the Council of Australian Governments (COAG) Energy Council requested that the Energy Security Board develop a work program report to convert the Integrated System Plan into an actionable strategic plan. This may include further changes to the RIT-T framework. TransGrid understands that the Energy Security Board has been requested to deliver its advice by December 2018.

3. The application of the RIT-T to replacement expenditure projects

In 2017, the AEMC determined that the regulatory investment tests would apply to replacement projects.[2] Previously replacement expenditure was exempt from the tests.

The AER's draft RIT-T application guidelines provide further guidance in relation to the application of the regulatory investments tests to replacement expenditure.

As a general principle, TransGrid considers the RIT-T application guidelines should facilitate a proportionate analysis for replacement expenditure projects by network service providers.

TransGrid considers this was the intent of the AEMC:[3]

> *"… the amount of work to be undertaken for a final [RIT-T] report would not be significant where there is only one viable option. It would not require a significant amount of work to calculate the costs and benefits where there is only one option, for example. A network service provider is expected to undertake some of this work in making an investment decision anyway."*

TransGrid's proposals for further improvement are set out in sections 3.1 and 3.2 below.

3.1 Characterisation of the base case for replacement expenditure

The AER provides further guidance on how to characterise the base case for replacement expenditure in the draft RIT-T application guidelines.

TransGrid generally supports the AER's guidance that a 'business as usual' base case is appropriate for replacement expenditure RIT-Ts. However, we consider that two amendments are made to the AER's draft RIT-T application guidelines on this topic:

- Where a business as usual base case is adopted, the expenditure in that base case may include minor capital expenditure (below the RIT threshold) as well as operating and maintenance expenditure.
- For a RIT-T conducted for the replacement of part of an asset fleet (such as secondary systems), the business as usual base case may include capital expenditure to replace that asset at the end of its expected life. That is, the business as usual base case may reflect one of the RIT-T options for replacement. This 'end of life replacement' reflects prudent business practice where fleets of assets are concerned and is therefore the BAU option against which other options (such as a partial replacement or no replacement) can then be assessed under the RIT.

3.2 RIT-Ts for replacement expenditure driven by safety requirements

TransGrid welcomes the AER's recognition that the identified need for a RIT can be driven by compliance with safety-related obligations, now that the RITs are to be applied to replacement projects and programs.[4]

We consider that the example in the RIT-T application guidelines of developing the identified need (example 4 in the RIT-T application guidelines) could be usefully expanded to include an example of how to develop a safety-related compliance identified need. In particular where the network considers replacement expenditure is required to address growing safety risks, unrelated to unserved energy considerations. It is still unclear how to develop an identified need for safety related compliance in the draft RIT-T application guidelines.

[2] AEMC, *Replacement expenditure planning arrangements final rule determination*, 18 July 2017.
[3] Ibid., p. 67.
[4] AER, *Draft revisions of the application guidelines for the regulatory investment tests*, Explanatory Statement, July 2018, pp. 25-26.

4. Other elements of the AER's draft RIT-T application guidelines

The AER's review considered a number of other important aspects of the RIT-T application guidelines. TransGrid's views on these aspects of the draft RIT-T application guidelines published by the AER are set out below.

4.1 The treatment of environmental policies

One of the recommendations of the COAG Energy Council's RIT-T review was for the AER to provide further guidance and clarity on the treatment of environmental policies in the RIT-T application guidelines.

The AER's draft RIT-T application guidelines clarify that:

> RIT-T proponents 'should consider' external documents, such as the ISP, as a starting point when developing assumptions and inputs (including the treatment of environmental policies) to use in the RIT-T analysis while noting that the ISP can be departed from where relevant.

> Existing environment and emissions policies should be assumed to be met, and that all policies that are expected to materially affect the RIT-T outcome should be considered.

TransGrid is broadly supportive of this guidance from the AER relating to the treatment of environmental policies.

4.2 Option value and scenario analysis

The AER has added a more extensive example of option value in the draft RIT-T application guidelines and TransGrid supports this additional guidance.

We consider 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.

Following from this, we would strongly support the AER providing a worked example of the option value of constructing a new transmission line at a higher voltage than is initially needed when there is a high likelihood that the capacity at the higher voltage will ultimately be used. For example, a 500kV transmission line has around half the cost per MW capacity than that of a 330kV transmission line. In addition it minimises the asset footprint and community impact compared to the lower voltage line. In this way, consumers benefit where economies of scale such as these can be realised.

As set out in the ENA submission to the AER's draft RIT-T application guidelines, it would be helpful for the AER to clarify that where an option includes a clear decision rule that reflects external circumstances a further RIT-T for subsequent stages of a preferred option is only required where there has been a material change in circumstances.

4.3 The treatment of high impact low probability events

The AER's draft RIT-T application guidelines require that high impact low probability events be included as explicit scenarios and that the benefits from avoiding these events are estimated using a value of customer reliability (VCR) that reflects wider economic benefits. The AER considers that these scenarios should be weighted on the basis of the probability of the event.

TransGrid does not support this aspect of the draft guidelines.

The VCR is not able to appropriately value for high impact events such as the potential impact of an earlier than expected closure of a power station. As acknowledged by AEMO, the VCR has limitations that are inherent in the methodology that has been used to estimate it. The methodology has not considered the propensity for consumers to place higher value on avoiding high impact, low probability events (evident in common consumer actions such as, for example, holding insurance policies).

To appropriately accommodate high impact low probability events into a RIT-T, TransGrid considers the AER should provide more flexibility for transmission network service providers to propose weights for high impact low probability scenarios. This would align the benefits from avoiding these events in a way that is consistent with community expectations.

This solution would also address the COAG Energy Council's direction for the AER to consider options to "better weight" high impact low probability events. TransGrid considers that the draft RIT-T application guidelines do not address this direction.

4.4 Value of customer reliability

The AER's draft RIT-T application guidelines include new guidance on factors that it considers a RIT-T proponent should have regard to in selecting a value of customer reliability (VCR) including:

- The willingness to pay for the reliable supply of electricity across a range of consumers that the credible option will affect.
- Factors that cause the VCR to vary including outage length, width of affected area, and consumer type.

The AER's draft guidelines also clarify that the RIT-T proponent is to use estimates that an independent expert has made publicly available, are up-to-date, fit for purpose, and based on a transparent methodology. The RIT–T proponent should clearly justify any excursion of VCR calculations away from an accepted estimate such as those produced by AEMO, or by the AER from 31 December 2019 under the draft guidelines.

TransGrid is generally supportive of the draft guidance provided by the AER on the VCR noting that it reflects some of the comments TransGrid made in its submission to the AER's issues paper. It will be important that the VCR estimates to be calculated by the AER are fit for purpose.

4.5 Stakeholder engagement

TransGrid is supportive of the increased clarity provided in the guidelines in respect of consumer and non-network engagement in the RIT-T process, including:

- An increased emphasis on early engagement with consumers and non-network businesses.
- An increased emphasis on the provision of transparent, user-friendly data provision where this is feasible.
- The importance of understanding broader consumer views.

In response to a comment in the AER's Explanatory Statement for the draft guidelines, TransGrid can confirm that the submissions it received on the Powering Sydney's Future RIT-T were provided to TransGrid as commercial in confidence and therefore could not be published by TransGrid.

Further detail on the non-network and broader stakeholder engagement TransGrid undertook as part of the Powering Sydney's Future projects is provided as a case study in Box 2.

TransGrid is supportive of non-network alternatives such as demand response as it allows TNSPs to be more responsive to changes in demand forecasts and the needs of consumers. The regulatory framework should provide incentives for innovation by TNSPs to actively build up the market, in the same way that an innovation scheme has been introduced for distribution businesses.

Box 2: Powering Sydney's Future RIT-T case study

Powering Sydney's Future was originally launched in 2014. Through this initiative, TransGrid and Ausgrid investigated a number of solutions to maintain reliability and security of electricity supply to Inner Sydney.

Between January and October 2014, TransGrid and Ausgrid implemented a range of engagement activities including workshops, information sessions, surveys and briefings, obtaining feedback from over 350 stakeholders, businesses and community members on a range of initiatives that could deliver an effective solution for the future energy needs of inner Sydney.

In 2015, reduced demand forecasts prompted TransGrid to defer the project.

In October 2016, Publication of the Project Specification Consultation Report (PSCR) marked the first stage of the RIT-T. The PSCR built on the earlier stakeholder engagement, inviting submissions on credible non-network options that could meet the forecast demand. Eleven submissions were received from non-network proponents offering a range of technologies including diesel generation, gas co/tri-generation, demand response, battery Storage, and solar PV. The responses by non-network proponents allowed TransGrid and Ausgrid to propose a solution that uses non-network solutions to defer the eventual network option by one year.

In May 2017, the release of the Project Assessment Draft Report (PADR) of the RIT-T identified the preferred option for investment taking into account stakeholder feedback. The PADR presented the results of the RIT-T economic assessment, proposing a preferred option involving the use of non-network solutions to defer network build by one year, and installing two 330 kV cables.

In November 2017, TransGrid completed the third and final stage of the RIT-T, with the release of the Project Assessment Conclusion Report (PACR). The PACR presented a solution further refined by stakeholder feedback. This was to install a single 330kV cable and defer installation of a second cable until further demand and reliability triggers are met. The revised single-cable solution also includes deferring network expenditure by one year using non-network solutions.

The RIT-T process has been underpinned by extensive stakeholder engagement throughout 2016 and 2017 which built on the early engagement completed in 2014. This involved a mix of public forums, workshops, working groups and targeted stakeholder engagement.

The proposed project was also discussed extensively by the TransGrid's Advisory Council which consists of a broad range of TransGrid's customers and energy consumers. The solution presented in the PSCR was supported by the Advisory Council.