ABN 70 250 995 390
180 Thomas Street, Sydney
PO Box A1000 Sydney South
NSW 1235 Australia
T (02) 9284 3000
F (02) 9284 3456

18/10/2018

Mr Peter Adams
General Manager, Wholesale Markets
Australian Energy Regulator

By email: AERInquiry@aer.gov.au

Dear Peter

Submission to draft industry practice application note for asset replacement planning

TransGrid welcomes the opportunity to respond to the Australian Energy Regulator's (AER) draft industry practice application note for asset replacement planning (draft note).

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 in the National Electricity Market (NEM).

We are pleased that the AER is enagaging with stakeholders in relation to this matter and enabling us to voice any concerns and perspectives for consideration prior to finalisation of the document. Our comments on the AER's draft industry practice note for asset replacement planning 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

Draft Industry practice application note: Asset replacement planning

1. Introduction

TransGrid supports the efforts of the Australian Energy Regulator (AER) to improve the outcomes for consumers with respect to the National Electricity Objective and welcomes the opportunity to respond to the AER Draft industry practice application note on asset replacement planning ("document").

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 central to interstate energy trading, and the National Electricity Market (NEM).

TransGrid appreciates the AER preparing an industry practice application note as it:

- Provides principles for consistency in asset replacement planning among Network Service Providers (NSPs) in the NEM.
- Provides a foundation for consistent evaluation of NSPs' revenue determination by the AER.
- Provides transparency to consumers of NSPs' asset replacement planning process that justifies asset replacement expenditure.

TransGrid understands that the AER is seeking industry views on the proposed principles and information guidelines to justify prudent asset replacement decision making.

This submission sets out TransGrid views on the information provided in the document. This submission is structured to first provide our general feedback to the document (Section 2), followed by our views on key information guidelines in the relevant chapters of the document:

- Section 3 Principles
- Section 4 Making an asset retirement or de-rating decision
- Section 5 Decisions following an asset retirement or de-rating decision
- Section 6 Risk-cost assessment methodology
- Section 7 Specific applications of risk cost

The submission concludes with next steps in TransGrid's engagement with the AER.

2. General Feedback

TransGrid's comments below are provided for the AER's consideration to assist in the acceptance and implementation of the document in the industry.

1. TransGrid seeks further clarification from the AER on the financial materiality of asset replacement decisions needs to be considered when applying the document. Further discussion is provided in Section 4.
2. TransGrid seeks further clarification from the AER regarding technology and digital infrastructure asset replacement drivers not explicitly linked to probability of failure, such as cyber security and obsolescence. For example, TransGrid may seek to replace serviceable assets to satisfy the recommendations of the Australian Signal Directorate with regards to the use of operating systems that they support.
3. Further discussion is required on the effects of uncertainty in asset replacement decision when the required data is unavailable. Particularly when developing forecasts of 7-10 years, which may not meet all of the requirements of the document, to justify these decisions that underpin the revenue determination. This is further outlined in Sections 3 and 5.

4. In the AER forum held on 25th of September 2018, the AER stated the document is “not binding”, and its purpose is to assist NSPs in demonstrating the principles in Chapter 2. TransGrid would appreciate the statement to be included in the document.
5. The document does not provide full clarity on acceptable quantified risk values (both likelihood of consequence and consequence values) to assist in achieving the most efficient regulatory revenue determination. TransGrid recommends that further work with the industry (potentially through the Energy Networks Australia) be undertaken to define the relevant values to the fullest extent possible.

3. Principles

TransGrid supports the principles proposed by the AER as they lay the foundation for prudent asset replacement decisions and is similar to the principles currently used by TransGrid. TransGrid has two main concerns discussed in Sections 3.1 and 3.2 for the AER’s consideration.

3.1 Data limitations

TransGrid utilises a data driven approach for its investments. In doing so, TransGrid believes it is important to acknowledge the potential data limitations in the calculation of some key parameters identified in the document. For example, the calculation of defensible and statistically significant hazard occupancy rate, used as a moderator for the fatality from explosive asset failure, relies on limited data that is available to TransGrid. There is a need for the value for key parameters determined by TransGrid to be defensible to the external legal or regulatory scrutiny, especially following a safety incident from an explosive failure.

For this reason, TransGrid recommends the AER provide provisions for genuine data limitations when demonstrating these principles.

3.2 Impact on long term replacement expenditure forecasting

It is unclear how the document will interact with the longer term replacement expenditure forecasting that is required for the revenue reset determination process. Essentially, a forecast of 7-10 years of replacement expenditure is developed based on:

> The given the timeframe for submission and review.
> The need to include long lead time projects commencing in the latter years of the next regulatory control period.

TransGrid’s long term replacement expenditure is produced using the methodology proposed in the document, and projects are presented at different levels of development to provide the best estimate of expenditure. This is then validated with top-down modelling, trending and other modelling approaches.

TransGrid seeks further clarification from the AER on their expectations on the application of the document to the longer term asset replacement expenditure forecasting.

4. Making an asset retirement or de-rating decision

The document is unclear on the application to low (financial) value asset replacement decisions. Example - the replacement of instrument transformers that provides protection services for multiple transmission lines and transformer. It is not clear in Chapter 3 whether such low value assets requires re-justifying the purpose for each of the assets that it serves, and the identification of non-network solutions. It is recommended the document provides a materiality threshold and guidance on the best fit application to low value asset replacements.

5. Decisions following an asset replacement or de-rating decision

TransGrid’s comments on relevant sub-chapters in Chapter 4 – Decisions following an asset replacement or de-rating decision is provided below.

5.1 Selecting the preferred option

The following comments are on Chapter 4.5 in the document.

> TransGrid recommends providing guidelines on monetising the economic cost benefit components, specifically 'value of optionality' and 'capacity stranding costs'. This enables consistent and comparable information across the NSPs.

> TransGrid recommends the AER provide additional guidance on what constitutes 'reasonable' economic scenarios to apply in scenario analysis and how to perform scenario analysis during option analysis.

5.2 Determining the optimal timing

The following comments are on Chapter 4.6 in the document.

> Figure 1 refers to 'annualised option cost' which is not provided in Definitions (Chapter 1.4), instead 'annualised capital cost' is provided. TransGrid recommends clarifying the cost used to represent the option.

> TransGrid recommends strengthening the content in Chapter 4.6 to provide guidance on determining the optimal timing for initiating asset replacement planning, as discussed in the AER forum.

> The timing of investments that are tied to regulatory safety obligations cannot be determined solely on the basis of the economically optimum timing. TransGrid's recommends the document acknowledge that the timing for safety driven investments may need to be as soon as reasonably practicable.

> TransGrid believes the example of using exclusion zones in Footnote 18 is not a valid proposition in asset replacement planning, as it puts TransGrid's safety obligation at risk (e.g. compliance to AS5577).

6. Risk-cost assessment methodology

TransGrid is required to demonstrate compliance to safety and reliability obligations, monitored by Independent Pricing and Regulatory Tribunal (IPART) in NSW. TransGrid's safety obligations is stated in the *Electricity Supply Act 1995*[1] and the *Electricity Supply (Safety and Network Management) Regulation 2014* ("Regulation 2014")[2].

We demonstrate compliance to our safety obligations by designing our Electricity Network Safety Management System, in accordance with AS5577[3], to demonstrate achievement of the below safety objectives in Regulation 2014 to As Low As Reasonably Practicable (ALARP):

(a) the safety of members of the public, and

(b) the safety of persons working on networks, and

(c) the protection of property (whether or not belonging to a network operator), and

(d) the management of safety risks arising from the protection of the environment (for example, preventing bush fires that may be ignited by network assets), and

(e) the management of safety risks arising from loss of electricity supply.

TransGrid is required to consider the safety risk associated with loss of supply to satisfy Regulation 2014, which isn't captured in the document. TransGrid recommends the AER include this area of consequence and provide guidance on the appropriate approach to capture this risk cost.

In addition to applying ALARP, TransGrid needs to apply So Far As Is Reasonably Practicable (SFAIRP) to satisfy the NSW and ACT Work Health and Safety legislation. Consequently, the application of SFAIRP and ALARP in the document will need to be consistent with the expectations of the jurisdictional safety regulators in the NEM.

The definitions of SFAIRP and ALARP, and its application guidance must be supported by the relevant jurisdictional safety regulator. TransGrid recommends that:

[1] Detailed information of the *Electricity Supply Act 1995* can be found at: https://www.legislation.nsw.gov.au/#/view/act/1995/94

[2] Detailed information of the Regulation 2014 can be found at: https://www.legislation.nsw.gov.au/#/view/regulation/2014/524

[3] AS5577 Electricity network safety management system provides requirements on designing a management system to address the requirements of Regulation 2014.

(i) The AER engages with the jurisdictional safety regulators to provide agreed definition and approach to achieve SFAIRP and ALARP in the document, or

(ii) The AER states that the NSPs' approach to applying SFAIRP and ALAPR is to be aligned with the requirements of specific jurisdictional safety regulators.

7. Specific applications of risk-cost

TransGrid notes that part of the reliability service offering of a transmission system includes system strength. As defined by the AEMC, it is a measure of the electrical current that would flow into a fault at a given point in the network. Reduced system strength in certain areas of the network may mean that generators are unable to meet their technical standards and may be unable to remain connected to the power system at certain times.

TransGrid recommends the AER to consider system strength as a potential consequence area for reliability risk in the document.

8. Next steps

TransGrid appreciates the opportunity to comment on the AER's Draft industry practice application note – asset replacement planning.

TransGrid observed diverse interpretations of the key information guidelines by other stakeholders in the AER forum. TransGrid notes the value of holding a forum prior to finalising the document to confirm an industry understanding of the AER's intent, and enable consistent application of the document by NSPs.

We look forward to the ongoing and meaningful consultation with the AER on the issues and recommendations outlined above.

If you would like to discuss this submission, please do not hesitate to contact Neil Howes, Acting Manager/ Regulatory Policy on 02 9284 3748.