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30 June 2016

John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

By email

Dear Mr Pierce

Request for Rule Change – Replacement expenditure planning arrangements

Please find attached the Australian Energy Regulator's (AER) rule change proposal seeking to strengthen reporting and planning requirements for replacement capital expenditure in Chapter 5 of the National Electricity Rules (Electricity Rules). The AER committed to the development of this rule change proposal in the second quarter of 2015.

This rule change proposal has been developed during a period where there has been a noticeable increase in replacement expenditure by network businesses and considerable discussion on increasing the transparency and consultation on network replacement decisions. We consider that in the current environment of flattened network demand across much of the NEM and increasing alternatives to like for like network asset replacement, there is insufficient transparency on network asset replacement decisions by network businesses which undermines the objective of Chapter 5 of the Electricity Rules to promote efficient network development.

The proposed changes seek to ensure that the Chapter 5 framework adapts to the changing external environment and continues to promote efficient network investment outcomes. Broadly, the attached rule change proposal proposes the following changes to Chapter 5:

- introducing new reporting requirements in both transmission and distribution annual planning reports (APR) to require network businesses to provide information on asset retirement decisions and the development of credible options to address network limitations arising from a decision to retire a network asset

- introducing a new reporting guideline on network asset retirement decisions which will determine the classes of assets for which network businesses will be required to report on in the APR
- extending the application of the regulatory investment test for transmission (RIT-T) and regulatory investment test for distribution (RIT-D) to replacement expenditure above the existing cost thresholds by removing the exemption for replacement expenditure. However, replacement projects for which there is unlikely to be any viable alternatives to like for like replacement would continue to be exempt from both the RIT-T and RIT-D
- making minor amendments to the Transmission APR and RIT-T provisions to mirror provisions introduced to the Distribution APR and RIT-D in the Distribution Network Planning and Expansion Rule Change.

We consider that the amendments proposed in the attached rule change proposal promote the National Electricity Objective (NEO) and are consistent with the objective of the national planning framework in Chapter 5 to promote the efficient development of the network.

As part of the development of this rule change proposal, we consulted with a range of external stakeholders, including holding a workshop in December 2015 with industry and consumer representatives. This feedback has allowed us to make changes and further refine the rule change proposal prior to submission to the AEMC.

Should you have any questions or queries regarding the attached proposal, please contact George Huang on 02 9230 3856.

Yours sincerely

Michelle Groves
Chief Executive Officer

National Electricity Rules

Proposal to introduce new replacement expenditure reporting and planning arrangements to the Chapter 5 planning framework

A Name and address of the rule change request proponent

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B Rule change proposal

We propose amendments to Chapter 5 of the National Electricity Rules (the Electricity Rules) to mirror the augmentation capital expenditure reporting and planning requirements for replacement capital expenditure. This rule change will strengthen the reporting requirements under the annual planning report (APR) and broaden the scope of the Regulatory Investment Test (RIT) for distribution (RIT-D) and transmission (RIT-T) to include replacement expenditure. These changes are consistent with the purpose of the RIT and the broader network planning framework under Chapter 5 of the Electricity Rules to promote efficient investment outcomes.

We propose that Chapter 5 of the Electricity Rules be amended to:

- introduce new reporting requirements in both transmission and distribution APRs to require network businesses to provide information on asset retirement decisions and the development of credible options to address network limitations arising from a decision to retire a network asset
- introduce a new guideline on replacement capital expenditure which will determine the types of replacement assets captured in the APRs, and
- extend the application of the RIT-T and RIT-D to replacement expenditure. This would also entail minor changes to the RIT-T and RIT-D to accommodate their application to replacement expenditure. To ensure the extension of the RIT-T and RIT-D does not create an unnecessary regulatory burden, the RIT-T and RIT-D should not apply to replacement expenditure where it is unlikely that there would be viable alternative options to like-for-like replacement.

Additionally, we propose minor amendments to the Transmission APR and RIT-T to mirror provisions introduced to the Distribution APR and RIT-D in the Distribution Network Planning and Expansion Rule Change[1]:

- introducing a RIT-T re-application clause mirroring the re-application clause for the RIT-D, and
- introducing a clause requiring transmission network service providers (TNSPs) to provide information on their approach to asset management, mirroring current reporting requirements for distribution network service providers (DNSPs).

[1] AEMC 2012, Distribution Network Planning and Expansion Framework, Rule Determination, 11 October 2012, Sydney. .

B.1. Background to the proposed rule

B.1.1. Current Chapter 5 framework

Part B of Chapter 5 of the Electricity Rules sets out the network planning and reporting obligations for TNSPs and DNSPs.

The objective of this national planning framework is to establish a clearly defined and efficient planning process for network investment. Having such a framework in place supports the efficient development of the network and provides appropriate transparency and information regarding network businesses' planning and investment activities. This enables market participants to make efficient investment decisions and enable non-network providers to raise credible alternatives.[2] It has also been recognised that the publication of such information should also assist the AER in performing its regulatory functions by supplementing our current assessment as part of the making of regulatory determinations.[3]

These objectives are achieved in part by having network service providers (NSPs) undertake an annual planning review to identify emerging network constraints expected to arise over five-year and ten-year planning horizons. The results of the review are then published in an APR. Where the capital cost to address the emerging network constraint exceeds the minimum cost threshold[4], the NSP must undertake a RIT-T (in transmission) or RIT-D (in distribution) close to the time the network constraint is forecast to arise. The RIT will then determine, through a cost benefit assessment, the preferred option (network or non-network) which maximises the net market benefits across the NEM. Combined, the APR and RIT ensure there is a continuum of information provided to interested parties regarding planned network investment.

Regular updating of network plans assists the effectiveness of the regulatory determination process for both NSPs and the AER. We recently emphasised this in the AER's compliance project to review, and improve, the quality and effectiveness of APRs. As part of the project, workshops were held first with all of the TNSPs and then with all DNSPs.[5] The majority of participants agreed that consistent and accurate APRs help provide a credible basis for both NSPs and interested stakeholders on which to formulate or comment on a revenue proposal.

Many of the components of this current framework originate from AEMC's market reviews on National Transmission Planning Arrangements, completed on 30 June 2008, and the Review of National Framework for Electricity Distribution Network Planning and Expansion, completed on 23 September 2009. Subsequently, the then MCE submitted rule change proposals seeking to implement recommendations made in those reviews. This resulted in the AEMC rule determination on 25 June 2009 introducing the framework for the creation of the RIT-T[6] and 11 October 2012 introducing a national distribution planning framework (including the framework for the creation of the RIT-D)[7].

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[2] AEMC 2012, Distribution Network Planning and Expansion Framework, Rule Determination, 11 October 2012, Sydney, p.i.

[3] AEMC 2012, Distribution Network Planning and Expansion Framework, Rule Determination, 11 October 2012, Sydney, p.37,39.

[4] Currently $6 million for transmission, $5 million for distribution. For more information see https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/cost-thresholds-review-associated-with-the-regulatory-investment-test-2015.

[5] AER, *Quarterly Compliance Report: National Electricity and Gas Laws April - June 2015,* 17 August 2015, p.4-5. Available at https://www.aer.gov.au/wholesale-markets/compliance-reporting/quarterly-compliance-report-april-june-2015.

[6] AEMC 2009, *Regulatory Investment Test for Transmission,* Final Rule Determination, 25 June 2009, Sydney.

[7] AEMC 2012, Distribution Network Planning and Expansion Framework, Rule Determination, 11 October 2012, Sydney.

The annual transmission planning framework has been in place since the introduction of the Electricity Rules in 2005 and formed part of the National Electricity Code which preceded the Electricity Rules.

B.1.2. The decision to retire an asset

Currently under Chapter 5, in the event that a replacement need arises there is an obligation to briefly outline the project including options that may address the need in the APR.[8] The replacement need is borne from an internal determination by a network business on the decision to retire the asset. The decision is based on the internal asset management approach and risk strategy. Aside from a high level obligation under the distribution APR to outline the network business's asset management approach,[9] there is little or no planning transparency around the network businesses decision to retire assets.

B.1.3. Changing energy environment

The focus of the current transmission and distribution planning frameworks is primarily on network augmentation, which relates essentially to demand driven investment. This is because, at the time the frameworks were conceived, it was not considered that there would likely be viable alternatives to like for like replacement.[10] Over the past few years there have been significant changes in the National Electricity Market (NEM) and broader energy industry which created a change in network planning and investment patterns which now challenges this assumption. In addition, there are emerging technological changes that are also challenging the presumption of like-for-like replacement.

Over this period, electricity demand and consumption in the NEM has been in a state of stagnation or in some instances a state of decline. Maximum demand has not grown as forecast, due to drivers such as the increased penetration of solar PV, energy efficiency and reduced usage in response to rising network costs. This is highlighted in the example (Figure 1) below, which show how maximum demand forecasts for Energex's distribution network have flattened over a six year period. From 2008-2009 to 2013-2014, operational consumption in NEM transmission networks fell at an annual average rate of 1.5 per cent[11] and, outside of an expected increase in localised demand due to the ramp up of Queensland LNG projects, is largely expected to remain flat in the next decade.[12] Similar trends can be observed in other distribution networks. There is a possibility that demand may increase again in the future but even if this were to occur, this does not change the focus for the foreseeable future on managing existing network assets rather than the historical focus on expanding the network.

[8] *National Electricity Rules,* clause 5.12.2 (7) for the Transmission APR and schedule 5.8 (g) of the Distribution APR.

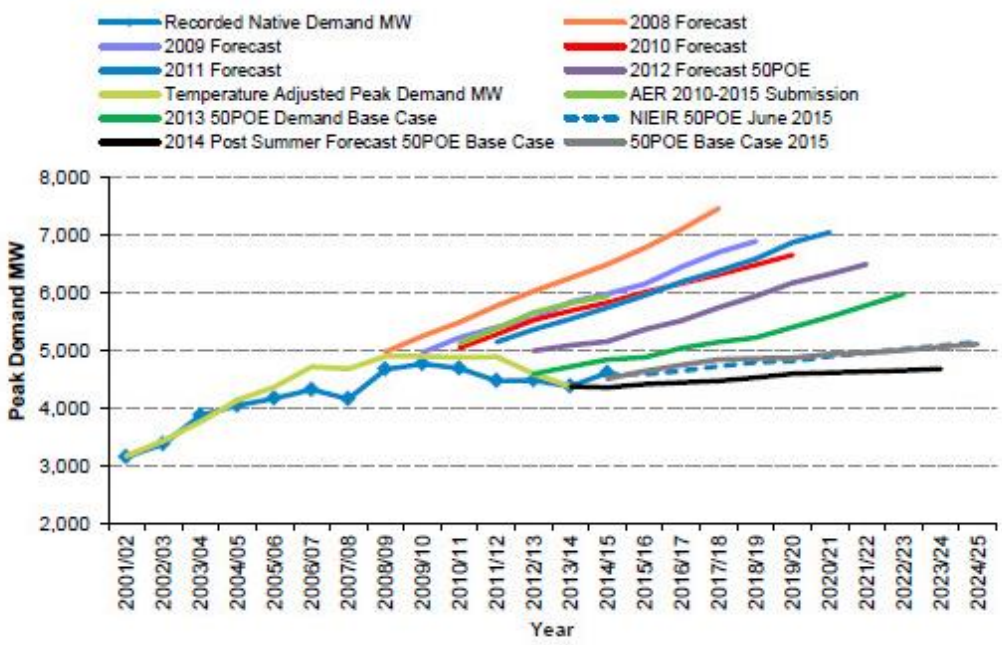
[9] *National Electricity Rules,* schedule 5.8(k).

[10] For example see AEMC, Rule Determination – National Electricity Amendment (Distribution Network Planning and Expansion Framework) Rule 2012, 11 October 2012, p. 84-85; AEMC, *Final Report to MCE – National Transmission Planning Arrangements,*30 June 2008, p.51.

[11] AEMO, *2015 National Electricity Forecast Report (NEFR) Overview,* p.8

[12] AEMO, *2015 NEFR Overview,* p.7. See also AEMO, *2015 NEFR Update,* p.7.

Figure 1- Energex maximum demand forecasts between 2008-14



Source: Energex distribution annual planning report 2015/16 to 2019/20, Volume 1, 30 September 2014, Figure 27, p. 60.

The shift in maximum demand and operational consumption has markedly reduced network augmentation but has tended to lead to corresponding increases in network investment towards network replacement. This has been highlighted by AEMO in the 2015 National Transmission Network Development Plan (NTNDP), which noted that in the next twenty years, AEMO expects that transmission networks will focus on replacement rather than network augmentation.[13]

As shown in our recent transmission and distribution network determinations, replacement expenditure is now a significant percentage of capital expenditure. For distribution, during the current regulatory forecast period replacement expenditure is between 30 and 50% of total capital expenditure whereas augmentation capex is now between 15 and 30%.[14] For transmission, Powerlink's recent regulatory proposal is even more striking, with forecast replacement expenditure amounting to 90% of capital expenditure with only 1% for augmentation.[15]

One major consequence of flat electricity demand and consumption is that alternatives to like for like network replacement become increasingly viable. For example, this has been highlighted by the replacement projects identified in Powerlink's 2015 APR[16]. Both Powerlink and AEMO have identified cheaper network reconfigurations and potential non-network alternatives to like for like replacement for some of the proposed replacement projects.[17]

In a low demand growth environment there is a stronger economic case for the use of non-network solutions as investment in long-life network assets can be deferred until

[13] AEMO, *2015 National Transmission Network Development Plan (NTNDP)*, p. 11.

[14] See the 2015 AER Network regulatory determinations for NSW, ACT, Queensland and South Australia. Available at https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements.

[15] Powerlink, *2018-22 Powerlink Queensland Revenue Proposal,* January 2016 p.5.

[16] See chapter 4 of Powerlink *Transmission Annual Planning Report 2015* p.53,55,57,63.

[17] AEMO, *Independent planning review – Queensland transmission network,* December 2015, p.10.

there is a more certain need, reducing the risk of stranded network assets. Further, the benefits relating to a non-network solution may also increase. This was suggested by Ausgrid in its revenue proposal:

> Across the NEM and in Ausgrid's supply area peak demand growth has slowed in recent years, departing from the previous trend of steady year-on-year growth. This has led to lower forecast growth in augmentation capital expenditures but also increased the uncertainty about the optimal capital investment strategy compared to the last regulatory period. In this more uncertain environment, the "option value" of demand management programs is enhanced for the coming years.
>
> …
>
> Lower load growth scenarios can create opportunities for DM [Demand Management] because the demand reduction requirements to achieve capital deferrals are lower (making them easier to achieve and more cost effective), which can compensate for the less frequent opportunities for DM. [18]

That is, rather than the value of non-network solutions falling in times of uncertain or flat demand, the value of deferring major sunk network investments and with it the role of DM is likely to increase. For example, if a small embedded generator is used to defer network reinvestment in light of uncertain demand and the expected demand does not eventuate, the generator can readily be moved to another location. However, had a network solution been utilised, the investment is sunk, resulting in stranded or underutilised assets.

In the foreseeable future, technological advances in energy storage and distributed generation are forecast to become more cost effective and accessible. Recent studies and reviews conducted, in both Australia and overseas[19], highlight the potential role these technologies may have on the future development of the electricity network, as they begin to provide viable alternatives to more traditional network solutions.

B.1.4. AEMC and industry consideration of increased focus on network replacement decisions

This rule change proposal has been developed during a period where there has been considerable discussion on increasing the transparency around network replacement decisions.

In its final report on Optional Firm Access Design and Testing the AEMC recommended that the application of the RIT-T be extended to apply to relatively major network replacements on major transmission flow paths. The AEMC considered that such a change would improve the co-ordination of transmission and generation investment, and improve the efficiency of transmission investment.[20]

In addition, it was recognised in the final report that the application of the RIT-T would not likely be an unnecessary regulatory burden as circumstances had changed since the introduction of the RIT-T. Firstly, replacement investment is likely to be a higher

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[18] Ausgrid, Attachment 6.12 Demand Management operating expenditure plan, Regulatory Proposal 1 July 2014 to 30 June 2019, May 2014, p.5. Available at: http://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/ausgrid-determination-2014-19/proposal.

[19] For example, see the report prepared for the UK National Infrastructure Commission by the University of Cambridge Energy Policy Research Group in February 2016, titled *'Delivering future-proof energy infrastructure', http://www.eprg.group.cam.ac.uk/report-delivering-future-proof-energy-infrastructure-by-m-pollitt/*.

[20] AEMC 2015, Optional Firm Access, Design and Testing, Final Report – Volume 1, 9 July 2015, Sydney, 9 July 2015, p.26,

proportion of total investment in the foreseeable future. This means that a "do nothing" option may be more credible than was the case when the RIT-T was first introduced and so replacement expenditure should face increased scrutiny. Secondly, the improved availability of distributed energy resources and demand management may provide additional credible alternative options for replacement projects. As such, the application of the RIT-T to replacement may more likely result in alternative investments than was previously the case.[21]

The AEMC noted that a wholesale extension of the RIT-T may not be appropriate, as some categories of replacement may still be unlikely to have any credible options as alternatives, such as the replacement of a SCADA system. The AEMC argued that any rule change proposal would need to give consideration to both the appropriateness of the cost thresholds and type of investment to which the RIT-T relates. The AEMC also added that a rule change proposal would have to consider how the RIT-T process would be applied under the Victorian arrangements where AEMO is responsible for augmentation investment while AusNet Services is responsible for replacement investment.[22]

In a distribution context, there was stakeholder discussion on the extension of the RIT-D to replacement and refurbishment projects in the AEMC's recent consideration of proposed changes to the demand management incentive scheme by the Total Environment Centre (TEC) and the COAG Energy Council.[23] In our submission to the AEMC consultation paper, we noted that one of the potential gaps in the regulatory framework which should be addressed to achieve a balanced consideration of network and non-network options by distributors was expanding the RIT-D to include network replacements.[24]

The AEMC noted these comments and stated the importance of the distribution planning and expansion framework in making efficient planning and investment decisions. The AEMC added that if these arrangements are not operating effectively to achieve the intended outcomes which are consistent with the NEO, stakeholders may propose a change to the Electricity Rules.[25]

In addition to these AEMC reviews, a recent Grattan Institute report recommended that the RIT-D should be expanded to replacement spending. The report highlighted the increase in network replacement costs and noted that as distributed generation and energy storage develop, they are increasingly likely to provide cost-effective alternatives to replacement spend.[26]

B.2. AER development of the proposed rule

In considering improvements to the planning framework we have sought the views of a range of stakeholders. We have been mindful that a key purpose of the planning framework is to facilitate meaningful engagement between the NSPs and a range of interested parties, to assist in the development of efficient planning outcomes. Therefore in developing the rule change we have consulted with stakeholders to provide them with

[21] AEMC 2015, Optional Firm Access, Design and Testing, Final Report – Volume 1, 9 July 2015, Sydney, 9 July 2015, p.26,

[22] AEMC 2015, Optional Firm Access, Design and Testing, Final Report – Volume 1, 9 July 2015, Sydney, 9 July 2015, p.26-7,

[23] Submissions can be found on http://www.aemc.gov.au/Rule-Changes/Demand-Management-Embedded-Generation-Connection-I#

[24] AER ,*Submission on demand management incentive scheme rule changes,* 19 March 2015, p.6-7.

[25] AEMC 2015, Demand Management Incentive Scheme, Rule Determination, 20 August 2015, Sydney, p. 27.

[26] Wood, T., Blowers, D., and Chisholm, C., 2014, *Sundown, Sunrise: how Australia can finally get solar power right,* Grattan Institute, p.39

opportunities to raise and discuss matters relating to replacement expenditure to better meet this objective.

In discussions with interested parties we aimed to further understand what information non-network proponents may find useful in developing planning proposals with NSPs. We have also considered the views of NSPs on the appropriateness of current planning requirements within the context of the broader Chapter 6 and 6A incentive framework and the value of additional replacement expenditure planning requirements.

Along with individual discussions with some non-network providers, we held a replacement expenditure workshop in December 2015 to discuss our rule change proposal. As a result of this workshop, we were able to make further changes to our proposal and to refine the existing proposal to better align the rule change with industry expectations of what information may be useful to interested parties and how this information may be best provided. For example, one of the proposals discussed was the inclusion of reporting on network asset information technology and communications (ITC) expenditure by NSPs in APRs. Due to the significant increase in ITC by NSPs in recent years, we sought stakeholder views into whether it would be beneficial to have NSPs report on ITC expenditure in the APR. In the workshop stakeholders raised concerns about the appropriateness of ITC in the APR due to the confidential nature of such information and that would ultimately limit the value of the non-confidential subset of information to readers of the APR. It was agreed that it would be more appropriate for the AER to access such information through its information gathering powers. As a result of the feedback received, we decided not to propose ITC reporting requirements in the APR.

Whilst our subsequent changes may not fully satisfy NSPs' more fundamental concerns with the proposed Chapter 5 obligations, we have aimed to further minimise the regulatory reporting burden placed on network businesses in achieving the objectives of greater transparency and consultation on replacement expenditure.

B.3. The proposed rules

The following amendments to Chapter 5 part B of the Electricity Rules are proposed:

- introduce clause 5.14A to require the AER to publish a network retirement reporting guideline which sets out how network businesses must report on asset retirement decisions in the APR and the asset types to be reported on. This is in addition to the existing RIT guidelines.
- amend clause 5.12.2(7) and introduce clause 5.12.2(7A) and S.5.8 (d1) to introduce reporting requirements in transmission and distribution annual planning reports on network asset retirement decisions for network assets of certain asset types. Where the retirement decision is likely to create a network need which needs to be addressed, the NSP must also detail all proposed options which have been considered to address the network need.
- introduce clause 5.12.2(9) to require the TNSP to report on their asset management approach. This clause mirrors the current reporting requirements for the distribution APR.
- amend clause 5.16.3 and 5.17.3 by removing the sub-clauses exempting replacement expenditure from the RIT-T and RIT-D. Introduce a new sub-clause to exempt replacement expenditure only where an exemption report has been published.

- introduce clause 5.16.3A and 5.17.3A to allow RIT-T or RIT-D proponents to publish an exemption report for replacement projects where it is determined on reasonable grounds that the only viable option is like-for-like replacement. This report will set the reasons for a determination and will be made available to all registered participants, AEMO and other interested parties.
- introduce clause 5.16.5(a1) and 5.17.5(a1) to allow interested parties to challenge a RIT-T or RIT-D exemption determination made under 5.16.3A and 5.17.3A .
- introduce clause 5.16.4(z3) to require the TNSP to reapply the RIT-T where there has been a material change in circumstances unless otherwise determined by the AER. This clause mirrors the current re-application provisions for the RIT-D in clause 5.17.4(f).
- make consequential changes to the definitions in clause 5.10.2.

A copy of the proposed rule has been included as part of this rule change proposal.

C Statement of issues

As stated in the background section, the purpose of the national planning framework is to promote the efficient development of the network in particular, the planning framework must promote productive, allocative and dynamic efficiency.[27]

As outlined in section B.1.3, since the introduction of the transmission and distribution network planning frameworks there have been significant changes in the environment in which network businesses operate. The AER considers that as a result of these changes, the network planning framework must be amended to provide an increased focus on replacement expenditure. This will ensure the network planning framework continues to promote efficient network development.

Under the existing Chapter 5 framework there is limited transparency around the replacement of network assets. Current annual planning reporting information requirements on replacement capital expenditure are minimal compared to augmentation information requirements. Replacement capital expenditure is excluded from the RIT-T and RIT-D as it was considered alternatives to 'like-for-like' replacement were unlikely. Historically, it has been considered that to require a network business to undertake the RIT in these circumstances would result in an unnecessary regulatory burden as it is not likely to yield more efficient alternatives options or outcomes.[28]

In the current environment, with proportionally greater levels of capital expenditure in replacement expenditure, this lack of transparency is no longer appropriate. Our recent regulatory determinations have demonstrated that replacement expenditure now exceeds augmentation expenditure by a large margin. Low demand growth has meant that increasingly there are alternatives to like for like replacement and this trend is expected to continue with the increasing penetration of technologies such as distributed

[27] Allens Consulting Group and NERA Economic Consulting, *Network Planning and Connection Arrangements – National Frameworks for Distribution Networks – A joint report prepared by the Allens Consulting Group and NERA Economic Consulting for the Ministerial Council on Energy Market Reform Working Group,* August 2007,p*. 3-4.*

[28] For example see AEMC 2006, *National Transmission Planning Arrangements,* Final Report to MCE, 30 June 2008, Sydney p 51; AEMC 2009, *Review of National Framework for Electricity Distribution Network Planning and Expansion,* Final Report, 23 September 2009, Sydney*,* p. 53.

generation and energy storage in the next decade. If the Chapter 5 framework continues to provide only minimal transparency on network asset replacement in this context then the objective of promoting efficient network expenditure will be undermined as:

- there is no clear, transparent, consistent and timely planning process for the economic replacement of network assets
- the framework provides limited requirements for network businesses to consider and assess alternatives for like-for-like replacement, and engage with non-network proponents
- network users may not be aware of how the timing and location of their connections might affect network replacement decisions
- the lack of transparency will make it difficult for policymakers to understand and assess the impact of the changing environment on network business asset management practices
- it will make the assessment of revenue proposals by the AER more challenging as network replacement expenditure makes up a high proportion of revenue proposals and there is a lack of detailed information on network replacements in APRs and no RIT assessments of major network replacement projects that would otherwise support their claims.

For these reasons we consider that the Chapter 5 framework must adapt to the changing environment and provide greater focus on network replacement. We propose to address this problem through changes to the Chapter 5 planning framework. This will result in changes to both the APRs and the RIT.

C.1. Greater focus on network replacement expenditure in both the APR and RIT

The proposed amendments include changes to both the APR and the RIT to address the issues which have been identified above. The APR and RIT are the key documents published by network businesses which are used to inform and engage with interested parties and thereby promote efficient investment outcomes. Currently, both the APR and RIT focus primarily on augmentation driven network investment. There is limited reporting on replacement expenditure in the APR and replacement expenditure is excluded from the RIT.

Interaction between the APR and the RIT

Through the ongoing APRs and RIT assessments, Chapter 5 of the Electricity Rules aims to provide a consistent, clear, transparent and timely planning process to promote efficient electricity network investment in the NEM. Each year, an APR provides an up-to-date summary of the results of a network business' annual planning review, including network constraints which are expected to arise within the planning period and proposed solutions considered by the network business to date. In certain circumstances, a project's successive iteration through APRs culminates in a RIT assessment. The iterative development of eligible projects within the APR provides interested parties and the network business with a stronger and more informed basis to formulate and engage with the RIT. This RIT assessment will then formally identify the preferred investment option – be that network or non-network. In this way, the RIT and the APR work together to promote efficient investment outcomes.

In particular, the APR and RIT provides a framework for interested parties who may be able to provide non-network solutions or provide additional information to assist the

network business's assessment. The APR assists in the early identification of investment opportunities for non-network proponents and the formulation of initial project options for the initial RIT consultation process. DNSPs must also lay out their approach to developing demand management in accordance with the Demand Side Engagement Strategy outlined in schedule 5.9 of the Electricity Rules.

These ongoing asset management and network planning processes are reported each year by the network businesses in the APR. These processes feed into the 5 year revenue proposal for each regulatory control period. An updated and engaged APR process provides greater confidence, to the AER and other interested stakeholders. This is further supported when previous APRs provide clear and consistent identification of these future projects. The application of an effective APR provides greater transparency, predictability and certainty around the formulation and development of a replacement capital expenditure proposal.

Thus, any amendments to address the lack of focus on network replacements in the Chapter 5 planning framework should be consistent across both the APR and RIT. This will ensure that the entire framework, as a whole, continues to promote efficient investment outcomes.

Fitting network replacement decisions into the Chapter 5 framework

In determining what amendments should be made to the APR and RIT, it is instructive to break down what a network replacement decision consists of. First, there is a decision by the asset owner to retire a network asset. An asset nearing the end of its technical life can continue to be maintained, refurbished to extend its life or retired. A decision to retire an asset is usually made through a cost-benefit assessment near the end of an asset's technical life, where the potential risks of continuing to operate are compared with the cost to replace the asset. If a decision to retire an asset is made, or continue operation under a reduced rating (de-rating to prolong the life of the asset), then this may give rise to a network need (to meet a reliability requirement) which must be addressed. The Chapter 5 framework must address both facets of the network replacement decisions. That is, it should seek to promote efficient asset retirement and de-rating decisions and if a network need arises from this decision, promote consideration of viable options, including non-network options, to ensure an efficient investment decision. Both decisions contribute to efficient network investment outcomes.

Accordingly, we are proposing rule amendments which require these categories of information to be included in the APR. The amendments will require information on retirement and de-rating decisions for a subset of its network assets in the planning review window (5 years for distribution, 10 years for transmission). If these decisions are anticipated to give rise to network needs, then the network business must provide an overview of the network need and the options it has considered to date to address it, including non-network options. Additionally, we propose amendments to the application of the RIT to remove the exemption of replacement expenditure, such that network needs which arise out of asset retirement decisions will be subject to a RIT assessment and consultation. These proposed requirements are consistent with the current requirements for augmentation investment by network businesses in the APR and the RIT.

Together these changes will ensure that the Chapter 5 framework adapts to the changing network environment and continues to promote efficient network investment. The proposed amendments will ensure that:

- there is a consistent, clear, transparent and timely planning process for network replacement decisions
- there is an adequate consideration of alternative investment options, including non-network options, to like-for-like replacement
- network users have an understanding of changes to the network as a result of network replacement decisions and how this may affect connection plans
- there is greater transparency to both policymakers and the AER on network replacement expenditure

Details of the proposed amendments to the application of the APR and RIT, and how they address the problems identified in this rule change proposal, are outlined below.

C.2. Improving the APR reporting requirements for replacement projects

As highlighted in the previous section, we consider that the current planning framework does not mandate a sufficient standard of reporting related to replacement network expenditure. To address this, the proposed APR amendments seek to place greater emphasis on network replacement expenditure by:

- introducing a specific provision requiring network businesses to take into account, as part of their annual planning review, whether planned asset retirements and de-ratings will give rise to constraints or an inability to meet applicable network performance requirements.
- requiring network businesses to provide greater reporting in the APR on retirement decisions relating to specific classes of network assets. The network assets to be reported on will be set out in the network retirement reporting guideline published by the AER. The proposed reporting requirements are set out in the draft rules and include:
    - for each reportable network asset to be retired, a description of the network asset along with a detailed summary of the economic justification for the retirement or de-rating of the asset.
    - if the retirement or de-rating decision gives rise to an identified need, then the network businesses must provide; an overview of the identified need, outline the proposed solutions being considered to address the need, what technical characteristics a non-network solution would be required to address and, if applicable, the planned date for the commencement of a RIT consultation process.

The latter reporting requirement largely mirrors existing reporting requirements for augmentation driven network investment.

This proposed reporting framework delineates replacement planning decisions into their two distinct components. Firstly, there is the decision to retire or de-rate an asset. This decision will be borne from the network business's internal processes and is ultimately a reflection of the business's risk and asset management approaches. Secondly, if there is a network limitation or reliability implication as a result of the decision to retire, the network business would then assess the most efficient option to address this identified need. This assessment would be identical to what is done for augmentation driven network assessment, providing consistency between the assessment of augmentation and replacement investment.

Incorporating the decision to retire

The proposed amendments seek to improve the level of transparency around retirement and de-rating decisions made by network businesses. One of the key drivers of efficient network replacement expenditure is ensuring the efficiency of network retirement and de-rating decisions. Inefficient retirement decisions can lead to either network replacement expenditure being undertaken earlier than needed, or alternatively, a degradation of reliability beyond what is valued by customers.

This is analogous to the case of augmentation, where the efficiency of network investment is dependent on the accuracy of demand forecasting. Thus, just as the publication of demand forecasts in APRs assist in promoting efficient investment decisions for augmentation, the publication of network asset retirement and de-rating decisions will assist in promoting efficient investment decisions for replacement. Having a clearly defined and consistent reporting framework will assist network businesses in continually reviewing their approach to asset and risk management and determining efficient asset retirement decisions. Additionally, in this current environment where actual and forecast replacement expenditure exceeds augmentation expenditure, these decisions will also help inform other key stakeholders in the industry, such as:

- connection applicants – forecast retirement and de-rating decisions would assist them in determining the most efficient connection location. This is particularly the case for asset retirements where no replacement is proposed
- non-network service providers – forecast retirement and de-rating decision would assist them in identifying the best potential investment opportunities in the NEM by giving them access to timely high quality information that is presented in a consistent form and manner, to then enable consideration of these options by NSPs.
- consumers and the AER – the retirement and de-rating decision information would assist the AER and other stakeholders in assessing replacement expenditure proposals by assessing whether the information published in successive APRs is credible, sufficiently detailed and consistent with the revenue proposal (and if there are differences, understand the reasons for them). This would also promote engagement between consumers, the AER and network businesses outside the formal revenue determination process on the approach to asset retirement, allowing for potential issues to be flagged early and addressed as part of the revenue proposal.
- the AEMC and policymakers – information on network asset retirement and de-rating decisions would assist policymakers understand replacement expenditure drivers and how networks evolve in response to the changing environment

We do not consider that reporting on asset retirement and de-rating decisions should result in an onerous burden for network businesses. Information on asset retirement and investment decisions is already provided by network businesses to the AER as part of their revenue proposal. The proposed APR reporting requirements are not seeking any additional information beyond what is typically provided in a revenue proposal to support proposed replacement expenditure. Additionally, network businesses would be limited to reporting on retirement and de-rating decisions for only a subset of asset classes listed in the network retirement reporting guideline published by the AER (discussed in section C.2.1 below)

Assessment of network limitations and project options as a result of the decision to retire

As highlighted above, given the increasing benefits from greater transparency and consultation for replacement expenditure, the information in the APR should be sufficiently detailed to allow interested parties an opportunity to meaningfully engage with the network business and assess project options, and propose non-network options.

In our view this can be achieved by extending the reporting requirements already provided for augmentation projects to replacement projects. The proposed amendments seek to require network businesses to report in the APR on forecast network limitations which are expected to arise as a result of planned retirement and de-rating decisions, and provide information on proposed options to address these limitations. This would flag potential investment opportunities in the network for non-network proponents and other stakeholders. Third party proposals could then assist NSPs in determining viable options and help prepare for future RIT consultation processes. Additionally, focusing on network limitations rather than individual assets ensures that network projects are considered holistically, rather than artificially divided into smaller projects. Lastly, this information would also make connection applicants aware of changes to the network which may impact locational decisions.

It is important to note that this proposed reporting requirement would only apply to retirements and de-ratings of network asset classes specified in the AER's network retirement reporting guideline. This will serve to balance the benefits of such reporting against the regulatory burden imposed on network businesses.

C.2.1. Scope of the network retirement reporting requirements

As recognised in the AEMC's final report on OFA, Design and testing[29], there are some types of network asset where like-for-like replacement is still largely the only viable replacement option. Thus, there would be limited benefits in reporting on retirement and reinvestment in these types of assets in the APRs. However, there is a risk that specifying the types of assets to be reported on in the APR in the Electricity Rules may result in the listed assets becoming outdated over time as new alternative options arise for assets not originally included in the list (i.e. as a result of non-network technologies becoming commercially viable). This would diminish the value of the APR over time.

To ensure that there is a balance between these two competing considerations, we propose that the types of assets which fall under the new proposed APR reporting requirements be guided by a network retirement reporting guideline (the guideline) developed and published by the AER.

The guideline will be developed by the AER in accordance with the transmission and distribution consultation procedures and set out the types of assets which network businesses are required to report on. This will enable the AER to consult with industry and stakeholders to determine which types of assets would benefit from additional reporting. It will also provide the necessary flexibility to adapt to meet future changes in technology and network replacement. The proposed new clause 5.14A.1 sets out the factors which the AER would consider in developing the guideline, including:

[29] AEMC, 9 July 2015, *Final report volume 1 Optional firm access, Design and testing* p.26,

- the ability of the network business to provide the information on a network asset type in the APR and whether the costs of providing this information is greater than the likely benefits of the information being published in the APR
- whether a decision to retire a particular network asset type would be made individually or as part of a broader asset replacement program
- for a particular network asset type, whether there are likely to be alternatives to like for like replacement
- the principles of prudency and efficiency and the substitution possibilities between operating and capital expenditure
- differences between transmission and distribution

These factors will guide the AER in determining the appropriate asset types which would benefit from reporting in the APR and exclude those which would not. In the case of asset types which are unlikely to have alternatives to like for like replacement and assets which are replaced as part of a broader asset management program, such as the replacement of 'end of life' poles across the network, we expect industry participants would likely gain minimal value and are unlikely to justify inclusion in the APR.

Currently the scope of projects reported in the APR is limited to assets above certain cost thresholds. The application of a guideline is preferred to drafting inflexible definitions and thresholds in the Rules. This is because inflexible definitions in this context will not capture all the relevant types of assets which will benefit from this type of reporting. Instead, the guideline would allow the AER to consult with interested stakeholders to identify which assets types would benefit from increased transparency (i.e. for example, non-network service providers may be more interested in retirements of certain asset types as they provide the best opportunities for non-network alternatives) and ensure that information would only be required from network businesses if it is efficient to do so.

Additionally, the guideline would outline the principles and broad approach used to economically assess asset retirement or de-rating decisions, drawn from Australian and international best practice standards. Network businesses must ensure that their risk and asset management practices are consistent with the principles and broad approach. This will ensure network business asset retirement decisions reflect prudent and efficient replacement expenditure.

C.2.2. Reporting on asset management practices in the transmission APR

The proposed amendment also seeks to introduce a requirement for transmission businesses to report more broadly on their asset management methodology. This mirrors the current reporting requirements in the distribution APR. Given the increasing importance of asset management in both transmission and distribution, requiring transmission businesses to report their asset management methodology would help facilitate efficient planning outcomes.

C.3. Expanding the RIT to include replacement assets

We consider that in the short time since these tests were developed significant changes have occurred that warrant a reconsideration of the exclusion of replacement expenditure from the RIT.

The RIT and its previous regulatory test incarnations arose within the context of determining the most efficient solutions to meet rising demand growth in a centralised generation environment. As already highlighted above, the shift in how the network is used and the increasing prevalence of non-network alternatives has resulted in increasing opportunities for credible alternatives to like for like replacement for an asset at the end of its technical life. If the RIT continues to exclude these categories of network investment expenditure, then the lack of a formal cost-benefit assessment and consultation process would risk inefficient investment outcomes.

The proposed amendments seek to remove the exemptions for replacement expenditure from both the RIT-T and RIT-D. This will be replaced with a provision exempting replacement expenditure from the RIT-T and RIT-D where the network businesses' assessment concludes that there are no viable alternatives to like for like replacement.

Currently, the Electricity Rules are structured so that the investment in the network will be subject to the RIT-T or RIT-D unless one of the exclusions applies. Thus, the obligation to undertake a RIT will arise if:

i. the proponent is a NSP

ii. the project is an investment in the NSP's network (also known as the identified need)

iii. the project has a cost above the materiality threshold, and

iv. none of the exclusions apply

Thus, removing the RIT-T and RIT-D replacement expenditure exclusions will result in the RIT-T and RIT-D applying to replacement expenditure.

A RIT assessment of the replacement projects will assist the network business in determining the most efficient replacement option. In principle, it would be no different to a RIT being undertaken for an augmentation driver. In the case of a replacement project, the identified need would be the network need which arises out of the retirement or de-rating of a network asset and would entail the same cost benefit assessment as a network need which arises as a result of an increase in network demand.

RIT exemption report

Within the context of replacement expenditure, we recognise that there may be still some circumstances where projects captured by a RIT will only have one feasible like–for-like replacement option available to address the identified need. In these circumstances the application of a RIT would provide limited benefit as a cost/benefit assessment and unduly burden a regulated business.

In the event that a RIT proponent determines on reasonable grounds that no alternatives to like-for-like are available following an asset retirement and the network business does not want to apply the RIT, we propose a preliminary RIT exemption report be published. The report would require the proponent to outline the identified need and explain why it considers that there are no viable alternative options to like-for-like replacement. This report will largely mirror the information requirements for the preliminary consultation reports required under the RIT-T or RIT-D and would be more comprehensive than reporting requirements for replacement projects in annual planning reports. If a network business wanted to rely on the RIT exemption report, then it must publish a RIT

exemption report. Once published a summary of the report would be provided to AEMO within five business days. AEMO must publish a copy of this summary on its website.

This RIT exemption report would allow replacement projects which do not have viable alternatives to like for like replacement, and thus unlikely to benefit from a RIT assessment process, to be exempted. This would reduce the regulatory burden on network businesses, and still provide the benefits of transparency and require a network business to justify its decision. Furthermore, a network business should be in a reasonable position to determine whether there are viable alternative options as the decision to retire and replace the asset would have been included in preceding APRs.

Furthermore, we consider that an exemption report approach is preferable to excluding classes of replacement assets from the RIT. Over time, viable alternative options to like for like replacement may arise for asset classes which traditionally have been considered to have like-for-like replacement as a viable replacement option (i.e. as a result of technological advances). The exemption report will allow the Chapter 5 framework to be flexible enough to adapt to such changes and not exclude replacement projects which may benefit from a RIT assessment in future.

An important distinction to note is that this exemption report would only apply to projects which are captured by the RIT (that is, it is a project which is not exempted due to the cost threshold or any of the other exclusions in the NER). Thus, if a replacement project would otherwise be excluded from a RIT assessment, then there is no need for an exemption report to be published.

The rule change also provides an opportunity for interested parties to challenge this determination. Appropriate checks would also need to be in place to ensure the exemption report is used appropriately. In particular, dispute resolution should also be available to interested parties if they disagree with the NSP's exemption determination. As is currently the case with the final RIT reports for distribution and transmission, the Electricity Rules should be amended to allow interested parties to raise a formal dispute.

RIT thresholds

As part of the development of the rule change proposal, we considered whether specific cost thresholds should be introduced for replacement projects. The current cost thresholds for the RIT were set to reflect an appropriate balance between the regulatory burden placed on network businesses and the benefits of transparency and consultation in planning determinations.[30] A key consideration when the AEMC developed and set the cost thresholds was to ensure that the thresholds did not exclude projects which had credible non-network alternatives and/or market benefits to be identified.[31] Additionally these cost thresholds are updated every three years by the AER to reflect changes in input costs.

We do not consider that a different cost threshold for replacement projects be introduced for the RIT-T and RIT-D. In principle, consideration of alternative credible options should be similar for both replacement and augmentation. For example, both the consideration of reinvestment as a result of the retirement of a transformer at its 'end of life' and the installation of a new transformer would give rise to similar types of alternatives. Thus, the

[30] AEMC, 2006, *National Transmission Planning Arrangements,* Final Report to MCE, 30 June 2008, Sydney, p.49-50.

[31] AEMC 2006, *National Transmission Planning Arrangements,* Final Report to MCE, 30 June 2008, Sydney, p. 50. See also, AEMC 2012, Distribution Network Planning and Expansion Framework, Rule Determination, 11 October 2012, Sydney, p.82.

existing cost thresholds should be sufficient for replacement projects. Further, different cost thresholds for replacement and augmentation projects would likely create unnecessary regulatory complexity, particularly for projects which have both an augmentation and replacement component.

Additionally, we consider that the exemption report will ensure that network businesses will not be subjected to an unnecessary regulatory burden by excluding projects above the cost threshold which are unlikely to benefit from a RIT assessment.

Impact on Victorian transmission planning arrangements

The proposed amendments do not impact on the Victorian transmission planning arrangements between AEMO and AusNet Services. In line with the existing planning arrangements, the proposed amendments would result in AusNet Services being responsible for conducting replacement expenditure assessments, but this would require in some cases a RIT-T to be undertaken for replacement projects.

Introduction of RIT-T re-application clause

When the RIT-D was introduced in the Distribution Network Planning and Expansion Rule Change, a re-application clause was introduced to clarify the circumstances in which a distribution network business was required to apply the RIT-D. The reason for this provision was to provide certainty to a RIT-D proponent as to the action required where there is a material change in circumstances.[32] We propose that this provision be mirrored in the Electricity Rules for the RIT-T as it would address the potential uncertainty around whether a network business should proceed with the preferred option identified in the RIT-T where there has been a material change in circumstances. It would also promote consistency between transmission and distribution planning frameworks.

D Contribution to the NEO

The AEMC will only make a rule in cases where the rule proposal will or is likely to contribute to the achievement of the national electricity objective (NEO).

Under section 7 of the NEL, the National electricity objective states:

The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system

The proposed rule change will contribute to the achievement of the NEO by facilitating more efficient planning outcomes that are in the long term interests of consumers with particular regard to price, quality, safety, reliability and security of supply.

Under the current Chapter 5 planning framework, replacement expenditure has limited reporting and consultation requirements. The current requirement to merely outline proposed options for replacement of assets in the APR is insufficient given it is a

[32] AEMC 2012, Distribution Network Planning and Expansion Framework, Rule Determination, 11 October 2012, Sydney, p.93.

significant component of capital expenditure that warrants additional transparency and consultation.

Strengthening the APR requirements and extending the RIT to replacement capital expenditure will require NSPs to engage with interested parties in a consistent manner and to an appropriate standard for both augmentation and replacement capital expenditure.

This will better enable interested parties to engage with NSPs and propose alternative non-network options, increasing the potential options available for assessment by the NSP. Consultation and staged findings will also enhance the transparency around replacement projects and require appropriate public consideration of network and non-network alternatives.

These features will facilitate and ensure efficient planning outcomes are achieved, and therefore better meet the NEO. The benefit of these new requirements will continue to grow as the use of the network changes and the availability and viability of network and non-network solutions increase.

Furthermore, requiring the application of the RIT to replacement capital expenditure ensures the consideration of the wider market benefits and costs that may arise from these kinds of investments. This is particularly important given the increasing importance of replacement decisions in promoting efficient network planning outcomes which are consistent with the long term interests of consumers and market participants.

E Expected benefits and costs associated with the proposed rule

Network businesses

The AER seeks to minimise the costs placed on network businesses in pursuing the improvements to replacement expenditure planning. The changes to the RIT and APR requirements will impose compliance costs on network businesses. Whilst these changes are an improvement to how the existing obligations apply, they will create new reporting obligations which will require additional resources. However, we expect the network business will minimalize any additional costs by utilising the existing planning processes already under way for augmentation.

Network businesses will also already have internal planning procedures in place for asset management, including retirement and reinvestment. The rule change will likely fine-tune these planning processes and require them to be undertaken transparently and consultatively.

The rule change extends this obligation to meet more rigorous obligations under the cost/benefit test along with transparency and consultation requirements. Currently, internal best practice planning requires that project options are assessed to determine the most efficient outcome. The application of the RIT and APR requirements will further draw out these assessments into the public domain. We therefore expect the additional costs will primarily relate to the administrative costs of consultation and administration of the APR reporting requirements. As identified above, these additional costs may be minimised by using the existing planning processes already available for augmentation.

The availability of the RIT exemption report will also ensure that network businesses are only required to undertake options analysis where it is meaningful to do so. This will ensure that the application of replacement expenditure to the RIT occurs only when the benefits of options analysis exist.

The application of the RIT and additional planning requirements will further assist network businesses to prepare their regulatory proposals for the AER under Chapter 6 and 6A of the Electricity Rules. The improvements to the planning reporting requirements will further document a network businesses decision making processes and the economic justification for their investments. This should reduce a NSP's costs in compiling their regulatory proposals.

Consumers

With the current and anticipated changes in how the network is utilised, the proposed changes to the Electricity Rules will benefit consumers by ensuring more efficient planning and investment outcomes are achieved. We consider the proposed changes will better contribute to a more efficient outcome by ensuring efficient asset retirement and consideration of all credible options to deliver efficient investment that meets a network need.

Connection applicants

As already noted previously, forecast retirement and de-rating decisions would assist connection applicants in determining the most efficient connection location. This is particularly the case for asset retirements where no replacement is proposed.

Non-network service providers

As is the case for augmentation projects, the application of replacement expenditure to the RIT and associated planning amendments will provide a more rigorous and transparent planning process. This will assist non-network providers to develop and propose potential investment opportunities. This in turn will improve the efficiency of investment by NSPs.

The provision of forecast retirement and de-rating decisions in the APRs would assist non-network providers in identifying potential investment opportunities in the NEM. The proposed changes will give non-network service providers access to timely high quality information that is presented in a consistent form and manner.

Similarly, the NSP's replacement expenditure decision making process will be undertaken in a nationally consistent approach. As a result of this, non-network providers will have a better understanding of the decision making process which may better facilitate engagement. This will be particularly important as the energy industry evolves and new third party providers may be increasingly able to provide alternative services.

Australian Energy Regulator

As a part of the AER's review of network proposals, we are required to assess the proposed expenditure. The additional information contained in the APR would assist the AER, and other stakeholders, in assessing replacement expenditure proposals by considering whether the information published in successive APRs is credible, sufficiently detailed and consistent with the revenue proposal (and if there are differences, understand the reasons for them). This would also promote engagement between consumers, the AER, and network businesses outside the formal revenue determination process on the proposed asset retirement and re-investment, allowing for potential issues to be flagged early and addressed as part of the revenue proposal. This will improve the efficiency of the regulatory proposal assessment processes for the AER, consumers and NSPs.

Furthermore, the application of the RIT to replacement expenditure will provide an additional layer of transparency which will assist the AER by supplementing the current regulatory assessments undertaken.

We will incur additional costs as a result of updating the RIT-T and RIT-D and their relevant guidelines. The development and the occasional updating of the proposed network retirement reporting guideline will incur cost to the AER, however, we consider the benefits of a more up to date and flexible definition of reportable assets will outweigh the costs we will incur.

Implementing measures to administer monitoring of these additional obligations will also incur some cost. However, for the monitoring work these costs will combine with the existing monitoring work in this area, therefore significantly mitigating the additional cost.