Australian Energy Market Commission

RULE CHANGE

CONSULTATION PAPER

National Electricity Amendment (Replacement expenditure planning arrangements) Rule 2016

Rule proponent

Australian Energy Regulator

27 October 2016

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About the AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

Contents

1 Introduction

On 1 July 2016, the Australian Energy Regulator (AER) submitted a rule change request to the Australian Energy Market Commission (AEMC or Commission) in relation to electricity transmission and distribution network replacement expenditure planning arrangements.

This consultation paper has been prepared to facilitate public consultation on the rule change request and to seek stakeholder submissions.

This paper:

- sets out a summary of, and a background to, the rule change request;
- identifies a number of questions and issues to facilitate the consultation on this rule change request; and
- outlines the process for making submissions.

2 Background

The requirements for the planning of replacement expenditure are contained within the electricity network planning arrangements in part B of Chapter 5 of the National Electricity Rules (NER).

Many of the key components of the current electricity network planning arrangements originate from rule determinations made by the AEMC, in particular:

- the regulatory investment test for transmission rule determination made in 2009;[1] and
- the distribution network planning and expansion rule determination made in 2012.[2]

The 2012 rule determination created a national planning framework that applied to distribution networks for the first time. A national transmission planning framework has been in place since the introduction of the NER and formed part of the National Electricity Code which preceded the NER.

The AEMC proposed changes to the transmission planning framework as part of its design and testing of the optional firm access model, a concept that was developed as part of its transmission frameworks review. While the Commission considered that the optional firm access model should not be implemented in the current environment, it recommended amending the NER to increase transparency regarding the level of coordination of transmission and generation in the NEM. In particular, the Commission recommended extending the application of the regulatory investment test for transmission (RIT-T) to relatively major network replacements on key transmission flow paths.[3]

In addition to this rule change request from the AER, a number of processes are underway that are considering issues related to the current planning arrangements.

In particular, the AEMC is in the process of assessing, or has received, the following rule change requests that may result in changes to network planning arrangements:

- local generation network credits;
- transmission connection and planning arrangements;
- alternatives to grid-supplied network services; and

1 This was the result of the AEMC's review of national transmission planning arrangements. This review also led to the establishment of the Australian Energy Market Operator (AEMO) as national transmission planner in the National Electricity Market (NEM). AEMC, *National transmission planning arrangements*, Final report, 30 June 2008.

2 AEMC: *Regulatory investment test for transmission*, Rule determination, 25 June 2009; *Distribution network planning and expansion*, Rule determination, 11 October 2012.

3 AEMC, *Optional firm access, design and testing*, Final report - volume 1, 9 July 2015.

- contestability of energy services – demand response and network support.[4]

In addition, the COAG Energy Council tasked officials to review the effectiveness of the regulatory investment test for transmission (RIT-T) in the current market environment, in particular in relation to National Electricity Market (NEM) interconnector investment.[5] The AEMC is on the working group for this review which will prepare a report setting out findings and recommendations for energy ministers' consideration at the December 2016 COAG Energy Council meeting.

In assessing the AER's rule change request the Commission will keep abreast of these developments.

An overview of the current electricity network planning arrangements is provided in Appendix A.

4 Details of these rule changes are available on the AEMC's website: www.aemc.gov.au.

5 COAG Energy Council, *Meeting Communique*, 19 August 2016.

3 Overview of the rule change request

The rule change request from the AER proposes to increase the transparency of network asset replacement decisions by electricity transmission and distribution network service providers (NSPs).

It proposes to do this by amending the NER to:

- explicitly require NSPs to include in their annual planning reports (APRs) information on:
  - planned asset retirements and de-ratings (with guidelines to be prepared by the AER to determine the class of assets required to be reported on);[6] and
  - options to address network limitations arising from these retirements and de-ratings; and
- extend the application of the regulatory investment tests to replacement projects.[7]

In its rule change request, the AER provides its rationale for the rule change. In summary, the AER considers that in the current environment of low electricity demand growth combined with non-network alternatives increasingly providing viable alternatives to network solutions, the electricity network planning frameworks in Chapter 5 of the NER do not adequately focus nor provide sufficient transparency on network asset replacement decisions by NSPs.[8]

The rule change request also proposes a number of related secondary amendments to the NER.[9]

Copies of the rule change request may be found on the AEMC website, www.aemc.gov.au.

6 Broadly, the AER defines a de-rating as a reduction in the capacity of a network asset.

7 AER rule change request, 20 June 2016, pp13-19.

8 ibid. pp10-11.

9 ibid. p3 and AER proposed amendments to Chapter 5.

4 Assessment framework

The Commission's assessment of this rule change request must consider whether the proposed rule promotes the national electricity objective (NEO).

From 1 July 2016, the NER, as amended from time to time, apply in the Northern Territory, subject to derogations set out in Regulations made under the Northern Territory legislation adopting the National Electricity Law (NEL).[10] Under those Regulations, only certain parts of the NER have been adopted in the Northern Territory.[11]

As the proposed rule relates to parts of the NER that currently do not apply in the Northern Territory, the Commission will not assess the proposed rule against additional elements required by the Northern Territory legislation.[12]

4.1 Rule making test

4.1.1 Achieving the NEO

Under the NEL the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the NEO.[13] This is the decision making framework that the Commission must apply.

The NEO is:[14]

> “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 most relevant aspect of the NEO for the purpose of this rule change request is the efficient investment in, and operation of, electricity services - in particular the electricity transmission and distribution networks in the NEM. The efficient use of

10 National Electricity (Northern Territory) (National Uniform Legislation) (Modifications) Regulations.

11 For the version of the NER that applies in the Northern Territory, refer to : http://www.aemc.gov.au/Energy-Rules/National-electricity-rules/National-Electricity-Rules-(Northern-Territory).

12 National Electricity (Northern Territory) (National Uniform Legislation) Act 2015.

13 Section 88 of the NEL.

14 Section 7 of the NEL.

electricity services is also relevant in that the proposed rule may assist network users make efficient decisions about where to connect to the electricity networks.

To determine whether the proposed rule would be likely to promote the NEO, the Commission will consider the rule change request against the following criteria:

- Transparency. Whether sufficient and relevant information about the network is available to enable non-network providers to propose feasible and credible alternatives to address network problems. This may facilitate more informed and efficient planning and investment decisions by NSPs. In addition, sufficient information about the network may assist connection applicants make more efficient decisions about where and when to connect to the network. Publicly available information on the network may also lead to more informed revenue determinations by the AER.
- Investment certainty. A more consistent framework for the planning of replacement expenditure by NSPs may assist energy market stakeholders in putting up efficient alternatives to network replacement and more efficient connection locations.
- Stakeholder engagement. Whether an increase in the level of stakeholder engagement in the planning process for replacement expenditure may lead to more strategic assessment of projects by NSPs which may optimise decision making. For example, would an increase in the level of stakeholder engagement in the planning process for replacement expenditure improve coordination of transmission network and generation investment?
- Regulatory and administrative burden. Any likely benefits of the proposed rule will be balanced against any additional costs that may arise as a result of the proposed rule.

The proposed rule will be assessed against the relevant counterfactual of not making the proposed change to the NER. That is, against the current situation where NSPs are not explicitly required to provide more detailed information relating to replacement expenditure in their annual planning reports and do not have to use a regulatory investment test where expenditure is for replacement of existing assets.

4.1.2 Making a more preferable rule

Under s. 91A of the NEL, the Commission may make a rule that is different (including materially different) to a proposed rule (a more preferable rule) if it is satisfied that, having regard to the issue or issues raised in the rule change request, the more preferable rule will or is likely to better contribute to the achievement of the NEO.

5 Issues for consultation

Taking into consideration the assessment framework, a number of issues have been identified for initial consultation. Stakeholders are encouraged to comment on these issues as well as any other aspect of the rule change request or this paper, including the proposed assessment framework.

5.1 The problem

The AER submits that the transmission and distribution network planning frameworks in Chapter 5 of the NER do not adequately focus on network replacement. In particular, it considers that annual planning reporting requirements on network replacement are minimal compared to augmentation and notes that NSPs' replacement expenditure projects are exempt from the regulatory investment tests in Chapter 5 of the NER.[15]

In addition, the AER considers that:

- there is no clear, transparent, consistent and timely planning process for the replacement of assets;
- there are limited requirements for NSPs 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; and
- it is difficult for policy makers to understand and assess the impact of the changing operating environment on NSPs' asset management practices.[16]

The AER submits that the current lack of focus in the NER on network replacement is inappropriate because:

- there has been a reduction in network augmentation and increased investment in network replacement by NSPs as a result of low electricity consumption and demand growth from the grid - replacement expenditure is now a significant proportion of NSPs' capital expenditure;
- in a low electricity 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 there is a more certain need, reducing the risk of stranded assets; and

15 AER rule change request, 30 June 2016, p10. Further information on NSPs' annual planning requirements and the regulatory investment tests in the NER is provided in Appendix B.

16 ibid. pp10-11.

- energy storage and distributed generation are becoming more cost effective and accessible and are therefore beginning to provide a viable alternative to network solutions.[17]

Question 1

a) **Are non-network solutions a viable alternative to replacing network assets on a like-for-like basis?**

b) **How does this differ from the potential for a non-network solution to provide a viable alternative to augmenting the network?**

Question 2

a) **Are the current annual planning reporting requirements in the NER relevant and likely to be useful for replacement expenditure?**

b) **If any, where are the gaps in the current annual planning reporting requirements in the NER for replacement expenditure?**

Question 3

a) **What do NSPs currently do to plan for asset replacement in practice?**

b) **To what extent does this address the perceived problems identified by the AER?**

5.2 Annual planning reporting requirements on replacement expenditure

As previously noted, the AER proposes that the NER be amended to explicitly require NSPs to include in their annual planning reports (APRs) information on:

- planned asset retirements and de-ratings; and
- options to address network limitations arising from these retirements and de-ratings.

To recognise there are some types of network asset where like-for-like replacement is the only viable option and to reduce the regulatory burden on NSPs, the AER proposes

17 ibid. pp5-7.

that the NER require it to develop a guideline setting out the types of assets NSPs are to report on.[18]

The NER would set out some principles that the AER would be required to follow in developing the guideline. Amongst other matters, in developing the guideline the AER would be required to consider:

- whether a type of network asset is likely to be retired individually or part of a broader asset replacement program;
- the ability of an NSP to provide the information and whether the costs of providing the information outweigh the benefits of the information being reported on in the APRs; and
- whether there are likely to be alternatives to like-for-like replacement.[19]

This guideline would also set out principles and a broad approach that NSPs are to follow when planning the retirement or de-rating of network assets.[20]

Further information about the AER's proposal to extend the annual planning reporting requirements for replacement expenditure including the reasons for this proposal can be found in sections C.1 and C.2 of the AER's rule change request and in the accompanying AER proposed amendments to the NER.[21]

In assessing the AER's rule change request, the Commission will consider the local generation network credits final rule determination which is expected to be made by the end of this year. If made, the draft rule published on 22 September 2016 would require distribution network service providers to publish an annual "system limitations report" to supplement the distribution annual planning reports (DAPRs).[22] The purpose of this report is to provide more consistent and accessible information about system limitations for non-network providers so they can focus on locations where their solutions could be used to defer or avoid investment in the network.[23]

The AEMC will also consider any rule changes made as a result of the transmission connection and planning arrangements rule change request.[24] This rule change request from the COAG Energy Council includes a proposal to increase the consistency of transmission APRs across TNSPs.[25]

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18 AER rule change request, 30 June 2016, pp15-16.

19 ibid.

20 ibid. p16.

21 ibid. pp11-16 and Attached: AER proposed amendments to Chapter 5 of the NER.

22 AEMC, *Local generation network credits*, Draft rule determination, 22 September 2016, pii.

23 ibid. pi.

24 On 26 May 2016, the AEMC published a discussion paper on this rule change request. See: www.aemc.gov.au.

25 COAG Energy Council, Transmission connection and planning arrangements, Rule change request and proposal, 23 July 2015.

Question 4 **To what extent would the proposed information to be reported in the APRs be useful for energy market stakeholders, including non-network service providers, network service providers, connection applicants and the AER, and why?**

Question 5

a) **Is it appropriate that the scope of the new reporting requirements include planned asset de-ratings as well as planned retirements?**

b) **To what extent does this add to the administrative burden for NSPs?**

Question 6

a) **Should all assets be reported on by NSPs in their annual planning report or are only certain asset types relevant?**

b) **What types of asset should be subject to reporting requirements by NSPs and what should not?**

Question 7

a) **Is the proposed AER network retirement reporting guideline the appropriate means of requiring NSPs to report on certain asset types and not others or would an alternative mechanism be more appropriate?**

b) **If an AER guideline is appropriate, what should it contain and how should the AER be guided in its development?**

c) **In addition, what would be the appropriate process be to make and review an AER guideline?**

Question 8

a) **Should the AER guideline also set out principles and a broad approach that NSPs must follow in deciding whether to plan to**

retire assets?

b) What should these principles and the broad approach be?

Question 9 Compared to the current arrangements, how much additional reporting by NSPs would be required under the AER's proposal? What would be the impact on NSPs?

5.3 Application of regulatory investment tests to replacement expenditure

Currently, regulatory investment tests only apply to augmentation capital projects under the NER.[26]

To increase the transparency of NSPs' replacement decisions, the AER proposes through this rule change request to extend the application of the regulatory investment tests to replacement projects.[27]

However, consistent with the current tests, the AER proposes that NSPs would not be required to undertake the relevant test (transmission or distribution) where a replacement project is expected to be less than a specified cost threshold. In relation to this, the AER proposes that the same thresholds apply for replacement projects as augmentation projects, currently $6 million in transmission and $5 million in distribution.[28]

In addition, the AER proposes NSPs would not have to undertake the relevant test where the NSP has determined on reasonable grounds that the only viable alternative is like-for-like replacement. To remove itself from the requirement to apply a regulatory investment test, an NSP would have to publish on its website an "exemption report" setting out the reasons why it considers that like-for-like replacement is the only viable alternative.[29] In addition, it would have to provide a summary of this report to AEMO within five business days and AEMO would have to publish the summary on its website within three business days. An NSP must also provide a copy of the regulatory investment test exemption report to interested parties within three business days of a request.[30]

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26 NER clauses 5.16.3 and 5.17.3. Further information about the current regulatory investment tests can be found in Appendix B.2.

27 AER rule change request, 30 June 2016, pp16-19.

28 ibid. pp18-19.

29 The AER also identifies more specific information that must be included in the regulatory investment test exemption reports on pages 9 and 13 of the proposed amendments attachment to its rule change request.

30 ibid. pp. 17-18 and Attachment: AER proposed amendments to Chapter 5, pp9&13.

Interested parties could raise a formal dispute on the conclusions of the exemption report which would be considered by the AER.[31] The existing dispute processes for regulatory investment tests in the NER[32] would apply including that an interested party has 30 business days to raise a dispute.[33]An NSP cannot undertake the like-for-like replacement until at least 31 business days after the publication of the exemption report and cannot rely on the exemption report to carry out the replacement should the AER determine that the exemption report is non-compliant.[34]

Further information about the AER's proposals to extend the application of the regulatory investment tests to replacement expenditure can be found in section C.3. of the AER's rule change request and the accompanying AER proposed amendments to the NER.[35] In particular, it should be noted that under the proposed rule NSPs would no longer be exempt from undertaking a regulatory investment test for refurbishment or maintenance expenditure.[36]

Question 10	**Will extending the regulatory investment tests to replacement capital expenditure benefit energy market stakeholders, including non-network service providers, network service providers and the AER, and why?**

Question 11	**Should the regulatory investment tests also apply to maintenance and refurbishment expenditure or should these categories of expenditure continue to be exempt from the tests?**

Question 12	**Should the cost thresholds for asset replacement projects be the same as cost thresholds for network augmentation projects?**

Question 13	**Is it appropriate for a regulatory investment test to not be required where an NSP considers a like-for-like replacement of the asset is the only option to address the problem?**

31 ibid. p18 and Attachment: AER proposed amendments to Chapter 5, pp11&14.

32 NER clauses 5.16.5 and 5.17.5.

33 ibid. Attachment: AER proposed amendments to Chapter 5, pp11&14.

34 ibid. Attachment: AER proposed amendments to Chapter 5, pp9-10&14.

35 ibid. pp16-19 and Attachment: AER proposed amendments to Chapter 5.

36 ibid. Attachment: AER proposed amendments to Chapter 5, pp8&12.

Question 14

a) **Is the proposed requirement for NSPs to publish an exemption report where there is no alternative to like-for-like replacement appropriate?**

b) **Do the benefits of this mechanism outweigh the administrative costs that it may impose?**

c) **Is there an alternative mechanism which would be more appropriate?**

Question 15

a) **What information should NSPs be required to provide in an exemption report?**

b) **Is it appropriate that an NSP has to provide a summary of an exemption report to AEMO within five business days and to interested parties, on request, within three business days?**

c) **Do stakeholders agree that AEMO must publish the exemption report on its website within three business days?**

Question 16

a) **Is it appropriate that parties can raise a formal dispute with the AER on the conclusions of an exemption report published by an NSP?**

b) **Is 30 business days, as proposed, the appropriate timeframe for allowing interested parties to raise a dispute with the AER?**

c) **Is 31 business days after publication of an exemption report the appropriate timeframe for an NSP to wait to undertake a like-for-like replacement where no dispute is raised?**

d) **If an exemption report is determined by the AER to be non-compliant, should the NER explicitly exclude an NSP from being relying on the report to carry out a like-for-like replacement?**

5.4 Issues specific to Victoria

In Victoria, the Australian Energy Market Operator (AEMO) is responsible for the planning of augmentation to the transmission network. AusNet Services owns and operates most of the electricity transmission network in Victoria.

In its rule change request the AER, proposes that AusNet Services would apply the regulatory investment test for transmission (RIT-T) for replacement expenditure projects in Victoria.[37] However, it is not clear about which transmission body in Victoria would be responsible for the additional annual reporting requirements if the proposed rule were to be made. Currently, AEMO publishes the transmission annual planning report (TAPR) in Victoria.[38]

Question 17

a) Would AEMO or AusNet Services be the most appropriate body to report on the proposed additional annual reporting requirements at the transmission level in Victoria and why?

b) Would AEMO or AusNet Services be the most appopriate body to apply the RIT-T for replacement expenditure in Victoria and why?

5.5 Other NER changes proposed by the AER

The AER proposes some other changes to Chapter 5 of the NER in its rule change request.

First of all, in line with its proposals to increase the transparency of NSPs' network replacement decisions, the AER proposes to amend clause 5.11.2 of the NER to explicitly require NSPs to notify any affected registered participants and AEMO of any limitations arising from planned asset retirements or de-ratings. Currently, this clause only relates to limitations that arise from an analysis of demand forecasts.[39]

Second, the AER proposes to require transmission network service providers (TNSPs) to provide information on their asset management approach in their APRs. DNSPs are already required to provide this information in the NER and the AER considers asset management to be increasingly important in both transmission and distribution.[40]

Finally, to address potential uncertainty when there has been a material change in circumstances since the publication of a project assessment conclusions report as part of a RIT-T, where the preferred option is no longer the preferred option, the AER

37 AER rule change request, 30 June 2016, p19.

38 See: AEMO, *Victorian transmission annual planning report*, June 2016.

39 AER rule change request, 30 June 2016, Attachment: AER proposed amendments to Chapter 5, 30 June 2016, p1.

proposes to require TNSPs to reapply the RIT-T before proceeding with the preferred option identified in the RIT-T unless otherwise determined by the AER. This change would also make the RIT-T consistent with the regulatory investment test for distribution (RIT-D).[41]

Question 18

a) Are the additional changes proposed by the AER appropriate and useful to stakeholders?

b) What compliance burden would arise for NSPs?

c) As these requirements currently apply in a limited way in the NER, how useful have they been to date?

5.6 Transitional arrangements

If the proposed rule were to be made, then NSPs and the AER may need time to implement processes to be able to comply with the NER. For example, the AER would need time to develop the proposed network retirement reporting guideline. NSPs would need time to develop processes to collect and report on the proposed new annual information reporting requirements.

Question 19 What transitional arrangements should be put in place to allow NSPs and the AER to be able to comply with the proposed rule if it were to be made?

40 AER rule change request, 30 June 2016, p16.

41 ibid. p19 and Attachment: AER proposed amendments to Chapter 5, p10.

6 Lodging a submission

The Commission has published a notice under s. 95 of the NEL for this rule change proposal inviting written submissions. Submissions are to be lodged online or by mail by 24 November 2016 in accordance with the following requirements.

Where practicable, submissions should be prepared in accordance with the Commission's Guidelines for making written submissions on rule change requests.[42] The Commission publishes all submissions on its website subject to a claim of confidentiality.

All enquiries on this project should be addressed to Neil Howes on (02) 8296 7800.

6.1 Lodging a submission electronically

Electronic submissions must be lodged online via the Commission's website, www.aemc.gov.au, using the "lodge a submission" function and selecting the project reference code ERC0209. The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

6.2 Lodging a submission by mail

The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated. The submission should be sent by mail to:

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

42 This guideline is available on the Commission's website www.aemc.gov.au

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
APR	annual planning report
Commission	See AEMC
DAPR	distribution annual planning report
DNSP	distribution network service provider
NEL	National Electricity Law
NEM	National Electricity Market
NEO	national electricity objective
NER	National Electricity Rules
NSP	network service provider
NTNDP	national transmission network development plan
RIT-D	regulatory investment test for distribution
RIT-T	regulatory investment test for transmission
TAPR	transmission annual planning report
TNSPs	transmission network service providers

A Electricity network planning arrangements in the NER

The electricity network planning arrangements are contained in part B of Chapter 5 of the National Electricity Rules (NER).

In the planning frameworks there are roles for:

- NSPs;[43]
- AEMO as National Transmission Planner[44]; and
- the AEMC.

This appendix provides a broad overview of each of the above roles. It also provides an overview of some additional tools that are available to assist in the planning of the networks but which are not required by the NER. Please refer to the NER for further details.

A.1 The role of network service providers in electricity network planning in Chapter 5 of the NER

Chapter 5 of the NER requires NSPs to:

- undertake an annual planning review;
- publish an annual planning report setting out the outcomes of the annual planning review; and
- undertake a regulatory investment test for projects to extend the network where the possible expenditure exceeds a specified threshold.[45]

In addition, there are also some requirements that are specific to distribution network service providers (DNSPs) and TNSPs in the NER.

In particular, DNSPs are required to:

- develop a demand side engagement strategy detailing a DNSP's processes and procedures for assessing non-network options as alternatives to network expenditure and interacting with non-network providers; and
- provide historical load information at a zone substation level to interested parties on request.[46]

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43 AEMO is responsible for planning and directing augmentations to the electricity transmission network in Victoria so is an NSP for these purposes under the NER.

44 AEMO's National Transmission Planner functions are set out in section 49(2) of the NEL.

45 NER clauses 5.13.1, 5.13.2 and rule 5.17.

46 NER clause 5.13.1(e) and rule 5.13A.

TNSPs are required to undertake and publish, on request, specific locational studies to help potential investors make informed decisions to fund a scale efficient network extension.[47]

The NER also requires some joint planning arrangements to occur. For example, a TNSP is required to undertake joint planning with a DNSP and a DNSP is required to undertake joint planning with another DNSP where relevant.[48] There is currently no requirement in the NER for TNSPs to undertake planning with other TNSPs. However, this has occurred in practice.[49]

A.2 The role of AEMO in electricity planning in Chapter 5 of the NER

In its role as National Transmission Planner, AEMO is required to develop a national transmission network development plan (NTNDP).[50] The NTNDP provides AEMO's view of the efficient development of the transmission network in the NEM for the next 20 years.[51] AEMO also develops regional and connection point demand forecasts and reviews investments proposed by TNSPs in their annual planning reports as part of this role.[52]

A.3 The role of the AEMC in electricity planning in Chapter 5 of the NER

Chapter 5 of the NER allows the AEMC to require a TNSP to undertake a regulatory investment test for transmission (RIT-T) to augmentation projects that are likely to relieve a forecast constraint on a national transmission flow path.[53] The purpose of the power is to facilitate timely and efficient inter-regional transmission investment for the long term interests of consumers of electricity when other mechanisms to provide for the planning of this investment appear to have failed. To date, the AEMC has not exercised the last resort planning power.

A.4 Network planning tools outside of the NER

Outside of the NER, the Institute of Sustainable Futures has developed online network opportunity maps which are publicly available. The purpose of these maps is to help inform the market about locations where investment in demand management and

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47 NER rule 5.19.

48 NER rule 5.14.

49 See COAG Energy Council, *Review of effectiveness of regulatory investment test for transmission*, Consultation paper, 30 September 2016, pp21-22.

50 Section 49(2)(a) of the NEL.

51 See: AEMO, *National transmission network development plan 2016*, November 2015.

52 See www.aemo.com.au, viewed 8 October 2016.

53 NER clause 5.22(c).

renewable energy may reduce the need to invest in poles and wires assets.[54] AEMO and some NSPs also provide interactive maps to assist non-network providers identifiy investment opportunities on the electricity networks.

54 The maps are available on the Australian Renewable Energy Mapping Infrastructure platform website: www.nationalmap.gov.au/renewables/, viewed 29 September 2016.

B Annual planning requirements and the regulatory investment tests

Two key components of the Chapter 5 planning arrangements are:

- the requirement for NSPs to undertake an annual planning review and publish an annual planning report setting out the outcomes of the annual planning review (annual planning requirements); and
- the requirement for NSPs to undertake a regulatory investment test for projects to extend the network where the possible expenditure exceeds a specified threshold.

This appendix sets out an overview of these requirements. Please refer to the NER for further details.

B.1 Annual planning requirements

There are slightly different requirements for TNSPs and DNSPs. Each are set out separately below.

B.1.1 TNSP requirements

TNSPs must undertake a review analysing the expected future operation of their network over an appropriate planning period taking into account a range of factors (such as taking into account relevant forecast loads).[55] The minimum planning period for the review is 10 years.[56]

By 30 June each year TNSPs must publish a transmission annual planning report (TAPR) setting out the results of the annual planning review.[57]

The TAPR is required to include information on:

- forecast loads;
- planning proposals for connection points;
- a forecast of constraints (not excluding constraints caused by the requirement for asset replacement);
- where a reduction in forecast load would defer a constraint for a period of 12 months (not excluding where the constraint is caused by the requirement for

55 NER clause 5.12.1(a).

56 NER clause 5.12.1(c).

57 NER clause 5.12.2(a).

asset replacement), information regarding the forecasted times, connection points and load reduction;

- proposed augmentations including the reason for the constraint related to the augmentation, the proposed solution to the constraint, the cost of the proposed solution, and other network and non-network options considered to address the constraint;
- how proposed augmentations relate to the most recent NTNDP;
- proposed replacement transmission network assets including the purpose of the asset, a list of network or non-network options that are being, or have been considered, and the estimated capitalised expenditure on the proposed replacement asset.[58]

B.1.2 DNSP requirements

DNSPs must undertake a review analysing the expected future operation of their networks over a forward planning period which must be a minimum of five years.[59]

The review must involve:

- preparing maximum demand forecasts on different parts of the network;
- identifying limitations on the DNSP's network including those caused by the requirement for asset refurbishment or replacement;
- whether any corrective action is required to address these identified limitations; and
- take into account any jurisdictional electricity legislation.[60]

DNSPs must set out the results of the annual planning review in a distribution annual planning report (DAPR).[61]

The DAPR is required to include information on:

- forecast loads on different parts of the network;
- forecast connection points, sub transmission lines and zone substations;
- factors that may have an impact on its network including ageing and potentially unreliable assets;

58 NER clause 5.12.2.

59 NER clauses 5.13.1.(a) and (b).

60 NER clause 5.13.1(d).

61 NER clauses 5.1.3.2(a) and (b).

- system limitations for sub transmission lines, zone substations and certain primary distribution feeders including options that may address these limitations (not excluding limitations caused by asset replacement);
- all committed investments to be carried out within the forward planning period with an estimated capital cost of $2 million or more (as varied by a cost threshold determination) that are to address a refurbishment or replacement need or an urgent and unforseen network issue. Information on all alternative options that were considered must also be provided; and
- the DNSP's asset management approach; and
- other matters.[62]

B.2 Regulatory investment tests

The regulatory investment tests are cost-benefit assessments to identify the investment option which maximises the net benefit to all those who produce, consume and transport electricity in the NEM.

There are two tests: one for transmission projects (RIT-T) and one for distribution projects (RIT-D).

NSPs are only required to undertake a test where the most expensive potential credible option to address a need is more than a specified cost threshold, currently $6 million for transmission network investments and $5 million for distribution network investments.[63]

In addition, NSPs are not required to undertake a test for:

- unforeseen and urgent network investments to address network issues that would have an effect on reliability; and
- the maintenance, refurbishment and replacement of assets.[64]

There are broadly three stages to each of the tests:

- Stage 1: Project specification consultation (transmission) or Non network options report (distribution).
- Stage 2: Project assessment draft report.
- Stage 3: Project assessment conclusions report.[65]

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62 NER clause S.5.8.

63 NER clauses 5.16.3 and 5.17.3.The original cost thresholds are set out in the NER. Every three years the AER must undertake a review of the thresholds and determine whether the current cost thresholds need to be updated to reflect any increase or decrease in input costs. See AER, *Cost threshold review for the regulatory investment test*, Final determination, November 2015.

Interested parties may dispute the conclusions in the final report.[66]

64 NER clauses 5.16.3 and 5.17.3.

65 NER clauses 5.16.4 and 5.17.4.

66 NER clauses 5.16.5 and 5.17.5.