Proposed
Regulatory Test version 3 & Application Guidelines

Explanatory Statement

July 2007

Contents

Glossary

AER	Australian Energy Regulator
AEMC	Australian Energy Market Commission
ANTS	Annual National Transmission Statement
APR	Annual Planning Report
COAG	Council of Australian Governments
DNSP	Distribution Network Service Provider
ERIG	Energy Reform Implementation Group
ESCOSA	Essential Services Commission of South Australia
LRMC	Long Run Marginal Cost
MC	Marginal Cost
MCE	Ministerial Council on Energy
MNSP	Market Network Service Provider
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
NER	National Electricity Rules
NPV	Net Present Value
NSP	Network Service Provider
RFI	Request for information
RFP	Request for proposals
SRMC	Short Run Marginal Cost
TNSP	Transmission Network Service Provider
VCR	Value of Customer Reliability
VoLL	Value of Lost Load
WACC	Weighted Average Cost of Capital

Summary

Under clause 5.6.5A of the National Electricity Rules (NER), the Australian Energy Regulator (AER) is responsible for developing and publishing the regulatory test.

The regulatory test is an economic cost-benefit test used by transmission and distribution businesses in the National Electricity Market (NEM) to assess the efficiency of network investment. The AER considers that maintaining the regulatory test in its current form, with some amendments to ensure consistency with the amended NER, simplify the test and improve its clarity, is appropriate.

Following the making of the *National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006* in November 2006, the AER must publish a regulatory test which complies with the requirements set out in the amended NER. The AER must also publish application guidelines to assist in the application of the test. The current regulatory test has been deemed to comply with the NER until the end of 2007.

Clause 5.6.5A(f) of the NER requires the AER to publish a new regulatory test and application guidelines before the end of 2007.

The AER's proposed revisions to the regulatory test reflect two of the key requirements the NER places on the market benefits limb of the test:

- a procedural requirement to gather information on alternative options and
- introduction of the notion of 'likelihood' in the consideration of alternative projects.

The AER has also developed draft regulatory test application guidelines. The AER intends to publish application guidelines at the same time it issues version 3 of the regulatory test consistent with clause 5.6.5A(d) of the NER.

The AER will follow the consultation procedures set out in clause 6A.20 of the NER in undertaking this work.

The AER is seeking comments from interested parties on the proposed regulatory test version 3 and the proposed application guidelines. In particular, views are sought on the request for information (RFI) process and the application guidelines.

1 Introduction

The AER is responsible for regulating the revenues of transmission network service providers (TNSPs) in the NEM in accordance with the NER.

This explanatory statement accompanies the proposed regulatory test version 3 and proposed regulatory test application guidelines. This statement provides reasons for the AER's proposed revisions to the test and guidelines, and satisfies the requirements set out in clause 6A.20 of the NER.

1.1 The regulatory test and NER requirements

Under clause 5.6.5A of the NER, the AER is responsible for developing and publishing the regulatory test.

The regulatory test is an economic cost-benefit test used by transmission and distribution businesses in the NEM to assess the efficiency of network investment. It consists of two limbs:

1. *The reliability limb*- this is applied to reliability driven augmentations which are based on service obligations imposed by the NER or state legislation, regulations or statutory instruments. A reliability augmentation will satisfy the test if it is the least cost option considering the total costs of alternative options to those who produce, distribute or consume electricity in the NEM.

2. *The market benefits limb*- this is applied to non-reliability driven investment. New investment will satisfy the test if it maximises the net present value of the market benefits having regard to alternative options, timing and market development.

The ACCC completed a review of the regulatory test in August 2004.

The MCE proposed regulatory test principles be inserted into the NER to provide policy guidance to the AER in developing the test. This proposal was approved in November 2006. The principles largely reflect the current approach used in the regulatory test but introduce the following new concepts to the market benefits limb of the test:

- a procedural requirement to gather information on alternative options and
- the notion of 'likelihood' to the consideration of alternative projects

The NER now provides that the AER must publish:

- a regulatory test which complies with these principles and
- application guidelines to assist network service providers (NSPs) in applying the test

Transitional provisions in the NER provide that the current regulatory test is deemed to comply with the NER until 31 December 2007. The AEMC has stated that the intent of this provision is to provide the AER with sufficient time to consider whether the current regulatory test complies with the NER and, if necessary, publish a revised regulatory test.

Following a review of the new Rules, the AER considers it has become necessary to amend parts of the regulatory test so as to achieve consistency with the NER.

1.2 Timing and consultation

The AER is also developing regulatory test application guidelines which it intends to publish at the same time it publishes version 3 of the regulatory test. This timing is in accordance with clauses 5.6.5A(d) and (f) of the NER.

While the NER does not expressly state that the AER is required to follow the transmission consultation procedure set out in clause 6A.20 of the NER in its 2007 regulatory test work program, the AER is following that procedure in a commitment to open and transparent regulation.

1.3 Scope of revisions

Due to the policy developments surrounding the regulatory test and plans for a 2008 substantive review to integrate the two limbs of the test and establish new planning arrangements, the AER is adopting an incremental approach in this review. The AER's proposed revisions to the test are therefore limited to:

- those necessary to achieve consistency between the regulatory test and the NER (consistency amendments) and
- those which simplify or improve the clarity of the test based on recent experience (clarification amendments).

The application guidelines have been prepared on the basis of the proposed regulatory test version 3.

1.4 Structure of this paper

This paper is structured as follows:

- Section 2 provides recent background information on the regulatory test and the current policy context of this work
- Section 3 sets out the revisions made to the test to achieve consistency with the NER
- Section 4 sets out minor amendments made to the test to simplify it and improve its clarity and accuracy
- Section 5 discusses the application guidelines.

1.5 Request for submissions

Comments are sought from interested parties on the proposed regulatory test version 3 and the proposed application guidelines. Comments are welcome on the AER's considerations, particularly the RFI process included in the proposed regulatory test and the application guidelines.

Submissions are due 6 September 2007.

2 Background

This chapter provides background on the development of this version of the regulatory test.

2.1 Development of the regulatory test

Under clause 5.6.5A of the NER, the AER is responsible for developing and publishing the regulatory test.

The initial regulatory test was promulgated by the ACCC in December 1999. After the initial stages of its operation, the ACCC undertook a comprehensive review of the regulatory test. On 11 August 2004, the ACCC released the regulatory test version 2.[1] This is the version of the regulatory test that is currently in operation.

The regulatory test is an economic cost-benefit test used by transmission and distribution businesses in the NEM to assess the efficiency of network investment. It consists of two limbs:

- *The reliability limb*- this is applied to reliability driven augmentations which are based on service obligations imposed by the NER or state legislation, regulations or statutory instruments. A reliability augmentation will satisfy the test if it is the least cost option considering the total costs of alternative options to those who produce, distribute or consume electricity in the NEM.

- *The market benefits limb*- this is applied to non-reliability driven investment. New investment will satisfy the test if it maximises the net present value of the market benefits having regard to alternative options, timing and market development.

While the majority of network augmentations undertaken by NSPs are conducted using the reliability limb of the test, comments from interested parties throughout the 2004 review predominantly related to the market benefits limb of the regulatory test, in particular the issue of competition benefits. Competition benefits are those benefits arising from an increase in competition between participants across the NEM. In its decision, the ACCC amended the regulatory test to clarify that competition benefits may be taken into account.

The 2004 review also introduced amendments to the regulatory test to ensure consistency between the test and the National Electricity Code and introduced amendments to define specific terms used in the regulatory test to provide greater guidance and certainty around the application of the test.

2.2 Regulatory test rule changes

In October 2005 the AEMC received a rule change request from the Ministerial Council on Energy (MCE) proposing to create regulatory test principles. The proposal sought to

[1] Available on the AER's website: www.aer.gov.au

replace clause 5.6.5A of the NER with a suite of principles the AER was to follow in promulgating the regulatory test. It was intended that these principles would provide policy guidance to the AER in promulgating the test. The MCE considered this would provide greater certainty to NSPs in undertaking new investment, while leaving sufficient discretion to the AER to perform its role as regulator. One of the features of the proposal included a requirement for the AER to publish guidelines for the application of the regulatory test. The MCE considered that this would help to clarify how the regulatory test is to be applied and ensure a measure of consistency in its application.[2]

The AEMC approved the MCE's regulatory test principles on 30 November 2006, and the Rule commenced operation that day. Key features of the final Rule include:

- Creating a two stage process for the assessment of alternative options to proposed large transmission assets under the market benefits limb of the regulatory test comprised of:
    - seeking information on alternative options to the proposed large transmission network investment and
    - identifying likely alternative options out of those proposed alternatives.
- Requiring the market benefits test to be capable of predictable, transparent and consistent application.
- Requiring the AER to publish regulatory test guidelines to assist NSPs in applying the regulatory test by 31 December 2007.
- Amending the definition of reliability augmentation in the NER to substitute the word "solely" with the word "principally".[3] The AEMC considers that this allows for a wider interpretation encompassing augmentations required to meet the minimum network performance requirements set out in schedule 5.1 that also deliver additional benefits.

Transitional arrangements have been included in the NER so that the current regulatory test has been deemed to comply with the new regulatory test requirements in the NER until 31 December 2007.

Following this Rule change, it has become necessary for the AER to amend parts of the regulatory test so as to achieve consistency with the amended NER. The AER is also developing regulatory test application guidelines. The AER intends to publish application guidelines at the same time it publishes version 3 of the regulatory test, in accordance with the NER.

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2 MCE Secretariat, *MCE Rule Change Application- Reform of the Regulatory Test Principles*, October 2005, p 5

3 The definition currently reads: "A reliability augmentation is a *transmission network augmentation* that is necessitated **principally** by inability to meet the minimum *network* performance requirements set out in schedule 5.1 or in relevant legislation, regulations or any statutory instrument of a *participating jurisdiction*."

In its Rule determination the AEMC stated that the AER is to follow the transmission consultation procedures contained in Chapter 6A of the NER in developing and publishing the test[4] and recommended the AER conduct consultation in publishing application guidelines.[5] Clause 5.6.5A(g) of the NER states that

> The *AER* may, from time to time and in accordance with the *transmission consultation procedure*, amend or replace the *regulatory test* and *regulatory test* application guidelines developed and *published* under this clause, provided that such amendments must be *published* at the same time.

While the NER does not expressly state that the AER is required to follow the transmission consultation procedure set out in clause 6A.20 of the NER in its 2007 regulatory test work program, the AER is following that procedure in a commitment to open and transparent regulation.

2.3 The regulatory test and regulated revenues

The role of the regulatory test has changed since the economic regulatory framework has evolved from an ex post approach to an ex ante approach.

The economic regulatory approach in the NER adopts an ex ante approach to capital expenditure where a capital expenditure target is set for a regulatory period and not revisited. The NER requires the AER to accept a forecast of required capital expenditure of a TNSP if the AER is satisfied that the total of the forecast capital expenditure for the regulatory period reasonably reflects:

- the efficient costs of achieving the capital expenditure objectives
- the costs that a prudent operator in the circumstances of the relevant TNSP would require to achieve the capital expenditure objectives and
- a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure objectives.

Further, in determining whether or not the AER is satisfied that the forecast meets the above criteria, the AER must have regard to 10 capital expenditure factors. None of these factors refer to the regulatory test and there is no requirement that a project must have passed the regulatory test to be included in the ex ante forecast.

In conjunction with this ex ante approach to setting capital expenditure allowances, a lock in roll forward approach to asset base valuation applies, where all actuals are rolled into the regulated asset base at the end of a regulatory period without ex post assessment. The NER does not specify that an augmentation that is deemed to satisfy the regulatory test must be rolled into a TNSP's regulatory asset base.

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4 AEMC, National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006 – Final Rule Determination, November 2006, p 82.

5 Ibid, p 79.

This changed role for the regulatory test was acknowledged in the recent report by the Energy Reform Implementation Group (ERIG) to the Council of Australian Governments (COAG):

> ERIG considers that the original role of the Regulatory Test is inconsistent with the emerging regulatory regime...[6]

ERIG has assisted in clarifying that in the context of the current regulatory framework, the regulatory test functions as a planning and consultative tool more than a regulatory tool:

> The application of the Regulatory Test today is an obligation on TNSPs that has value through its role as a consultative mechanism and which provides some transparency on the TNSP's decision making particularly in respect to the ranking of various project options.[7]

The AER will remain cognisant of the changed role of the test as it undertakes its work in relation to the regulatory test.

2.4 Policy context

The AER notes that this review of the regulatory test is taking place in a broader policy environment where the role and function of the regulatory test is being assessed.

As part of its review, ERIG reviewed the role of the regulatory test and recommended significant changes. Its report noted that the current regulatory test forces projects to be considered under either the reliability or market benefits limb, despite the fact that many projects deliver both reliability and market benefits. It argued that the two limbs of the regulatory test should be amalgamated.

ERIG concluded that the regulatory test should be replaced with the following process to guide transmission investment:

- a National Transmission Network Development Plan (the Plan) should be developed to deliver an integrated, national plan for the longer term efficient development of the transmission network which is consistent with the efficient development of the overall power system, and;
- the Plan would be designed to inform the setting of the revenue allowance provided for TNSPs for a regulatory period. Within that period, each project would be subject to a project assessment and consultation process prior to being constructed.

COAG responded to the ERIG report in April 2007. It agreed to a revised network planning and consultation process to replace the regulatory test. The AEMC has been tasked with advising on amalgamating the regulatory test criteria of reliability and market benefits and broadening the latter's definition to include national market benefits. COAG

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[6] Energy Reform Implementation Group, *Energy Reform: The Way Forward for Australia*- a report to the Council of Australian Governments, January 2007, p183

[7] Ibid.

argues that this will allow proposed transmission projects to be assessed against meeting both local reliability standards and their ability to maximise benefits to the national market.[8]

The AEMC has commenced its review and is to advise the MCE on the implementation of new transmission planning arrangements by June 2008 with the new arrangements to commence by June 2009.

While these policy developments may deliver significant changes to the regulatory test, the AER notes that it still has a requirement under the NER to review the regulatory test and publish regulatory test application guidelines by the end of this year.

[8] Council of Australian Governments, *COAG National Reform Agenda*, Competition Reform, April 2007, p 4

3 Consistency with the NER

3.1 Introduction

The *National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006* introduced a number of requirements on the regulatory test, predominantly on the market benefits limb of the test. The AER is making amendments to the test to satisfy these requirements and achieve consistency between the test and the amended NER.

The AER considers the regulatory test already satisfies a number of the principles contained in the NER. However, where the regulatory test is silent or unclear in relation to these issues, the AER proposes a number of amendments to achieve consistency with specific parts of clause 5.6.5A.

This chapter summarises the AER's proposed amendments and sets out the AER's consideration of issues surrounding the amendments.

3.2 AER considerations

3.2.1 The reliability and market benefits limb

Clause 5.6.5A(b) of the NER states that the purpose of the regulatory test is to identify new network investments or non-network alternative options that:

(i) maximise the net economic benefit to all those who produce, consume and transport electricity in the market; or

(ii) in the event the option is necessitated to meet the service standards linked to the technical requirements of schedule 5.1 of the NER or in *applicable regulatory instruments*, minimise the present value of the costs of meeting those requirements.

The AER considers that the wording of this purpose should be reflected in the regulatory test to align it with the NER. As such, the AER proposes to amend the test to state:

An option satisfies the regulatory test if:

(a) in the event the option is necessitated principally to meet the service standards linked to the technical requirements of schedule 5.1 of the Rules or in applicable regulatory instruments - the option minimises the present value of the costs of meeting those requirements, compared with alternative option/s in a majority of reasonable scenarios;

(b) in all other cases - the option maximises the expected net economic benefit to all those who produce, consume and transport electricity in the national electricity market compared to the likely alternative option/s in a majority of reasonable scenarios. Net economic benefit equals the present value of the market benefit less the present value of costs.

The word 'timings' has not been included in the proposed revised market benefits limb as the AER considers this is already incorporated into the sensitivity testing for reasonable scenarios and is not essential to the meaning of paragraph 1(b). The AER proposes to remove it from paragraph 1(b) of the current version of the regulatory test for the purposes of simplifying the test.

3.2.2 Definition of reliability augmentation

In the *National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006* the AEMC amended the definition of reliability augmentation in chapter 10 of the NER to substitute the word "solely" with the word "principally".

The NER definition now reads:

> "A reliability augmentation is a *transmission network augmentation* that is necessitated **principally** by inability to meet the minimum *network* performance requirements set out in schedule 5.1 or in relevant legislation, regulations or any statutory instrument of a *participating jurisdiction*."

The AEMC considers that this allows for a wider interpretation of a reliability augmentation which encompasses augmentations required to meet the minimum network performance requirements set out in schedule 5.1 that also deliver additional benefits. [9]

The term reliability augmentation is used in various parts of the NER in relation to establishing new large transmission assets, inter-regional planning, requirements surrounding Annual Planning Reports and information to be provided in a revenue proposal. Paragraph 1(a) of the regulatory test known as the 'reliability limb' relates to reliability driven augmentations. Whilst the term 'reliability augmentation' is not explicitly used in clause 5.6.5A of the NER or the regulatory test, the reliability limb needs to reflect the language used in the NER for consistency and clarity.

The AER considers it is necessary make a corresponding amendment to the reliability limb of the regulatory test to reflect the change substituting the word "solely" with "principally" and ensure consistency between the NER and the test.

3.2.3 Broad objectives

Clause 5.6.5A(c) of the NER features two broad objectives for the market benefits limb of the regulatory test, namely that it:

> (6) not require the level of analysis to be disproportionate to the scale and size of the *new network investment*;
> (7) be capable of predictable, transparent and consistent application

The current regulatory test recognises that sensitivity testing should be appropriate to the size and type of project being assessed. However clause 5.6.5A(c)(6) now requires this concept of proportionality to be broadened to encompass the whole market benefits analysis. The AER does not consider that the current test requires a

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[9] AEMC, *National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006 – Final Rule Determination*, November 2006, pp. 42-43

level of analysis which is disproportionate to the scale of the option being assessed. However, to make it explicit and to achieve a degree of consistency with the NER, the AER proposes to include this concept in the introduction of version 3 of the regulatory test.

In relation to clause 5.6.5A(c)(7), the AER is cognisant of this requirement in developing the test, and will endeavour to ensure the market benefits test is as clear and capable of predictable, transparent and consistent application as possible. The application guidelines and some of the minor amendments proposed in this paper are an effort to improve the clarity and simplicity of the test to further meet this requirement in the NER. In addition, the AER considers that including a requirement for NSPs to include detailed calculations of how costs and benefits are determined in their regulatory test analyses and make this available to interested parties enhances the transparency of the test and its ability to be consistently applied. The AER therefore proposes to include a new provision in the test effecting this.

3.2.4 Counterfactual analysis

Under the NER the market benefits limb of the regulatory test must be based on a cost-benefit analysis of the future with the new investment compared to the "likely alternative options" in the event that the NSP's proposal does not take place. Clause 5.6.5A of the NER states that:

> (c) In so far as it relates to paragraph (b)(1), the *regulatory test* must:
>
> > (1) be based on a cost-benefit analysis of the future (which includes assessment of reasonable scenarios of future supply and demand conditions):
> >
> > > (1) were the *new network investment* to take place, compared to the likely alternative option or options,
> >
> > > (ii) were the *new network investment* not to take place.

The AER considers that the current market benefits limb of the regulatory test accommodates an assessment of the future should the proposed network option take place against an alternative option were the network option not to take place. The test already effectively compares what would happen in the market should one option take place against what would happen if another option took place. It is merely expressed differently.

The AER does not propose to make any major changes to the regulatory test to reflect a counterfactual approach, as the approach is already accommodated in the current wording.

In relation to the requirement that the market benefits limb include an "assessment of reasonable scenarios of future supply and demand conditions" the AER considers that this is already accommodated in the current test. The current test requires a market benefit analysis to be based on a comparison of options in a number of reasonable scenarios which includes reasonable forecasts of:

- electricity demand
- the operating costs of supplying energy (current supply) and
- committed, anticipated and modelled projects (ie: future supply).

Therefore the AER considers this does not require any amendment.

3.2.5 Two stage process and likely alternative options

The NER now require a two stage process for the selection of likely alternative options to proposed large transmission assets under the market benefits limb of the regulatory test. This process consists of:

- seeking information on potential alternative options to the proposed large transmission network investment and
- identifying likely alternative options out of those potential alternative options.

In its Rule determination the AEMC explained that under this arrangement, the TNSP is to assess the proposal project against the *likely* alternative or alternatives, rather than an assessment against all genuine and practicable alternatives. The AEMC considered that this approach would reduce the risk of a project passing the market benefits test, yet failing to be constructed.[10]

In contrast the current regulatory test does not limit the alternative options that an NSP must consider to those that are likely to occur in the event that the NSP's proposal does not occur. The current regulatory test requires an NSP to consider all options that are:

- genuine alternatives which deliver similar outcomes and become operational in a similar time-frame to the proposal and
- practicable alternatives which are technically and commercially feasible.

The AER has therefore included 'likely' in the market benefits test and introduced paragraphs 15-17 which set out some parameters in line with the NER on what NSPs should consider in determining whether a project is likely. The proposed regulatory test prescribes the following approach:

- The NSP gathers information on all options and determines which options qualify as an alternative options having regard to the requirements in the test.
- The NSP makes an assessment of which of these options is a "likely" alternative option having regard to the criteria in the test. The assessment of likelihood is to be consistent with the plain English meaning of likely.
- The NSP undertakes a market benefits assessment by comparing the probable net economic benefit of its proposed augmentation against that of the likely alternative options.

Further, clause 5.6.5A(3) states that in relation to market benefit assessments, the regulatory test must:

[10] AEMC, *National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006 – Final Rule Determination*, November 2006, p. 63

- ensure that the identification of the likely alternative options is informed by a consideration of all genuine and practicable alternative options to the proposed new network investment without bias regarding:

    - energy source;
    - technology;
    - ownership;
    - the extent to which the *new network investment* or the non-*network* alternative enables intra-regional or inter-regional trading of electricity;
    - whether it is a *network* or non-*network* alternative;
    - whether the *new network investment* or non-*network* alternative is intended to be regulated; or
    - any other factor.

Clause 5.6.5A(5) provides that where there is more than one likely alternative option to the new network investment, and no single alternative option is significantly more likely to occur than the other, then the cost-benefit analysis must be undertaken in relation to each such likely alternative option.

The AER also notes that the AEMC's Rule determination clarified that:

> While a proponent would not be required for a project to be considered as a potentially likely alternative, the absence of a proponent could be one of the factors to be assessed in determining which alternative option or options are likely in the absence of the proposed project.[11]

The AER considers the regulatory test should reflect this and make clear that the existence of a genuine proponent for the alternative option may be taken into account when determining likelihood but that the absence of such a proponent will not in itself exclude a project from being a likely alternative option for the purposes of the regulatory test.

The AER therefore proposes amendments to the test to give effect to these requirements.

3.2.6 Alternative options

Clause 5.6.5A(c)(8) of the NER states that the regulatory test must provide that alternative options considered as part of a market benefits assessment may include (without limitation) generation, demand side management, other network options, or the substitution of demand for electricity by the provision of alternative forms of energy.

The AER therefore proposes amendments to the test to give effect to this requirement, as well as to allow combinations of different types of options to be considered as an alternative option. For example, a combination of a demand-side option and a generation option could together constitute a viable alternative option to a proposed network augmentation.

[11] AEMC, *National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006 – Final Rule Determination*, November 2006, p. 62

Commercially feasible

Given the elimination process around 'likelihood' the AER proposes to remove the requirement that alternative options be commercially feasible. Commercial feasibility under the test is:

> to be demonstrated by determining whether an objective operator, acting rationally according to the economic criteria prescribed in [the] test, would be prepared to construct or provide this alternative option.

The AER considers that leaving this requirement in the test would place too high a hurdle on proposed options to qualify as alternative options, and would effectively eliminate them from the decision-making process before the judgement as to their likelihood may take place. Further, it is unnecessary for options to be disqualified from consideration at that stage of decision making given that the test now provides for an alternative option to be assessed on its likelihood separately.

The AER therefore has amended the idea of 'practicability' to simply mean technically feasible.

3.2.7 Request for proposals

Clause 5.6.5A(c)(4) of the NER provides that the market benefits limb of the regulatory test must:

> require, for a potential new large transmission network asset, that the Network Service Provider publish:
>
> (i) a request for information as to the identity and detail of alternative options to the potential new large transmission network asset; and
>
> (ii) details of the proposed new large transmission network asset

The AEMC stated in its Rule determination that NSPs should publish RFIs as part of their regulatory test assessment process as this would assist in identifying possible options and provide NSPs with sufficient information to determine whether alternative projects are likely to occur.[12] The NSP would then be able to apply the regulatory test by comparing its proposed augmentation to any likely alternatives. The AEMC considered that:

> The RFI process would be transparent and encourage interested parties to propose workable, commercial alternatives to a proposed network investment… [T]he Commission would expect that the RFI would set out, in a transparent manner:
>
> The nature of the network limitation(s) that the regulated network investment and any alternative investment, is intended to address;
>
> The timeframe over which investment is likely to be required; and
>
> Any other supporting information that potential investors may require to prepare their response.[13]

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[12] AEMC, *National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006 – Final Rule Determination*, November 2006, p. 59.

[13] Ibid pp59-60

The AEMC stated that in its promulgation of the test the AER should include guidance on the operation of the RFI process.[14] The AER therefore proposes to include a RFI process and information requirements in the regulatory test to satisfy its obligations under the NER. The AER notes that, under the terms of the NER, only TNSPs are subject to this RFI requirement, and not DNSPs.

The RFI process is included at paragraphs 25-31 of the proposed regulatory test. This RFI process has been developed by reviewing the AEMC's final Rule determination, the amendments to clause 5.6.5A of the NER, existing consultation requirements in the NER, the voluntary RFI processes that some NSPs have recently implemented and, where applicable, relevant consultation requirements for DNSPs in each jurisdiction of the NEM.

Existing consultation requirements for TNSPs

The NER requires TNSPs to undertake annual planning to determine the adequacy of existing connection points and relevant parts of the transmission system (clause 5.6.2). NSPs must notify affected Registered Participants and NEMMCO where this planning indicates that the technical limits of the transmission system will be exceeded in the future.

In addition TNSPs must publish Annual Planning Reports that set out forecast loads, planning proposals for future connection points, forecast constraints and any projected inability to meet network performance requirements, information on proposed augmentations and information on new small transmission network assets (clause 5.6.2A). TNSPs must consult with interested parties on proposed new small transmission network assets set out in the Annual Planning Report and, following this consultation process, publish any necessary amendments to the Annual Planning Report (clause 5.6.6A).

TNSPs must also undertake a formal consultation process when proposing to establish new large transmission network assets. Clause 5.6.6 of the NER provides that the proponent must:

- consult with registered participants
- publish an application notice setting out relevant information, and
- provide a summary of this notice to NEMMCO for publication on NEMMCO's website.

TNSPs currently employ a variety of different consultation processes to satisfy these obligations including voluntarily publishing RFIs, issuing reports on emerging limitations and publishing a range of discussion and consultation papers.

Existing consultation requirements for DNSPs

DNSPs are required under clause 5.6.2 of the NER to consult with affected Registered Participants, interested parties and NEMMCO when assessing options to address projected limitations on their distribution systems. DNSPs must carry out an economic cost effective analysis to identify options that satisfy the regulatory test and publish a report which

[14] AEMC, *National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006 – Final Rule Determination*, November 2006, p. 59.

recommends what action should be taken. DNSPs currently utilise different approaches to satisfy these consultation requirements and publish a range of consultation papers and request for proposals/information papers.

Additional jurisdictional consultation requirements

Some jurisdictions in the NEM have additional consultation requirements for augmentations to distribution networks. The Essential Services Commission of South Australia (ESCOSA) has recently re-issued a Guideline[15] which requires ETSA Utilities to undertake a comprehensive request for proposal (RFP) process when proposing major network expansions or augmentations between $2-10 million. ETSA Utilities must invite interested parties to offer alternative proposals (particularly demand side management proposals) to overcome identified system constraints. The RFP must include a detailed description of relevant technical information and allow proponents at least 6 months to make submissions on alternative proposals. ESCOSA has recently completed a review of this Guideline and its RFP process.[16]

Licence obligations in NSW require DNSPs to investigate whether it would be cost effective to postpone or avoid augmentations to their network. The former NSW Department of Energy, Utilities and Sustainability (now the Department of Water and Energy) published a demand management code of practice[17] which provides guidance to DNSPs on how to meet this licence obligation. The code provides that a DNSP should issue a formal RFP when it considers that it is reasonable to do so (taking into account a range of matters set out in the code). This RFP invites registered interested parties, customers and other proponents to offer system support to overcome a specified system constraint.

The AER's proposed RFI process

The AER has developed an RFI process for inclusion in the regulatory test following its review of the existing consultation requirements described above. For all new large transmission network assets under the market benefits limb of the regulatory test, the AER proposes including the RFI process outlined in figure 1. This process is intended to be an extension of the application notice process for new large transmission network assets in clause 5.6.6 of the NER.

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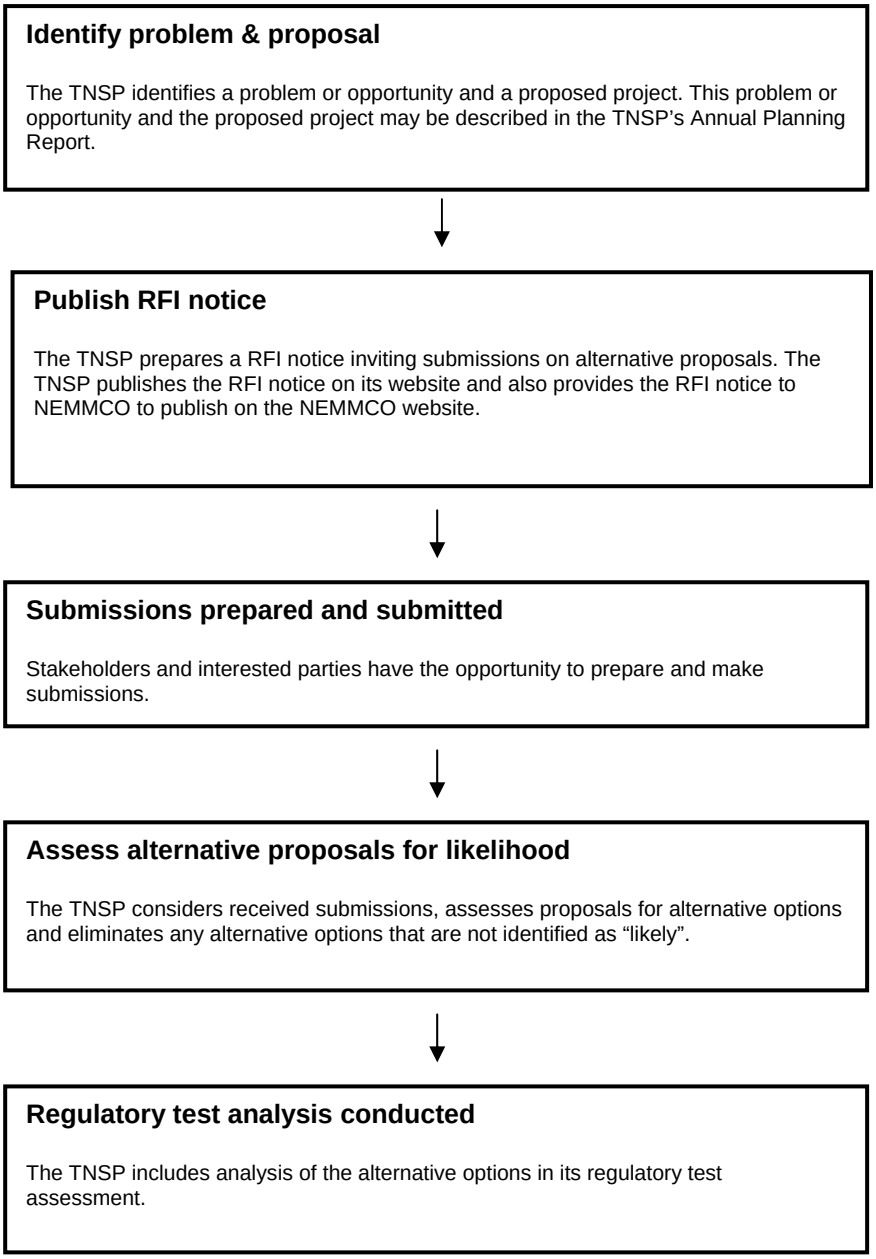
15 ESCOSA, *Demand Management for Electricity Distribution Networks Electricity Industry Guideline No. 12*, July 2007.

16 ESCOSA, *Review of Electricity Industry Guideline 12: Demand Management for Electricity Distribution Networks Final Decision*, July 2007 and *Discussion Paper*, July 2006.

17 Department of Energy Utilities and Sustainability, *Demand Management for Electricity Distributors: NSW Code of Practice*, September 2004.

Figure 1: The AER's proposed RFI process



Method of publication

Under the AER's proposed amendments, for any new large transmission network asset to satisfy the market benefits limb of the regulatory test the TNSP must publish an RFI notice inviting submissions on the identity and detail of alternative proposals. The RFI notice must be issued at least four months before the TNSP publishes an application notice for that proposed new network investment. This RFI notice must be published on both the NEMMCO and TNSP websites.

The AER considers that this process should alert interested parties about the existence of the RFI notice and should also ensure that interested parties have access to the notice on NEMMCO's website for a reasonable period following the close of submissions.

Information included in the RFI notice

The AER's proposed amendments require a TNSP to publish in its RFI notice:

- the reasons for the proposed or potential new large transmission network asset
- information on the proposed or potential asset including the technical details, the construction timetable all known direct costs and the likely sources of costs and benefits and
- a description of the assessment process.

The AER aims to ensure transparency in the RFI process conducted by TNSPs and to this end the amended regulatory test requires TNSPs to inform proponents about its assessment process upfront. Proponents will also be provided with a description of how the TNSP considers that its proposal satisfies the reasons or need for the asset.

The AER also considers that potential proponents should be provided with sufficient information on the TNSP's proposed or potential asset and its likely costs and benefits.

Period for submissions

Under the proposed amendments to the regulatory test, TNSPs must give interested parties at least 8-12 weeks to respond to an RFI notice from the date that the RFI notice appears on NEMMCO's website. The period allowed for submissions will be determined by the TNSP and must be proportionate to the size and complexity of the proposed or potential asset.

In proposing this 8-12 week range the AER has attempted to balance the needs of TNSPs and potential proponents. The AER considers that proponents require adequate time to gather information on an alternative proposal and prepare a submission which addresses the relevant matters raised in the RFI notice. Without sufficient time to do this, a proponent's ability to meaningfully respond to the RFI notice will be extremely limited and it will be unlikely that the proponent will provide useful information to the TNSP.

However the AER is also aware that delays in regulatory processes can be costly for the TNSP and other participants in the market. This is particularly relevant where a regulatory process unnecessarily delays an investment in the transmission network which has

substantial market benefits. In addition, a lengthy consultation process may unintentionally inhibit a TNSP's ability to act on viable options.

The AER considers that 8-12 weeks does not unduly delay the regulatory test process and is an adequate period of time for submissions on alternative proposals. In any event the AER anticipates that in practice proponents may be made aware of the proposed asset before the RFI notice is issued. The TNSP will most likely provide information on the proposed new large transmission network asset in its Annual Planning Report. Where this occurs, potential proponents can begin considering alternative proposals.

In addition, the amendments to the regulatory test provide that an interested party may apply to the TNSP to have the due date for submissions extended. This application must be made at least four weeks after the RFI notice is published on NEMMCO's website. The AER considers that this extension process will allow the TNSP to minimise the initial period for submissions, but then extend the period if there are interested parties who intend on proposing alternative projects and need additional time to prepare their submissions. However, where there are no alternative proposals from interested parties, the period for submissions will not be extended and the delay caused by the RFI process is minimised.

Process following the RFI notice and regulatory test assessment

Where a TNSP determines that it will proceed with its proposed asset, it must then publish an application notice under clause 5.6.6 of the NER which sets out (among other things) a detailed description of the analysis of the ranking of the proposed asset and all reasonable alternatives.

The AER notes that the AEMC stated in its Rule Determination that:

> To aid transparency and confidence in the process… the TNSP should be required to publish its reasons and assessment as to how it determined the counterfactual, including the results of the RFI.[18]

The proposed amendments to the regulatory test require the TNSP to include in any regulatory test analysis a summary of the alternative proposals suggested during the RFI process and detailed reasons as to why the TNSP determined that an alternative proposal was likely or unlikely. The AER considers that this will ensure that there is transparency in the regulatory test process and will provide proponents and participants in the market with greater confidence in regulatory test outcomes.

3.2.8 Costs and benefits

Clause 5.6.5A(c)(2) of the NER requires that as a minimum, the regulatory test must list or provide for:

> (i) the classes of possible benefits that may be included as benefits, and classes of possible benefits that may not be included as benefits;
>
> (ii) the method or methods permitted for estimating the magnitude of the different classes of benefits;

[18] AEMC, *National Electricity Amendment (Reform of the Regulatory Test Principles) Rule 2006 – Final Rule Determination*, November 2006, p. 60.

(iii) the classes of possible costs that may be counted as costs, and classes of possible costs that may not be included as costs;

(iv) the method or methods permitted for estimating the magnitude of the different classes of costs; and

(v) the appropriate method and value for specific inputs, where relevant, for determining the discount rate to be applied.

The AER considers that the regulatory test already partially fulfils subclause (i) and (iii) through its existing clauses in relation to costs and benefits. In relation methods for estimating the magnitude of different classes of costs and benefits under subclauses (ii) and (iv) the AER proposes to include a provision in the test that states:

> *In estimating the magnitude of costs and benefits, a pool dispatch modelling methodology, or any other applicable methodology, should be used. If pool dispatch modelling methodology is used, it must incorporate:*
>
> - *a realistic treatment of plant characteristics, including for example minimum generation levels and variable operation costs; and*
> - *a realistic treatment of the network constraints and losses.*

In relation to subclause (v) the AER does not consider it is appropriate for a regulator to prescriptively set out the method and value for specific inputs for determining the discount rate to be applied in market benefits assessments and sensitivity analysis. The 2004 ACCC Review of the Regulatory Test Decision[19] stated that "..the ACCC concurs with interested parties that including a formula for the determination of a discount rate may create unnecessary debate."

The AER considers that the most important issue is that the discount rate used recognises regulated and unregulated investments in a competitively neutral manner. The discount rate should be determined by the business proposing an option and the inputs into a discount rate are a matter left to the financial markets to determine, not the AER. As such, the AER will retain the current provision in the test which requires the discount rate used to be consistent with that of a private commercial enterprise in the electricity market and that it match the type of cash flows being discounted.

The AER also proposes to amend the test to reflect the fact that transmission cost allocation principles are now set out in clause 6A.19.2 of the NER.

[19] ACCC *Review of the Regulatory Test,* August 2004, p 48

3.3 AER proposed revisions

The AER proposes the amendments below to align the regulatory test with the amended NER.

Proposed version 3

Introduction

The Australian Energy Regulator (AER) publishes this *regulatory test* in accordance with clause 5.6.5A of the National Electricity Rules (the NER). An accompanying set of regulatory test application guidelines are published in accordance with clause 5.6.5A(d).

Clause 5.6.5A(b) of the NER states that the purpose of the regulatory test is to identify *new network investments* or non-*network* alternative options that:

(1) maximise the net economic benefit to all those who produce, consume and transport electricity in the market; or
(2) in the event the option is necessitated to meet the service standards linked to the technical requirements of schedule 5.1 of the NER or in *applicable regulatory instruments*, minimise the present value of the costs of meeting those requirements.

As required by the NER this test is to be applied in relation to new network investments estimated to require a total capitalised expenditure in excess of $1 million. The regulatory test only applies to network augmentations and does not apply to the replacement of assets.

Transmission network service providers (TNSPs) are required to apply the test in accordance with clause 5.6.6 of the Rules. Distribution network service providers (DNSPs) must carry out an economic cost effectiveness analysis of possible options to identify options that satisfy the regulatory test under clause 5.6.2(g) of the NER. Under those clauses, TNSPs and DNSPs are also required to publicly consult on applications to establish new large network investments, that is, investments estimated to require total capitalised expenditure in excess of $10 million.

Proposed new network investments or non-network alternative options may satisfy the test via one of its two limbs- the ‘reliability’ limb or the ‘market benefits’ limb.

Reliability limb

The reliability limb relates to clause 5.6.5A(b)(2) of the NER set out above. It is to be applied to any proposed new network investment or non-network alternative option in the event that the option is necessitated to meet the service standards linked to the technical requirements of schedule 5.1 or in *applicable regulatory instruments*.

While the reliability limb of the test applies to both transmission and distribution network augmentations, in the case of transmission, this limb directly relates to the following definition of *reliability augmentation* in chapter 10 of the NER. This states that a *reliability augmentation* is:

> A *transmission* network *augmentation* that is necessitated principally by inability to meet the minimum network performance requirements set out in schedule 5.1 or in relevant legislation, regulations or any statutory instrument of a *participating jurisdiction*.

Market benefits limb

The market benefits limb is to be used for any new network investment that is not assessed under the reliability limb. This limb relates to clause 5.6.5A(b)(1) of the NER set out above and is based on a cost-benefit analysis (as required by clause 5.6.5A(c)(1)).

The level of analysis undertaken in relation to the market benefits limb must be proportionate to the scale and size of the proposed new network investment.

In accordance with clause 5.6.5A(c)(4) of the NER, this regulatory test contains request for information requirements for any proposed new large transmission network asset assessed under the market benefits limb.

The regulatory test

(1) An option satisfies the *regulatory test* if:

(a) in the event the option is necessitated principally by to meet the service standards linked to the technical requirements of schedule 5.1 of the NER or in applicable regulatory instruments - the option minimises the *costs* of meeting those requirements, compared with *alternative option/s* in a majority of *reasonable scenarios*;

(b) in all other cases - the option maximises the expected *net economic benefit* to all those who produce, consume and transport electricity in the national electricity market compared to the likely *alternative option/s* in a majority of *reasonable scenarios*. *Net economic benefit* equals the *market benefit* less *costs*.

Costs and benefits

Costs

(2) *Costs* means the present value of the direct costs of an option (or an *alternative option*) including:

(a) costs incurred in constructing or providing the option;

(b) operating and maintenance costs over the operating life of the option; and

(c) the cost of complying with laws, regulations and applicable administrative requirements in relation to the option.

Benefits

(3) *Market benefit* means the present value of the total benefit of an option (or an *alternative option*) to all those who produce, distribute and consume electricity in the National Electricity Market (NEM). That is, the change in consumers' plus producers' surplus or another measure that can be demonstrated to produce an equivalent ranking of options in a majority of *reasonable scenarios*. For clarity, *market benefit* does not include the transfer of surplus between consumers and producers, nor does it include the *costs* defined in paragraph 2.

(4) In determining the *market benefit*, the analysis may include the present value of the following benefits:

(a) changes in fuel consumption arising through different generation dispatch;

(b) changes in voluntary load curtailment;

(c) changes in involuntary load shedding using a reasonable forecast of the value of electricity to consumers;

(d) changes in costs caused through:

(i) deferral of new plant;

(ii) differences in capital costs;

(iii) differences in the operational and maintenance costs; and

(iv) deferral of transmission investments;

(e) changes in transmission losses;

(f) changes in ancillary services costs;

(g) *competition benefits* being net changes in *market benefit* arising from the impact of the option on participant bidding behaviour; and

(h) other benefits that are determined to be relevant to the case concerned.

(5) Where the analysis separately identifies the magnitude or quantum of any *competition benefits* (either as a proportion or a component of the total *market benefit*) the analysis must make clear the methodology used to estimate it.

(6) The *market benefit* of an option will only include *competition benefits* where the *Network Service Provider* responsible for undertaking the analysis of the option determines that it is appropriate, in all the circumstances, to take *competition benefits* into account.

(7) In determining the *market benefit*, the analysis must not double-count *competition benefits* where they have already been accounted for in other elements of the *market benefit.*

Disclosing costs and benefits

(8) Any relevant information which may have a material impact on the determination of *costs* or *market benefits* which comes to light at any time before an assessment is finalised must be considered and made available to interested parties.

(9) Detailed calculations of how *costs* and *market benefits* are determined must be included in the *regulatory test* analysis and made available to interested parties.

Classes of possible costs and benefits

(10) Any cost or benefit which cannot be measured as a cost or benefit to producers, distributors and consumers of electricity may not be included in any analysis proposed in accordance with this test. The allocation of costs and benefits between the electricity and other markets must be based on principles consistent with the cost allocation principles in clause 6A.19.2 of the NER in the case of transmission, or consistent with the relevant Distribution Ring-Fencing Guidelines in the case of distribution.

(11) In determining the *costs* or *market benefits*, it should be considered whether the proposed option will enable:

(a) a *Transmission Network Service Provider* to provide both prescribed and other services; or

(b) a *Distribution Network Service Provider* to provide both prescribed distribution services and other services.

If it does, the *costs* and *market benefits* associated with the other services should be disregarded. The allocation of costs between prescribed and other services must be consistent with the cost allocation principles in clause 6A.19.2 of the NER. The allocation of costs between prescribed distribution services and other services must be consistent with the relevant Distribution Ring-Fencing Guidelines.

Method permitted for estimating the magnitude of the different classes of costs and benefits

(12) In estimating the magnitude of costs and benefits, a pool dispatch modelling methodology, or any other applicable methodology, should be used. If pool dispatch modelling methodology is used, it must incorporate:

(a) a realistic treatment of plant characteristics, including for example minimum generation levels and variable operation costs; and

(b) a realistic treatment of the network constraints and losses.

Appropriate method for determining the discount rate to be applied

(13) The present value calculations must use a commercial discount rate appropriate for the analysis of a private enterprise investment in the electricity sector. The discount rate used should be consistent with the cash flows being discounted.

Alternative options

(14) An *alternative option* may be, without limitation, a generation option, demand side management/response option, *network* option, the substitution of electricity by the provision of alternative forms of energy, or a combination of these.

(15) For an option proposed in accordance with paragraph 1(a) of this test *alternative option* means:

(a) a genuine alternative to the option being assessed, in that it:

(i) has a clearly identifiable proponent/s; and

(ii) meets the reliability requirements referred to in paragraph 1(a); and

(b) a practicable alternative to the option being assessed in that it is technically feasible.

(16) For an option proposed in accordance with paragraph 1(b) of this test *alternative option* means:

(a) a genuine alternative to the option being assessed, in that it:

(i) delivers similar outcomes to those delivered by the option being assessed; and

(ii) would become operational in a similar timeframe to the option being assessed; and

(b) a practicable alternative to the option being assessed in that it is technically feasible.

(17) In determining whether an *alternative option* is likely for the purposes of any analysis in accordance with paragraph 1(b) of this test the *Network Service Provider* must:

(a) consider all *alternative options* without bias regarding:

(i) energy source;

(ii) technology;

(iii) ownership;

(iv) the extent to which the proposed network asset or non-network alternative enables intra-regional or intra-regional trading of electricity;

(v) whether it is a network or non-network alternative;

(vi) whether the option is intended to be regulated; and

(vii) whether the option or *alternative option* represents a combination of other options.

(b) Where the proposed asset is a *new large transmission network asset*,

(i) consider any *alternative options* proposed in the request for information process required by this test and

(ii) include in any *regulatory test* analysis completed in relation to the proposed *new large transmission network asset*:

(I) a summary of any *alternative options* proposed in the relevant request for information process and

(II) detailed reasons as to why an *alternative option* was found to be likely or unlikely.

(18) For the purposes of any analysis in accordance with paragraph 1(b) of this test the existence of a genuine proponent for the *alternative option* may be taken into account when determining likelihood. However, the absence of such a proponent will not in itself exclude a project from being a likely *alternative option* for the purposes of the *regulatory test*.

(19) Where there is more than one likely *alternative option* to the new *network* investment, and no single *alternative option* is significantly more likely to occur

than the other, then the *market benefits* analysis required in accordance with paragraph (1)(b) of this test must be undertaken in relation to each such likely *alternative option*.

…

Request for information

(25) For the purposes of any analysis undertaken in relation to paragraph (1)(b) of this test, a *transmission network service provider* must publish a request for information notice for a potential or proposed *new large transmission network asset*.

(26) The request for information notice must request information as to the identity and detail of alternative options to the potential or proposed *new large transmission network asset*.

(27) The *transmission network service provider* must include the following information in the request for information notice:

(a) the details of any potential or proposed *new large transmission network asset* including:

(i) all of the relevant technical details, including asset type and project configuration;

(ii) the proposed construction timetable;

(iii) the commissioning date; and

(iv) all known expected direct costs and the likely sources of *costs* and *market benefits* associated with the proposed asset;

(b) the reasons for the potential *new large transmission network asset*, including how the potential asset satisfies these reasons and, where applicable, any network limitations, reliability requirements or specific planning criteria;

(c) known existing and planned infrastructure in the geographic region, including relevant transmission, distribution and generation assets;

(d) load forecasts in the geographic region for the next ten years including peak demand and load profiles;

(e) any specific project requirements that an *alternative option* must fulfil including any technical or other limitations such as:

(i) speed of demand side or generation response;

(ii) size, type and location of load(s) to be reduced, shifted, substituted or interrupted; and

(iii) size, type and location of generation to be installed or utilised; and

(f) a description of the process for assessing *alternative options* including evaluation criteria.

(28) At least 4 months before an application notice in relation to the proposed *new large transmission network asset* is published, the *transmission network service provider* must:

(a) publish the request for information notice on its website and

(b) provide the request for information notice to NEMMCO for publication on the NEMMCO website.

(29) The request for information notice must specify a due date for submissions which must be at least 8-12 weeks after the date the request for information notice is published on NEMMCO's website. The time allowed for submissions must be proportionate to the size and complexity of the proposed or potential *new large transmission network asset.*

(30) Interested parties may apply to the *transmission network service provider* to have the submission due date extended. This application must be made at the latest 4 weeks after the request for information notice is published on NEMMCO's website.

(31) Any person may make a written submission to the *transmission network service provider* in response to the request for information notice.

4 Clarification amendments

4.1 Introduction

The AER notes the observation of the AEMC that "the form of the Test is well accepted by market participants and interested stakeholders."[20] The AER is also cognisant of the upcoming policy work that will affect the role and operation of the test, particularly the AEMC's upcoming task to integrate the two limbs of the test as part of its work to implement new national transmission planning arrangements. As such, outside of amendments to align the test with the NER, the AER is seeking to make only amendments which simplify or improve the clarity of the test based on recent experience in the test. This will also assist with any subsequent substantive review of the test.

This section outlines a number of minor amendments which the AER considers will simplify or improve those elements of the regulatory test which are ambiguous, overly prescriptive, or require clarification.

4.2 AER considerations

4.2.1 Restructuring and headings

The AER considers that the regulatory test would benefit from some minor re-ordering and headings so that paragraphs dealing with a common issue may be grouped together to facilitate a clearer understanding.

The current structure of the regulatory test reflects the order that defined words appear in the two limbs of the test. The AER considers that, given the NER prescribe a number of additional provisions to the test which lengthen it, in addition to a need to enhance the clarity of the test, this approach is no longer appropriate.

The AER proposes that the test be restructured so that provisions are grouped under the following main headings in this order:

- Regulatory Test
- Costs and Benefits
- Alternative Options
- Projects and Scenarios
- Request for information.

[20] AEMC 2006, *Reform of the Regulatory Test Principles*, Draft Determination, 21 September 2006, Sydney, p. 34

4.2.2 Costs and benefits

Costs

The current regulatory test defines *costs* as

(2) .. the total cost of an option (or an alternative option) to all those who produce, distribute or consume electricity in the National Electricity Market.

In determining the costs, the analysis may include, but need not be limited to, the following:

(a) costs incurred in constructing or providing the option;

(b) operating and maintenance costs over the operating life of the option;

(c) the cost of complying with existing and anticipated laws, regulations and administrative determinations such as those dealing with health and safety, land management and environment pollution and the abatement of pollution (including greenhouse gas abatement). An environmental tax should be treated as part of a project's cost. An environmental subsidy should be treated as part of a project's benefits or as a negative cost.

(d) other costs that are determined to be relevant to the case concerned.

The AER is proposing to amend this definition to improve its clarity and consistency with the remainder of the test. Specifically, the definition of costs should be simplified to mean the direct costs of an option (ie capital costs, operating costs, etc), rather than the total costs of an option to all NEM participants.

The catch-all nature of paragraph 2(d) allows NSPs to include "other costs that are determined to be relevant to the case concerned". This could be construed as including the negative consequential impacts of an option on the market as a whole (also known as 'market costs'). For example, to the extent that a network option led to the bringing forward of capital expenditure on remote generation plant, this could be a 'cost' under the existing definition. Such 'indirect' or 'market' costs ought to be excluded from the definition of costs for the purposes of both limbs of the test because:

- under the reliability limb, the regulatory test analysis is required to demonstrate that the option chosen is the least cost option to meet minimum reliability requirements. 'Cost' in this context should be interpreted as the direct project costs in providing that option. Explicitly limiting the definition of costs to direct project costs and removing the concept of costs being total costs to all producers, transporters and consumers of electricity (ie market costs) makes this intention clear.

- under the market benefits limb, the regulatory test analysis is required to demonstrate that an option is net beneficial (ie maximises the net economic benefit) taking into account both direct and indirect (or market) costs. This means the regulatory test first nets off market costs to derive market benefits and then nets off the (direct) *costs* of an option to arrive at the final *net economic benefit* of that option. Given this netting off, it is important for the sake of avoiding double-counting for the definition of *costs* to exclude market costs.

The AER understands that some NSPs may be interpreting the current definition of *costs* in the test to take account of the effect of an option on the (direct) costs of other transmission and distribution network projects that may be required in the future. In other words, TNSPs have been undertaking the reliability limb in a way to minimise the forward-looking long term capital and operating costs of planning and running their networks, and have not just

been selecting the project that has the lowest direct costs itself. This represents a partial cost-benefit analysis approach, because it takes account of **some** of the wider ramifications of a particular network option (ie its impacts on future network investments) but not **all** the ramifications (namely, the impact on generation plant and demand-side management commissioning and dispatch). Given that most of the transmission investment in the NEM is justified on a reliability basis, such a partial approach may lead to significant distortions in network planning decisions. That said, these distortions would need to be compared to those that could arise if NSPs were forced to also ignore the network planning ramifications of their reliability investments. The AER would be interested in any views on the extent of such potential distortions.

Clause 5.6.5A(b)(2) of the NER retains the requirement for options assessed under the reliability limb to "minimise the present value of the costs of meeting [reliability] requirements".

In the AEMC's final Rule determination on the regulatory test principles, the AEMC explicitly considered and rejected a proposal from the Electricity Transmission Network Owners' Forum (ETNOF) to ensure that the reliability limb be able to (optionally) consider the impact of a project on market benefits, rather than consider only the "the pure lowest cost solution."[21]. ETNOF had proposed an amendment to clause 5.6.5A(b)(2) such that "the net costs of meeting the reliability standard should be minimised (and not simply the present value of the absolute costs as presently drafted)."

In response, the AEMC noted that ETNOF's proposal raised significant conceptual difficulties because it represented a hybrid between a cost-benefit test and the current cost-effectiveness test for reliability options.[22] The AEMC took the view that this would be a substantial modification to the application of the regulatory test beyond the scope of its task. The AEMC acknowledged that the current 2-limb structure of the regulatory test is imperfect but clearly considered that the existing reliability limb only focuses on the direct costs of an option.[23]

The AER's proposed regulatory test version 3 and application guidelines propose a clarification (rather than a deliberate narrowing) to the definition of costs. The AER considers that the proposed revision is consistent with the NER and the AEMC's determination and removes any ambiguity on this issue. The redrafted provision also ensures that the direct costs of a project would not be double-counted in the application of the regulatory test to options under the market benefit limb.

The AER understands that this clarification may be interpreted as preventing NSPs from including future network cost implications in a reliability limb assessment. This is not necessarily the case as the revised definition of costs does not preclude the consideration of costs resulting from a number of different projects that have been reasonably combined to yield an option under the regulatory test. As explained in the proposed application

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21 AEMC 2006, *Reform of the Regulatory Test Principles*, Final Determination, 30 November 2006, Sydney, pp 39-40

22 Ibid pp 40-41

23 Ibid

guidelines, where an option consists of more than one individual project, the costs of the option includes the costs of all of those projects. However, all the projects to be combined to form an option should have anticipated commissioning dates within a reasonable timeframe of the regulatory test assessment, such as within 5-10 years. Further, as highlighted in the discussion of alternative options below, any option that is formed by a combination of projects ought to be compared against comparable alternative options, which may themselves be formed by a combination of projects.

The AER anticipates that the above issue may be resolved in the upcoming work by the AEMC to integrate the two limbs of the test.[24] The AER considers that in the meantime, the regulatory test must remain consistent with the NER which does not contemplate a partial cost-benefit approach for the reliability limb. As such, the AER proposes to remove the catch-all provision from the definition of costs.

The AER considers that if other network costs (those not directly related to the option or alternatives under consideration) were to be included in a reliability limb assessment, the analysis should also include all relevant market costs, such as the impact of an augmentation (or alternative) on generation fuel and capital costs. In such cases it would be more appropriate to assess the proposed or potential investment under the market benefits limb of the test.

In addition, the AER considers that paragraph 2(c) of the current test is unnecessarily detailed and prescriptive. It currently reads:

> the cost of complying with existing and anticipated laws, regulations and administrative determinations such as those dealing with health and safety, land management and environment pollution and the abatement of pollution (including greenhouse gas abatement). An environmental tax should be treated as part of a project's cost. An environmental subsidy should be treated as part of a project's benefits or as a negative cost.

The AER considers there is sufficient flexibility in the test to accommodate all the different regulatory and legal costs in providing an option without having to include so much detail. The AER considers this paragraph should be simplified to state that *costs* include the cost of complying with laws, regulations and applicable administrative requirements in relation to the option.

Benefits

The AER is proposing to amend the regulatory test definition of *market benefit* and the list of benefits that may be included as *market benefit* to make these simpler and more precise. Currently, the test states that:

(5) *Market benefit* means the total benefits of an option (or an alternative option) to all those who produce, distribute and consume electricity in the National Electricity Market. That is, the change in consumers' plus producers' surplus or another measure that can be demonstrated to produce an equivalent ranking of options in a majority of *reasonable scenarios*. For clarity, *market benefit* does not include the transfer of surplus between consumers and producers.

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[24] This work has officially commenced following the MCE's letter of request to the AEMC dated 3 July 2007. Details as to the timing for the review are available on the AEMC website.

In determining the *market benefit*, the analysis may include, but need not be limited to the following benefits:

(a) changes in fuel consumption arising through different generation dispatch;
(b) changes in voluntary load curtailment caused through reduction in demand-side curtailment;
(c) changes in involuntary load shedding caused through savings in reduction in lost load, using a reasonable forecast of the value of electricity to consumers, or deferral of reliability entry plant;
(d) changes in costs caused through:
    (i) deferral of market entry plant. This must be excluded if reliability benefits are determined using deferral of reliability entry plant;
    (ii) differences in capital costs;
    (iii) differences in the operational and maintenance costs; and
    (iv) deferral of transmission investments;
(e) changes in transmission losses;
(f) changes in ancillary services;
(g) competition benefits; and
(h) other benefits that are determined to be relevant to the case concerned.

The proposed approach to *market benefit* requires consequential amendments to ensure that direct project costs are not double counted as both costs and net benefits. The AER proposes to include words in the test to state that *market benefit* does not include the costs defined in the test (direct project costs).

In addition to these amendments, the AER proposes to reduce the level of detail in the list of benefits that may be included in a market benefit analysis. The current regulatory test includes:

(b) changes in voluntary load curtailment caused through reduction in demand-side curtailment;
(c) changes in involuntary load shedding caused through savings in reduction in lost load, using a reasonable forecast of the value of electricity to consumers, or deferral of reliability entry plant;
(d) changes in costs caused through:
    (i) deferral of market entry plant. This must be excluded if reliability benefits are determined using deferral of reliability entry plant;
    …

The AER considers that there is an unnecessary level of detail in these provisions and seeks to simplify them to:

- *changes in voluntary load curtailment;*
- *changes in involuntary load shedding using a reasonable forecast of the value of electricity to consumers*
- *changes in costs caused through:*
- *deferral of new plant;*

The AER considers that it should not matter how voluntary or involuntary load curtailment is caused to decrease, as long as there are demonstrable net decreases in these areas there will be net benefits to the electricity market. As such, the AER considers the 'caused through' parts of those provisions unnecessary and proposes to remove them.

Similarly, the AER considers paragraph 5(d)(i) contains an unnecessary level of detail - the key issue is the deferral of new plant, rather than the kind of plant and the demonstrable decreased cost related to this deferral. The AER therefore proposes to simplify this provision to read 'net decreases in costs caused through the deferral of new plant.'

Competition benefits

The AER notes the definition of competition benefits under the regulatory test only takes into account benefits resulting from the impact of an option on generator bidding. The AER considers that this should be broadened to take into account the competition benefits that may arise from load shedding or demand side response. As such, the AER proposes to replace 'generator bidding' with 'participant bidding'. Further, the AER seeks to simplify the current definition of competition benefits in the regulatory test by transferring the details on the methodology to calculate competition benefits to the application guidelines.

The regulatory test currently only allows for the calculation of competition benefits in relation to large asset options (more than $10 million). There is no reason why an NSP may not analyse the competition benefits of a small asset if it considers it appropriate. As such, the AER proposes to amend the test to remove this limitation.

The AER's proposed revised regulatory test allows for (but does not require) competition benefits to be included in the assessment of a market benefit augmentation and its alternatives. This is the same approach that was used in the current version of the test.

However the AER considers that there is the potential for participants to calculate competition benefits inaccurately under the current test. This is because it requires NSPs to apply short run marginal cost (SRMC) bidding in calculating market benefits whilst setting out a 'realistic bidding' approach for calculating competition benefits. Where realistic bidding is used to consider the effect of an augmentation, the measured change in overall surplus will, *by implication*, include competition benefits. While competition benefits do not need to be named separately in a regulatory test analysis, separating them out whilst confusing these two approaches may risk double-counting.

To address this issue the AER proposes to:

- amend the description of competition benefits
- continue to allow participants to be free to adopt either Dr Biggar's approach, Frontier's approach to calculating competition benefits or another appropriate approach as discussed in the proposed application guidelines
- clarify that where the analysis separately identifies the magnitude or quantum of any competition benefits (either as a proportion or a component of the total market benefit) the analysis must make clear the methodology used to do this and
- include a provision stating that in determining the market benefit there is to be no double-counting of competition benefits where they have already been accounted for in other elements of the market benefit.

Classes of costs and benefits

The current test states:

> In determining costs or market benefits, any cost or benefit which cannot be measured as a cost or benefit to producers, distributors and consumers of electricity in terms of financial transactions in the market should be disregarded.

The AER considers the phrase 'in terms of financial transactions in the market' in this provision is unnecessary and confusing as it could be interpreted as meaning the analysis is limited to transactions in the wholesale electricity market. A market benefit analysis extends beyond the scope of the wholesale market to all producers, consumers and transporters of electricity in the NEM. Therefore the AER proposes to remove this phrase from this provision.

4.2.3 Alternative options

In amending the test to reflect clause 5.6.5A(c)(8) of the NER [25] the AER has included words in the test to allow alternative options to constitute a combination of other options. For example, a combination of a demand-side option and a generation option could together constitute a viable alternative option to a proposed network augmentation. The AER therefore proposes to reflect this idea in the consideration of likely alternatives through the following provision:

> In determining whether an *alternative option* is likely for the purposes of any analysis in accordance with paragraph 1(b) of this test the *Network Service Provider* must:
>
> (c) Consider all *alternative options* without bias regarding:
>
> …
>
> (vii) whether the option or *alternative option* represents a combination of other options.

The AER considers this amendment is appropriate given the objective for a regulatory test analysis to be unbiased and facilitate the consideration of efficient solutions.

4.2.4 Projects and scenarios

The AER proposes to make several amendments to the test provisions dealing with scenarios.

The first is to correct an oversight and italicise 'market development scenarios' in the test to make it clear that it has a defined meaning.

The second is to make clear that a 'reasonable scenario' represents a certain state of the world. As such, all elements of a particular reasonable scenario must be mutually consistent with one another. Therefore, a given reasonable scenario must reflect, for example, a unique demand forecast, set of generation costs and market development scenario.

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[25] which states that the regulatory test must provide that alternative options considered as part of a market benefits assessment may include (without limitation) generation, demand side management, other network options, or the substitution of demand for electricity by the provision of alternative forms of energy.

In this context, the third change is to simplify the provision dealing with market development scenarios to remove unnecessary repetition. The test currently states:

> The analysis must include modelling a range of reasonable market development scenarios, incorporating varying levels of demand growth at relevant load centres (reflecting demand side options), alternative project commissioning dates and various potential generator investments and realistic operating regimes. These scenarios may include alternative construction timetables as nominated by the proponent providing that relevant reliability standards would be met.
>
> Market development scenarios must include:
> (a) Committed projects;
> (b) Anticipated projects;
> (c) Modelled projects; and
> (d) any other technically feasible projects identified during the consultation process.

The AER considers that issues such as varying levels of demand growth at relevant load centres (reflecting demand side options), alternative project commissioning dates and various potential generator investments and realistic operating regimes are already accommodated in the provision dealing with sensitivity testing. As the AER's proposed revised test requires sensitivity analysis around reasonable scenarios (which includes market development scenarios) the inclusion of these issues is unnecessary and repetitive.

The AER therefore proposes to amend the test so that that this provision is incorporated into the reasonable scenarios paragraph so that it simply states:

> Reasonable scenarios means scenarios incorporating reasonable and mutually consistent:
>
> …
>
> market development scenarios which must include , for each relevant option or alternative option:
> (i) all committed projects;
> (ii) anticipated projects, to the extent they are likely to be commissioned within the modelling period;
> (iii) modelled projects; and
> (iv) any other technically feasible projects identified during the consultation process.

Included within this change is a change to the treatment of anticipated projects to make it clear that they ought to be included in a market development scenario to the extent they are likely to proceed. This clarifies that anticipated projects ought to be treated differently from committed projects which are more certain to proceed.

The AER also proposes to remove 'competitively' from paragraph 4(a)(ii) of the current test. This is to address the potential that this word may imply SRMC bidding be used in calculating competition benefits which is inconsistent with the above amendment to leave it to participants to choose between this approach, a realistic bidding approach or another appropriate approach.

The AER also proposes amendments related to 'modelled projects'. The current test states that **either** least-cost market development modelling or market-driven market development modelling may be used for modelled projects. The AER understands from its expert advice that least-cost modelling is less onerous and undertaken in the vast majority of regulatory test assessments. It seems that when market-driven modelling is utilised it is often undertaken in addition to least-cost modelling. As such the AER considers it would be sensible to mandate the use of least cost modelling and leave it up to participants to

undertake market-driven development modelling in addition to the minimum requirement. The AER therefore proposes to make an amendment to the regulatory test to reflect this.

Further the AER considers the language of the current 'modelled projects' provision to be unnecessarily lengthy and technical. The AER therefore proposes to simplify it to improve its clarity and accessibility.

At the same time, the AER has made changes to clarify that modelled projects may differ in the presence or absence of a particular option or alternative option going ahead. Indeed, this may represent one of the key sources of the market benefits of an option. Therefore, the changes clarify that separate market development modelling ought to be undertaken with and without each option or alternative option in place.

Sensitivity testing

The current regulatory test requires an option to minimise *costs* or maximise *market benefit* in a majority of *reasonable scenarios*. *Reasonable scenarios*, in turn, must incorporate sensitivity testing (see paragraph 4). This indicates that sensitivity testing ought to be undertaken through the development of *reasonable scenarios*. For example, one *reasonable scenario* could reflect high demand growth while another could reflect low demand growth. However, the current paragraph 15 states that the **calculation** of *costs* and *market benefits* must encompass sensitivity testing on key input variables. The AER considers that the meaning of this provision may be confusing to parties seeking to apply the regulatory test.

For the sake of consistency, the AER proposes a number of revisions to the sensitivity provision to:

- state that reasonable scenarios under the test must encompass sensitivity testing on key input variables and
- remove 'market benefits'(using all reasonable methodologies) as a key input.

Further, the AER proposes to:

- include estimates of the price elasticity of demand as a sensitivity as they are important to determining the impact of demand-side response options
- amend the provision dealing with ancillary services costs to make sure that they reflect the ancillary services requirements pertaining to a particular option or alternative option and
- include different anticipated projects as a sensitivity in light of changes to the treatment of anticipated projects in the definition of market development scenarios (see above).

4.2.5 Transitional provisions

Chapter 11 of the NER currently provides broad provisions for the transition between the current regulatory test to version 3 of the test. Clause 11.7.2(b) of the NER states:

> Old clause 5.6.5A, and the *regulatory test* promulgated under that clause 5.6.5A, continues to apply to and in respect of, any current application and any transitional application.

Clause 11.7.1 of the NER defines **current application** as 'any action taken or process commenced under the *Rules*, which relies on or is referenced to, the *regulatory test*, and is not completed as at the commencement date' (ie: 30 November 2006). It also states that **transitional application** means 'any action taken or process commenced under the *Rules*, which relies on or is referenced to, the *regulatory test* and is not completed on 31 December 2007, or the date on which amendments (if any) to the *regulatory test* commence, whichever is the earlier.'

The effect of these provisions is that version 2 of the regulatory test will continue to apply to any regulatory test analysis or related process commenced prior to the promulgation of version 3 of the test.

For clarity, the AER proposes to include more detailed transitional provisions in the test which relate to the specific processes which might already have commenced before the promulgation of version 3 of the test. These transitional paragraphs are consistent with, and supplement, those in the NER.

4.3 AER proposed revisions

Costs and benefits

Costs

(2) *Costs* means the present value of the direct costs of an option (or an *alternative option*) including:

(a) costs incurred in constructing or providing the option;

(b) operating and maintenance costs over the operating life of the option; and

(c) the cost of complying with laws, regulations and applicable administrative requirements in relation to the option.

Benefits

(3) *Market benefit* means the present value of the total benefit of an option (or an *alternative option*) to all those who produce, distribute and consume electricity in the National Electricity Market (NEM). That is, the change in consumers' plus producers' surplus or another measure that can be demonstrated to produce an equivalent ranking of options in a majority of *reasonable scenarios*. For clarity, *market benefit* does not include the transfer of surplus between consumers and producers, nor does it include the *costs* defined in paragraph 2.

(4) In determining the *market benefit*, the analysis may include the present value of the following benefits:

(a) changes in fuel consumption arising through different generation dispatch;

(b) changes in voluntary load curtailment;

(c) changes in involuntary load shedding using a reasonable forecast of the value of electricity to consumers;

(d) changes in costs caused through:

(i) deferral of new plant;

(ii) differences in capital costs;

(iii) differences in the operational and maintenance costs; and

(iv) deferral of transmission investments;

(e) changes in transmission losses;

(f) changes in ancillary services costs;

(g) *competition benefits* being net changes in *market benefit* arising from the impact of the option on participant bidding behaviour; and

(h) other benefits that are determined to be relevant to the case concerned.

(5) Where the analysis separately identifies the magnitude or quantum of any *competition benefits* (either as a proportion or a component of the total *market benefit*) the analysis must make clear the methodology used to estimate it.

(6) The *market benefit* of an option will only include *competition benefits* where the *Network Service Provider* responsible for undertaking the analysis of the option determines that it is appropriate, in all the circumstances, to take *competition benefits* into account.

(7) In determining the *market benefit*, the analysis must not double-count *competition benefits* where they have already been accounted for in other elements of the *market benefit.*

Disclosing costs and benefits

(8) Any relevant information which may have a material impact on the determination of *costs* or *market benefits* which comes to light at any time before an assessment is finalised must be considered and made available to interested parties.

(9) Detailed calculations of how *costs* and *market benefits* are determined must be included in the *regulatory test* analysis and made available to interested parties.

Classes of possible costs and benefits

(10) Any cost or benefit which cannot be measured as a cost or benefit to producers, distributors and consumers of electricity may not be included in any analysis proposed in accordance with this test. The allocation of costs and benefits between the electricity and other markets must be based on principles consistent with the cost allocation principles in clause 6A.19.2 of the NER in the case of

transmission, or consistent with the relevant Distribution Ring-Fencing Guidelines in the case of distribution.

(11) In determining the *costs* or *market benefits*, it should be considered whether the proposed option will enable:

(a) a *Transmission Network Service Provider* to provide both prescribed and other services; or

(b) a *Distribution Network Service Provider* to provide both prescribed distribution services and other services.

If it does, the *costs* and *market benefits* associated with the other services should be disregarded. The allocation of costs between prescribed and other services must be consistent with the cost allocation principles in clause 6A.19.2 of the NER. The allocation of costs between prescribed distribution services and other services must be consistent with the relevant Distribution Ring-Fencing Guidelines.

Method permitted for estimating the magnitude of the different classes of costs and benefits

(12) In estimating the magnitude of costs and benefits, a pool dispatch modelling methodology, or any other applicable methodology, should be used. If pool dispatch modelling methodology is used, it must incorporate:

(a) a realistic treatment of plant characteristics, including for example minimum generation levels and variable operation costs; and

(b) a realistic treatment of the network constraints and losses.

Appropriate method for determining the discount rate to be applied

(13) The present value calculations must use a commercial discount rate appropriate for the analysis of a private enterprise investment in the electricity sector. The discount rate used should be consistent with the cash flows being discounted.

Alternative options

(14) An *alternative option* may be, without limitation, a generation option, demand side management/response option, *network* option, the substitution of electricity by the provision of alternative forms of energy, or a combination of these.

(15) For an option proposed in accordance with paragraph 1(a) of this test *alternative option* means:

(a) a genuine alternative to the option being assessed, in that it:

(i) has a clearly identifiable proponent/s; and

(ii) meets the reliability requirements referred to in paragraph 1(a); and

(b) a practicable alternative to the option being assessed in that it is technically feasible.

(16) For an option proposed in accordance with paragraph 1(b) of this test *alternative option* means:

(a) a genuine alternative to the option being assessed, in that it:

(i) delivers similar outcomes to those delivered by the option being assessed; and

(ii) would become operational in a similar timeframe to the option being assessed; and

(b) a practicable alternative to the option being assessed in that it is technically feasible.

(17) In determining whether an *alternative option* is likely for the purposes of any analysis in accordance with paragraph 1(b) of this test the *Network Service Provider* must:

(a) consider all *alternative options* without bias regarding:

(i) energy source;

(ii) technology;

(iii) ownership;

(iv) the extent to which the proposed network asset or non-network alternative enables intra-regional or intra-regional trading of electricity;

(v) whether it is a network or non-network alternative;

(vi) whether the option is intended to be regulated; and

(vii) whether the option or *alternative option* represents a combination of other options.

(b) Where the proposed asset is a *new large transmission network asset,*

(i) consider any *alternative options* proposed in the request for information process required by this test and

(ii) include in any *regulatory test* analysis completed in relation to the proposed *new large transmission network asset*:

(I) a summary of any *alternative options* proposed in the relevant request for information process and

(II) detailed reasons as to why an *alternative option* was found to be likely or unlikely.

(18) For the purposes of any analysis in accordance with paragraph 1(b) of this test the existence of a genuine proponent for the *alternative option* may be taken into account when determining likelihood. However, the absence of such a proponent will not in itself exclude a project from being a likely *alternative option* for the purposes of the *regulatory test*.

(19) Where there is more than one likely *alternative option* to the new *network* investment, and no single *alternative option* is significantly more likely to occur than the other, then the *market benefits* analysis required in accordance with paragraph (1)(b) of this test must be undertaken in relation to each such likely *alternative option*.

Projects and scenarios

(20) *Reasonable scenarios* means scenarios incorporating reasonable and mutually consistent:

(a) forecasts of:

(i) electricity demand (modified where appropriate to take into account demand-side options, economic growth, weather patterns and price elasticity);

(ii) the efficient operating costs of supplying energy to meet forecast demand from existing, committed, anticipated and modelled projects including demand side and generation projects;

(iii) the avoidable costs of committed, anticipated and modelled projects including demand side and generation projects and whether all avoidable costs are completely or partially avoided or deferred;

(iv) the cost of providing sufficient ancillary services to meet the forecast demand to support the relevant option or alternative option; and

(v) the capital and operating costs of other regulated network and market network service projects that are augmentations consistent with the forecast demand and generation scenarios;

(b) *market development scenarios*, which must include, for each relevant option or alternative option :

(i) all *committed projects*;

(ii) *anticipated projects*, to the extent they are likely to be commissioned within the modelling period;

(iii) *modelled projects*; and

(iv) any other technically feasible projects identified during the consultation process; and

(c) sensitivity testing.

….

(23) *Modelled project* means a hypothetical project derived from market development modelling in the presence or absence (as applicable) of the relevant option or *alternative option*. Market development modelling must be undertaken on a 'least-cost' basis and, where appropriate, may be undertaken on a 'market-driven' basis, where:

(a) least-cost market development modelling derives *modelled projects* on the basis of a least-cost planning approach akin to conventional central planning. The *modelled projects* derived from such an approach would be those where the net present value of benefits, such as fuel substitution and reliability increases, exceed the costs.

(b) market-driven market development modelling derives *modelled projects* on the same basis as that of a private developer. The *modelled projects* derived from such an approach would be those where the net present value of generation revenues (from the spot market or contracts) exceeds the net present value of generation costs. The forecasts of price trends should reflect realistic bidding behaviour, with power flows to be those most likely to occur under actual systems and market outcomes.

Sensitivity testing

(24) *Reasonable scenarios* under this test must encompass sensitivity testing on key input variables. Sensitivity testing may be carried out on the following, and should be appropriate to the size and type of project:

(a) testing reasonable forecasts of the value of electricity to consumers.

(b) price elasticity of demand.

(c) capital and operating costs of *alternative options*.

(d) discount rate (the lower boundary should be the regulated cost of capital).

(e) market demand.

(f) generation bidding behaviour using:

(i) short run marginal cost; and

(ii) approximates of realistic bidding if measuring competition benefits.

(g) commissioning dates of:

(i) the option being assessed;

(ii) *alternative options*;

(iii) *committed projects*; and

(iv) *anticipated projects*

(h) inclusion or exclusion of particular *anticipated projects* based on their degree of likelihood of being commissioned within the modelling period;

(i) *modelled projects* based on a market-driven market development modelling approach

(j) market based regulatory instruments that may be used to address greenhouse and environmental issues and

(k) other sensitivity testing determined to be relevant and material to the case concerned.

…

Transitional provisions

(32) This version of the *regulatory test* (version 3) comes into operation from the date of its promulgation, subject to the following transitional provisions which are to be read in conjunction with chapter 11 of the NER.

For clarity, Version 2 of the *regulatory test* continues to apply in relation to:

(a) possible options for which a *distribution network service provider* has commenced consultation under clause 5.6.2(f) or an economic cost effectiveness analysis under clause 5.6.2(g) prior to the promulgation of version 3 of the *regulatory test*;

(b) a *new small network asset* for which a *transmission network service provider* has set out the matters required under clause 5.6.2A(b)(4) and (5) in an Annual Planning Report published prior to the promulgation of version 3 of the *regulatory test*;

(c) a *new small network asset* not identified in an Annual Planning Report for which a *transmission network service provider* has published a report required under clause 5.6.6A(c) of the NER prior to the promulgation of version 3 of the *regulatory test*;

(d) a *new large network asset* for which a *transmission network service provider* has published an application notice under clause 5.6.6(b) prior to the promulgation of version 3 of the *regulatory test*.

5 Application Guidelines

5.1 Introduction

This section outlines the AER's proposal to publish a set of application guidelines to provide guidance on the application of the test and satisfy the NER.

Clause 5.6.5A of the NER states that:

> (d) At the same time as the AER publishes a proposed regulatory test under the transmission consultation procedure, the AER must also publish guidelines for the operation and application of the regulatory test ('the regulatory test application guidelines') in accordance with the requirements of this clause 5.6.5A.
>
> (e) The regulatory test application guidelines must give effect to and be consistent with this clause 5.6.5A and provide guidance on the operation and application of the regulatory test.

Applications guidelines are to be published by 31 December 2007.

5.2 AER considerations

The AER has prepared, with the assistance of Frontier Economics, proposed application guidelines to aid in the consistent application of the regulatory test and clarify technical concepts and provisions.

It should be noted that these guidelines are to **be read in conjunction with** the regulatory test and are not a substitute for the test. Nor are they meant to be a step by step manual on how to conduct a regulatory test analysis. The AER's intention is that the guidelines elaborate on, and clarify ideas and concepts in the test whilst avoiding repeating the test itself.

5.3 AER proposed guidelines

The AER's proposed application guidelines are attached.

6 Conclusion

The AER proposes to promulgate this *regulatory test version 3* at Appendix A in accordance with clause 5.6.5A of the NER.

For comparative purposes, a table comparing the current version of the regulatory test with this proposed version is at Appendix B.

The AER seeks submissions on the proposed regulatory test and the proposed application guidelines. Submissions are due by 6 September 2007. In accordance with the transmission consultation procedures, the AER is not required to consider any submissions received after this date.

Submissions can be sent electronically to AERInquiry@aer.gov.au.

Alternatively hard copy submissions may be sent to:

Regulatory Test version 3

Australian Energy Regulator

GPO Box 520

Melbourne Vic 3001

The AER prefers that all submissions be in an electronic format and made publicly available, to facilitate an informed, transparent and robust consultation process. Accordingly, submissions will be treated as public documents and posted on the AER's website, www.aer.gov.au except and unless prior arrangements are made with the AER to treat the submission, or portions of it, as confidential.

Enquiries in relation to this decision may be directed to Anh Mai, Assistant Director-Markets, on 03 9290 1433.

Appendix A: Proposed Regulatory Test, version 3

Introduction

The Australian Energy Regulator (AER) publishes this *regulatory test* in accordance with clause 5.6.5A of the National Electricity Rules (the NER). An accompanying set of regulatory test application guidelines are published in accordance with clause 5.6.5A(d).

Clause 5.6.5A(b) of the NER states that the purpose of the regulatory test is to identify *new network investments* or non-*network* alternative options that:

(a) maximise the net economic benefit to all those who produce, consume and transport electricity in the market; or

(b) in the event the option is necessitated to meet the service standards linked to the technical requirements of schedule 5.1 of the NER or in *applicable regulatory instruments*, minimise the present value of the costs of meeting those requirements.

As required by the NER this test is to be applied in relation to new network investments estimated to require a total capitalised expenditure in excess of $1 million. The regulatory test only applies to network augmentations and does not apply to the replacement of assets.

Transmission network service providers (TNSPs) are required to apply the test in accordance with clause 5.6.6 of the Rules. Distribution network service providers (DNSPs) must carry out an economic cost effectiveness analysis of possible options to identify options that satisfy the regulatory test under clause 5.6.2(g) of the NER. Under those clauses, TNSPs and DNSPs are also required to publicly consult on applications to establish new large network investments, that is, investments estimated to require total capitalised expenditure in excess of $10 million.

Proposed new network investments or non-network alternative options may satisfy the test via one of its two limbs- the ‘reliability’ limb or the ‘market benefits’ limb.

Reliability limb

The reliability limb relates to clause 5.6.5A(b)(2) of the NER set out above. It is to be applied to any proposed new network investment or non-network alternative option in the event that the option is necessitated to meet the service standards linked to the technical requirements of schedule 5.1 or in *applicable regulatory instruments*.

While the reliability limb of the test applies to both transmission and distribution network augmentations, in the case of transmission, this limb directly relates to the following definition of *reliability augmentation* in chapter 10 of the NER. This states that a *reliability augmentation* is:

> A *transmission* network *augmentation* that is necessitated principally by inability to meet the minimum network performance requirements set out in schedule 5.1 or in relevant legislation, regulations or any statutory instrument of a *participating jurisdiction*.

Market benefits limb

The market benefits limb is to be used for any new network investment that is not assessed under the reliability limb. This limb relates to clause 5.6.5A(b)(1) of the NER set out above and is based on a cost-benefit analysis (as required by clause 5.6.5A(c)(1)).

The level of analysis undertaken in relation to the market benefits limb must be proportionate to the scale and size of the proposed new network investment.

In accordance with clause 5.6.5A(c)(4) of the NER, this regulatory test contains request for information requirements for any proposed new large transmission network asset assessed under the market benefits limb.

The regulatory test

(1) An option satisfies the *regulatory test* if:

(a) in the event the option is necessitated principally by to meet the service standards linked to the technical requirements of schedule 5.1 of the NER or in applicable regulatory instruments - the option minimises the *costs* of meeting those requirements, compared with *alternative option/s* in a majority of *reasonable scenarios*;

(b) in all other cases - the option maximises the expected *net economic benefit* to all those who produce, consume and transport electricity in the national electricity market compared to the likely *alternative option/s* in a majority of *reasonable scenarios*. *Net economic benefit* equals the *market benefit* less *costs*.

Costs and benefits

Costs

(2) *Costs* means the present value of the direct costs of an option (or an *alternative option*) including:

(a) costs incurred in constructing or providing the option;

(b) operating and maintenance costs over the operating life of the option; and

(c) the cost of complying with laws, regulations and applicable administrative requirements in relation to the option.

Benefits

(3) *Market benefit* means the present value of the total benefit of an option (or an *alternative option*) to all those who produce, distribute and consume electricity in the National Electricity Market (NEM). That is, the change in consumers' plus producers' surplus or another measure that can be demonstrated to produce an equivalent ranking of options in a majority of *reasonable scenarios*. For clarity, *market benefit* does not include the transfer of surplus between consumers and producers, nor does it include the *costs* defined in paragraph 2.

(4) In determining the *market benefit*, the analysis may include the present value of the following benefits:

(a) changes in fuel consumption arising through different generation dispatch;

(b) changes in voluntary load curtailment;

(c) changes in involuntary load shedding using a reasonable forecast of the value of electricity to consumers;

(d) changes in costs caused through:

(i) deferral of new plant;

(ii) differences in capital costs;

(iii) differences in the operational and maintenance costs; and

(iv) deferral of transmission investments;

(e) changes in transmission losses;

(f) changes in ancillary services costs;

(g) *competition benefits* being net changes in *market benefit* arising from the impact of the option on participant bidding behaviour; and

(h) other benefits that are determined to be relevant to the case concerned.

(5) Where the analysis separately identifies the magnitude or quantum of any *competition benefits* (either as a proportion or a component of the total *market benefit*) the analysis must make clear the methodology used to estimate it.

(6) The *market benefit* of an option will only include *competition benefits* where the *Network Service Provider* responsible for undertaking the analysis of the option determines that it is appropriate, in all the circumstances, to take *competition benefits* into account.

(7) In determining the *market benefit*, the analysis must not double-count *competition benefits* where they have already been accounted for in other elements of the *market benefit.*

Disclosing costs and benefits

(8) Any relevant information which may have a material impact on the determination of *costs* or *market benefits* which comes to light at any time before an assessment is finalised must be considered and made available to interested parties.

(9) Detailed calculations of how *costs* and *market benefits* are determined must be included in the *regulatory test* analysis and made available to interested parties.

Classes of possible costs and benefits

(10) Any cost or benefit which cannot be measured as a cost or benefit to producers, distributors and consumers of electricity may not be included in any analysis proposed in accordance with this test. The allocation of costs and benefits between the electricity and other markets must be based on principles consistent with the cost allocation principles in clause 6A.19.2 of the NER in the case of transmission, or consistent with the relevant Distribution Ring-Fencing Guidelines in the case of distribution.

(11) In determining the *costs* or *market benefits*, it should be considered whether the proposed option will enable:

(a) a Transmission Network Service Provider to provide both prescribed and other services; or

(b) a *Distribution Network Service Provider* to provide both prescribed distribution services and other services.

If it does, the *costs* and *market benefits* associated with the other services should be disregarded. The allocation of costs between prescribed and other services must be consistent with the cost allocation principles in clause 6A.19.2 of the NER. The allocation of costs between prescribed distribution services and other services must be consistent with the relevant Distribution Ring-Fencing Guidelines.

Method permitted for estimating the magnitude of the different classes of costs and benefits

(12) In estimating the magnitude of costs and benefits, a pool dispatch modelling methodology, or any other applicable methodology, should be used. If pool dispatch modelling methodology is used, it must incorporate:

(a) a realistic treatment of plant characteristics, including for example minimum generation levels and variable operation costs; and

(b) a realistic treatment of the network constraints and losses.

Appropriate method for determining the discount rate to be applied

(13) The present value calculations must use a commercial discount rate appropriate for the analysis of a private enterprise investment in the electricity sector. The discount rate used should be consistent with the cash flows being discounted.

Alternative options

(14) An *alternative option* may be, without limitation, a generation option, demand side management/response option, *network* option, the substitution of electricity by the provision of alternative forms of energy, or a combination of these.

(15) For an option proposed in accordance with paragraph 1(a) of this test *alternative option* means:

(a) a genuine alternative to the option being assessed, in that it:

(i) has a clearly identifiable proponent/s; and

(ii) meets the reliability requirements referred to in paragraph 1(a); and

(b) a practicable alternative to the option being assessed in that it is technically feasible.

(16) For an option proposed in accordance with paragraph 1(b) of this test *alternative option* means:

(a) a genuine alternative to the option being assessed, in that it:

(i) delivers similar outcomes to those delivered by the option being assessed; and

(ii) would become operational in a similar timeframe to the option being assessed; and

(b) a practicable alternative to the option being assessed in that it is technically feasible.

(17) In determining whether an *alternative option* is likely for the purposes of any analysis in accordance with paragraph 1(b) of this test the *Network Service Provider* must:

(a) consider all *alternative options* without bias regarding:

(i) energy source;

(ii) technology;

(iii) ownership;

(iv) the extent to which the proposed network asset or non-network alternative enables intra-regional or intra-regional trading of electricity;

(v) whether it is a network or non-network alternative;

(vi) whether the option is intended to be regulated; and

(vii) whether the option or *alternative option* represents a combination of other options.

(b) where the proposed asset is a *new large transmission network asset,*

(i) consider any *alternative options* proposed in the request for information process required by this test and

(ii) include in any *regulatory test* analysis completed in relation to the proposed *new large transmission network asset*:

(I) a summary of any *alternative options* proposed in the relevant request for information process and

(II) detailed reasons as to why an *alternative option* was found to be likely or unlikely.

(18) For the purposes of any analysis in accordance with paragraph 1(b) of this test the existence of a genuine proponent for the *alternative option* may be taken into account when determining likelihood. However, the absence of such a proponent will not in itself exclude a project from being a likely *alternative option* for the purposes of the *regulatory test*.

(19) Where there is more than one likely *alternative option* to the new *network* investment, and no single *alternative option* is significantly more likely to occur than the other, then the *market benefits* analysis required in accordance with paragraph (1)(b) of this test must be undertaken in relation to each such likely *alternative option.*

Projects and scenarios

(20) *Reasonable scenarios* means scenarios incorporating reasonable and mutually consistent:

(a) forecasts of:

(i) electricity demand (modified where appropriate to take into account demand-side options, economic growth, weather patterns and price elasticity);

(ii) the efficient operating costs of supplying energy to meet forecast demand from existing, *committed*, *anticipated* and *modelled proje*cts including demand side and generation projects;

(iii) the avoidable costs of *committed*, *anticipated* and *modelled projects* including demand side and generation projects and whether all avoidable costs are completely or partially avoided or deferred;

(iv) the cost of providing sufficient ancillary services to meet the forecast demand to support the relevant option or *alternative option*; and

(v) the capital and operating costs of other regulated network and market network service projects that are augmentations consistent with the forecast demand and generation scenarios;

(b) *market development scenarios*, which must include, for each relevant option or *alternative option* :

(i) all *committed projects*;

(ii) *anticipated projects*, to the extent they are likely to be commissioned within the modelling period;

(iii) *modelled projects*; and

(iv) any other technically feasible projects identified during the consultation process; and

(c) sensitivity testing.

(21) *Committed project* means a project which satisfies all the following criteria:

(a) the proponent has obtained all required planning consents, construction approvals and licenses, including completion and acceptance of any necessary environmental impact statement;

(b) construction of the proposal must either have commenced or a firm commencement date must be set;

(c) the proponent has purchased/settled/acquired land (or commenced legal proceedings to acquire land) for construction of the proposed development;

(d) contracts for supply and construction of the major components of the plant and equipment (such as generators, turbines, boilers, transmission towers,

conductors, terminal station equipment) should be finalised and executed, including any provisions for cancellation payments; and

(e) the financing arrangements for the proposal, including any debt plans, must have been finalised and contracts executed.

(22) *Anticipated project* means a project which:

(a) does not meet each of the criteria in paragraph 21; and

(b) is in the process of meeting one or more of the criterion in paragraph 21.

(23) *Modelled project* means a hypothetical project derived from market development modelling in the presence or absence (as applicable) of the relevant option or *alternative option*. Market development modelling must be undertaken on a 'least-cost' basis and, where appropriate, may be undertaken on a 'market-driven' basis, where:

(a) least-cost market development modelling derives *modelled projects* on the basis of a least-cost planning approach akin to conventional central planning. The *modelled projects* derived from such an approach would be those where the net present value of benefits, such as fuel substitution and reliability increases, exceed the costs.

(b) market-driven market development modelling derives *modelled projects* on the same basis as that of a private developer. The *modelled projects* derived from such an approach would be those where the net present value of generation revenues (from the spot market or contracts) exceeds the net present value of generation costs. The forecasts of price trends should reflect realistic bidding behaviour, with power flows to be those most likely to occur under actual systems and market outcomes.

Sensitivity testing

(24) *Reasonable scenarios* under this test must encompass sensitivity testing on key input variables. Sensitivity testing may be carried out on the following, and should be appropriate to the size and type of project:

(a) testing reasonable forecasts of the value of electricity to consumers.

(b) price elasticity of demand.

(c) capital and operating costs of *alternative options*.

(d) discount rate (the lower boundary should be the regulated cost of capital).

(e) market demand.

(f) generation bidding behaviour using:

(i) short run marginal cost; and

(ii) approximates of realistic bidding if measuring competition benefits.

(g) commissioning dates of:

(i) the option being assessed;

(ii) *alternative options*;

(iii) *committed projects*; and

(iv) *anticipated projects*

(h) inclusion or exclusion of particular *anticipated projects* based on their degree of likelihood of being commissioned within the modelling period;

(i) *modelled projects* based on a market-driven market development modelling approach

(j) market based regulatory instruments that may be used to address greenhouse and environmental issues and

(k) other sensitivity testing determined to be relevant and material to the case concerned.

Request for information

(25) For the purposes of any analysis undertaken in relation to paragraph (1)(b) of this test, a *transmission network service provider* must publish a request for information notice for a potential or proposed *new large transmission network asset*.

(26) The request for information notice must request information as to the identity and detail of alternative options to the potential or proposed *new large transmission network asset*.

(27) The *transmission network service provider* must include the following information in the request for information notice:

(a) the details of any potential or proposed *new large transmission network asset* including:

(i) all of the relevant technical details, including asset type and project configuration;

(ii) the proposed construction timetable;

(iii) the commissioning date; and

(iv) all known expected direct costs and the likely sources of *costs* and *market benefits* associated with the proposed asset;

(b) the reasons for the potential *new large transmission network asset,* including how the potential asset satisfies these reasons and, where applicable, any network limitations, reliability requirements or specific planning criteria;

(c) known existing and planned infrastructure in the geographic region, including relevant transmission, distribution and generation assets;

(d) load forecasts in the geographic region for the next ten years including peak demand and load profiles;

(e) any specific project requirements that an *alternative option* must fulfil including any technical or other limitations such as:

(i) speed of demand side or generation response;

(ii) size, type and location of load(s) to be reduced, shifted, substituted or interrupted; and

(iii) size, type and location of generation to be installed or utilised; and

(f) a description of the process for assessing *alternative options* including evaluation criteria.

(28) At least 4 months before an application notice in relation to the proposed *new large transmission network asset* is published, the *transmission network service provider* must:

(a) publish the request for information notice on its website and

(b) provide the request for information notice to NEMMCO for publication on the NEMMCO website.

(29) The request for information notice must specify a due date for submissions which must be at least 8-12 weeks after the date the request for information notice is published on NEMMCO's website. The time allowed for submissions must be proportionate to the size and complexity of the proposed or potential *new large transmission network asset.*

(30) Interested parties may apply to the *transmission network service provider* to have the submission due date extended. This application must be made at the latest 4 weeks after the request for information notice is published on NEMMCO's website.

(31) Any person may make a written submission to the *transmission network service provider* in response to the request for information notice.

Transitional provisions

(32) This version of the *regulatory test* (version 3) comes into operation from the date of its promulgation, subject to the following transitional provisions which are to be read in conjunction with chapter 11 of the NER.

For clarity, version 2 of the *regulatory test* continues to apply in relation to:

(a) possible options for which a *distribution network service provider* has commenced consultation under clause 5.6.2(f) or an economic cost effectiveness analysis under clause 5.6.2(g) prior to the promulgation of version 3 of the *regulatory test*;

(b) a *new small network asset* for which a *transmission network service provider* has set out the matters required under clause 5.6.2A(b)(4) and (5) in an Annual Planning Report published prior to the promulgation of version 3 of the *regulatory test*;

(c) a *new small network asset* not identified in an Annual Planning Report for which a *transmission network service provider* has published a report required under clause 5.6.6A(c) of the NER prior to the promulgation of version 3 of the *regulatory test*;

(d) a *new large network asset* for which a *transmission network service provider* has published an application notice under clause 5.6.6(b) prior to the promulgation of version 3 of the *regulatory test*.

Appendix B: Comparison of version 2 and proposed version 3

Proposed Version 3	**Version 2**
Introduction The Australian Energy Regulator (AER) publishes this *regulatory test* in accordance with clause 5.6.5A of the National Electricity Rules (the NER). An accompanying set of regulatory test application guidelines are published in accordance with clause 5.6.5A(d). Clause 5.6.5A(b) of the NER states that the purpose of the regulatory test is to identify *new network investments* or non-*network* alternative options that: (a) maximise the net economic benefit to all those who produce, consume and transport electricity in the market; or (b) in the event the option is necessitated to meet the service standards linked to the technical requirements of schedule 5.1 of the NER or in *applicable regulatory instruments*, minimise the present value of the costs of meeting those requirements. As required by the NER this test is to be applied in relation to new network investments estimated to require a total capitalised expenditure in excess of $1 million. The regulatory test only applies to network augmentations and does not apply to the replacement of assets. Transmission network service providers (TNSPs) are required to apply the test in accordance with clause 5.6.6 of the Rules. Distribution network service providers (DNSPs) must carry out an economic cost effectiveness analysis of possible options to identify options that satisfy the regulatory test under clause 5.6.2(g) of the NER. Under those clauses, TNSPs and DNSPs are also required to publicly consult on applications to establish new large network investments, that is, investments estimated to require total capitalised expenditure in excess of $10 million. Proposed new network investments or non-network alternative options may satisfy the test via one of its two limbs- the 'reliability' limb or the 'market benefits' limb. *Reliability limb* The reliability limb relates to clause 5.6.5A(b)(2) of the NER set out above. It is to be applied to any proposed new network investment or non-network alternative option in the event that the option is necessitated to meet the service standards linked to the technical requirements of	**Preamble** The Australian Competition and Consumer Commission promulgates this *regulatory test* in accordance with clause 5.6.5A of the National Electricity Code (the Code). In this test "option" includes, but is not limited to, an *augmentation, new large network asset* and *new small network asset.*

schedule 5.1 or in *applicable regulatory instruments*. While the reliability limb of the test applies to both transmission and distribution network augmentations, in the case of transmission, this limb directly relates to the following definition of *reliability augmentation* in chapter 10 of the NER. This states that a *reliability augmentation* is: A *transmission* network *augmentation* that is necessitated principally by inability to meet the minimum network performance requirements set out in schedule 5.1 or in relevant legislation, regulations or any statutory instrument of a *participating jurisdiction*. *Market benefits limb* The market benefits limb is to be used for any new network investment that is not assessed under the reliability limb. This limb relates to clause 5.6.5A(b)(1) of the NER set out above and is based on a cost-benefit analysis (as required by clause 5.6.5A(c)(1)). The level of analysis undertaken in relation to the market benefits limb must be proportionate to the scale and size of the proposed new network investment. In accordance with clause 5.6.5A(c)(4) of the NER, this regulatory test contains request for information requirements for any proposed new large transmission network asset assessed under the market benefits limb.	
The regulatory test (1) An option satisfies the *regulatory test* if: (a) in the event the option is necessitated principally by to meet the service standards linked to the technical requirements of schedule 5.1 of the NER or in applicable regulatory instruments - the option minimises the *costs* of meeting those requirements, compared with *alternative option/s* in a majority of *reasonable scenarios*; (b) in all other cases - the option maximises the expected *net economic benefit* to all those who produce, consume and transport electricity in the national electricity market compared to the likely *alternative option/s* in a majority of *reasonable scenarios*. *Net economic benefit* equals the *market benefit* less *costs.*	***regulatory test*** (1) An option satisfies the *regulatory test* if: (a) in the event the option is necessitated solely by the inability to meet the minimum network performance requirements set out in schedule 5.1 of the Code or in relevant legislation, regulations or any statutory instrument of a participating jurisdiction - the option minimises the present value of *costs*, compared with a number of *alternative options* in a majority of *reasonable scenarios*; (b) in all other cases - the option maximises the expected net present value of the *market benefit* (or in other words the present value of the *market benefit* less the present value of *costs*) compared with a number of *alternative options* and timings, in a majority of *reasonable scenarios*.

Costs and Benefits	**For the purposes of this test:**
Costs	
(2) *Costs* means the present value of the direct costs of an option (or an *alternative option*) including: (a) costs incurred in constructing or providing the option; (b) operating and maintenance costs over the operating life of the option; and (c) the cost of complying with laws, regulations and applicable administrative requirements in relation to the option.	(2) *Costs* means the total cost of an option (or an *alternative option*) to all those who produce, distribute or consume electricity in the National Electricity Market. In determining the *costs*, the analysis may include, but need not be limited to, the following: (a) costs incurred in constructing or providing the option; (b) operating and maintenance costs over the operating life of the option; (c) the cost of complying with existing and anticipated laws, regulations and administrative determinations such as those dealing with health and safety, land management and environment pollution and the abatement of pollution (including greenhouse gas abatement). An environmental tax should be treated as part of a project's cost. An environmental subsidy should be treated as part of a project's benefits or as a negative cost. (d) other costs that are determined to be relevant to the case concerned.
Benefits	
(3) *Market benefit* means the present value of the total benefit of an option (or an *alternative option*) to all those who produce, distribute and consume electricity in the National Electricity Market (NEM). That is, the change in consumers' plus producers' surplus or another measure that can be demonstrated to produce an equivalent ranking of options in a majority of *reasonable scenarios*. For clarity, *market benefit* does not include the transfer of surplus between consumers and producers, nor does it include the *costs* defined in paragraph 2. (4) In determining the *market benefit*, the analysis may include the present value of the following benefits: (a) changes in fuel consumption arising through different generation dispatch; (b) changes in voluntary load curtailment; (c) changes in involuntary load shedding using a reasonable forecast of the	(5) *Market benefit* means the total benefits of an option (or an *alternative option*) to all those who produce, distribute and consume electricity in the National Electricity Market. That is, the change in consumers' plus producers' surplus or another measure that can be demonstrated to produce an equivalent ranking of options in a majority of *reasonable scenarios*. For clarity, m*arket benefit* does not include the transfer of surplus between consumers and producers. In determining the *market benefit*, the analysis may include, but need not be limited to the following benefits: (a) changes in fuel consumption arising through different generation dispatch; (b) changes in voluntary load curtailment caused through reduction in demand-side curtailment; (c) changes in involuntary load shedding caused through savings in reduction in lost load, using a reasonable forecast of the value of electricity to

value of electricity to consumers; (d) changes in costs caused through: (i) deferral of new plant; (ii) differences in capital costs; (iii) differences in the operational and maintenance costs; and (iv) deferral of transmission investments; (e) changes in transmission losses; (f) changes in ancillary services costs; (g) *competition benefits* being net changes in *market benefit* arising from the impact of the option on participant bidding behaviour; and (h) other benefits that are determined to be relevant to the case concerned. (5) Where the analysis separately identifies the magnitude or quantum of any *competition benefits* (either as a proportion or a component of the total *market benefit*) the analysis must make clear the methodology used to estimate it. (6) The *market benefit* of an option will only include *competition benefits* where the *Network Service Provider* responsible for undertaking the analysis of the option determines that it is appropriate, in all the circumstances, to take *competition benefits* into account. (7) In determining the *market benefit*, the analysis must not double-count *competition benefits* where they have already been accounted for in other elements of the *market benefit.*	consumers, or deferral of reliability entry plant; (d) changes in costs caused through: (i) deferral of market entry plant. This must be excluded if reliability benefits are determined using deferral of reliability entry plant; (ii) differences in capital costs; (iii) differences in the operational and maintenance costs; and (iv) deferral of transmission investments; (e) changes in transmission losses; (f) changes in ancillary services; (g) competition benefits; and (h) other benefits that are determined to be relevant to the case concerned. (6) *Competition benefits* means the change in benefit between the scenario where, after implementation of the option: (a) generator bidding is assumed to be the same as it was before the option was implemented; and (b) generator bidding reflects any market power after the implementation of the option. or another reasonable measure that can be demonstrated to produce an equivalent change in benefit. (7) The *market benefit* of an option will only include *competition benefits* where: (a) the option is a *new large network asset* or a *new large distribution network asset*; and (b) the *Network Service Provider* responsible for undertaking the analysis of

	the option determines that it is appropriate, in all the circumstances, to take *competition benefits* into account in assessing the *market benefit* of the option.
Disclosing costs and benefits (8) Any relevant information which may have a material impact on the determination of *costs* or *market benefits* which comes to light at any time before an assessment is finalised must be considered and made available to interested parties. (9) Detailed calculations of how *costs* and *market benefits* are determined must be included in the *regulatory test* analysis and made available to interested parties.	(16) Any relevant information which may have a material impact on the determination of *costs* or *market benefits* which comes to light at any time before an assessment is finalised must be considered and made available to interested parties.
Classes of possible costs and benefits (10) Any cost or benefit which cannot be measured as a cost or benefit to producers, distributors and consumers of electricity may not be included in any analysis proposed in accordance with this test. The allocation of costs and benefits between the electricity and other markets must be based on principles consistent with the cost allocation principles in clause 6A.19.2 of the NER in the case of transmission, or consistent with the relevant Distribution Ring-Fencing Guidelines in the case of distribution. (11) In determining the *costs* or *market benefits*, it should be considered whether the proposed option will enable: (a) a *Transmission Network Service Provider* to provide both prescribed and other services; or (b) a *Distribution Network Service Provider* to provide both prescribed distribution services and other services. If it does, the *costs* and *market benefits* associated with the other services should be disregarded. The allocation of costs between prescribed and other services must be consistent with the cost allocation principles in clause 6A.19.2 of the NER. The allocation of costs between prescribed distribution services and other services must be consistent with the relevant Distribution Ring-Fencing Guidelines.	(8) In determining *costs* or *market benefits*, any cost or benefit which cannot be measured as a cost or benefit to producers, distributors and consumers of electricity in terms of financial transactions in the market should be disregarded. The allocation of costs and benefits between the electricity and other markets must be based on principles consistent with the Transmission Ring-Fencing Guidelines and/or Distribution Ring-Fencing Guidelines (as appropriate). Only direct costs and benefits, not including wealth transfers, (associated with a partial equilibrium analysis) should be included and any additional indirect costs or benefits (associated with a general equilibrium analysis) should be excluded from the assessment. (9) In determining the *costs* or *market benefits*, it should be considered whether the *proposed augmentation* will enable: (a) a *Transmission Network Service Provider* to provide both prescribed and other services; or (b) a *Distribution Network Service Provider* to provide both prescribed distribution services and other services If it does, the costs and market benefits associated with the other services should be disregarded. The allocation of costs between prescribed and other services must be consistent with the Transmission Ring-Fencing Guidelines. The allocation of costs between prescribed distribution services and other services must be consistent with the relevant Distribution Ring-Fencing Guidelines.

Method permitted for estimating the magnitude of the different classes of costs and benefits (12) In estimating the magnitude of costs and benefits, a pool dispatch modelling methodology, or any other applicable methodology, should be used. If pool dispatch modelling methodology is used, it must incorporate: (a) a realistic treatment of plant characteristics, including for example minimum generation levels and variable operation costs; and (b) a realistic treatment of the network constraints and losses. ***Appropriate method for determining the discount rate to be applied*** (13) The present value calculations must use a commercial discount rate appropriate for the analysis of a private enterprise investment in the electricity sector. The discount rate used should be consistent with the cash flows being discounted.	(10) The present value calculations must use a commercial discount rate appropriate for the analysis of a private enterprise investment in the electricity sector. The discount rate used should be consistent with the cash flows being discounted.
Alternative options (14) An *alternative option* may be, without limitation, a generation option, demand side management/response option, *network* option, the substitution of electricity by the provision of alternative forms of energy, or a combination of these. (15) For an option proposed in accordance with paragraph 1(a) of this test *alternative option* means: (a) a genuine alternative to the option being assessed, in that it: (i) has a clearly identifiable proponent/s; and (ii) meets the reliability requirements referred to in paragraph 1(a); and (b) a practicable alternative to the option being assessed in that it is technically feasible. (16) For an option proposed in accordance with paragraph 1(b) of this test *alternative option* means: (a) a genuine alternative to the option being assessed, in that it: (i) delivers similar outcomes to those delivered by the option being assessed; and	(3) *Alternative options* means: (a) For an option proposed in accordance with paragraph 1(a) of this test: (i) a genuine alternative to the option being assessed, in that it: (A) has a clearly identifiable proponent; and (B) meets the requirements referred to in paragraph 1(a); (ii) a practicable alternative to the option being assessed in that it is technically feasible. (b) For an option proposed in accordance with paragraph 1(b) of this test: (i) a genuine alternative to the option being assessed, in that it: (A) delivers similar outcomes to those delivered by the option being assessed; and (B) becomes operational in a similar timeframe to the option being assessed; (ii) a practicable alternative to the option being assessed in that it is: (A) technically feasible; and

(ii) would become operational in a similar timeframe to the option being assessed; and (b) a practicable alternative to the option being assessed in that it is technically feasible. (17) In determining whether an *alternative option* is likely for the purposes of any analysis in accordance with paragraph 1(b) of this test the *Network Service Provider* must: (a) Consider all *alternative options* without bias regarding: (i) energy source; (ii) technology; (iii) ownership; (iv) the extent to which the proposed network asset or non-network alternative enables intra-regional or intra-regional trading of electricity; (v) whether it is a network or non-network alternative; (vi) whether the option is intended to be regulated; and (vii) whether the option or alternative option represents a combination of other options. (b) Where the proposed asset is a *new large transmission network asset,* (i) consider any *alternative options* proposed in the request for information process required by this test and (ii) include in any *regulatory test* analysis completed in relation to the proposed *new large transmission network asset*: (I) a summary of any *alternative options* proposed in the relevant request for information process and (II) detailed reasons as to why an *alternative option* was found to be likely or unlikely. (18) For the purposes of any analysis in accordance with paragraph 1(b) of this test the existence of a genuine proponent for the *alternative option* may be taken into account when determining likelihood. However, the absence of such a proponent will not in itself exclude a project from being a likely *alternative*	(B) commercially feasible, which is to be demonstrated by determining whether an objective operator, acting rationally according to the economic criteria prescribed by this test, would be prepared to construct or provide the *alternative option*. The existence of a genuine proponent for the *alternative option* should be taken into account when determining practicability, however, absence of such a proponent will not exclude a project from being an *alternative option* for the purposes of the regulatory test.

	option for the purposes of the *regulatory test*.	
(19)	Where there is more than one likely *alternative option* to the new *network* investment, and no single *alternative option* is significantly more likely to occur than the other, then the *market benefits* analysis required in accordance with paragraph (1)(b) of this test must be undertaken in relation to each such likely *alternative option*.	

Projects and Scenarios (20) *Reasonable scenarios* means scenarios incorporating reasonable and mutually consistent: (a) forecasts of: (i) electricity demand (modified where appropriate to take into account demand-side options, economic growth, weather patterns and price elasticity); (ii) the efficient operating costs of supplying energy to meet forecast demand from existing, *committed*, *anticipated* and *modelled proje*cts including demand side and generation projects; (iii) the avoidable costs of *committed*, *anticipated* and *modelled projects* including demand side and generation projects and whether all avoidable costs are completely or partially avoided or deferred; (iv) the cost of providing sufficient ancillary services to meet the forecast demand to support the relevant option or *alternative option*; and (v) the capital and operating costs of other regulated network and market network service projects that are augmentations consistent with the forecast demand and generation scenarios; (b) *market development scenarios*, which must include, for each relevant option or *alternative option* : (i) all *committed projects*; (ii) *anticipated projects*, to the extent they are likely to be commissioned within the modelling period; (iii) *modelled projects*; and (iv) any other technically feasible projects identified during the consultation process; and (c) sensitivity testing.	(4) Reasonable scenarios means scenarios incorporating: (a) reasonable forecasts of: (i) electricity demand (modified where appropriate to take into account demand-side options, variations in economic growth, variations in weather patterns and reasonable assumptions regarding price elasticity); (ii) the efficient operating costs of competitively supplying energy to meet forecast demand from existing, committed, anticipated and modelled projects including demand side and generation projects; (iii) the avoidable costs of committed, anticipated and modelled projects including demand side and generation projects and whether all avoidable costs are completely or partially avoided or deferred; (iv) the cost of providing sufficient ancillary services to meet the forecast demand; and (v) the capital and operating costs of other regulated network and market network service projects that are augmentations consistent with the forecast demand and generation scenarios (b) scenarios defined as market development scenarios; and (c) sensitivity testing. (11) The analysis must include modelling a range of reasonable market development scenarios, incorporating varying levels of demand growth at relevant load centres (reflecting demand side options), alternative project commissioning dates and various potential generator investments and realistic operating regimes. These scenarios may include alternative construction timetables as nominated by the proponent providing that relevant reliability standards would be met. Market development scenarios must include: (a) committed projects;

	(b) anticipated projects; (c) modelled projects; and (d) any other technically feasible projects identified during the consultation process.
(21) *Committed project* means a project which satisfies all the following criteria: (a) the proponent has obtained all required planning consents, construction approvals and licenses, including completion and acceptance of any necessary environmental impact statement; (b) construction of the proposal must either have commenced or a firm commencement date must be set; (c) the proponent has purchased/settled/acquired land (or commenced legal proceedings to acquire land) for construction of the proposed development; (d) contracts for supply and construction of the major components of the plant and equipment (such as generators, turbines, boilers, transmission towers, conductors, terminal station equipment) should be finalised and executed, including any provisions for cancellation payments; and (e) the financing arrangements for the proposal, including any debt plans, must have been finalised and contracts executed.	(12) Committed project means a project which satisfies all the following criteria: (a) the proponent has obtained all required planning consents, construction approvals and licenses, including completion and acceptance of any necessary environmental impact statement; (b) construction of the proposal must either have commenced or a firm commencement date must be set; (c) the proponent has purchased/settled/acquired land (or commenced legal proceedings to acquire land) for construction of the proposed development; (d) contracts for supply and construction of the major components of the plant and equipment (such as generators, turbines, boilers, transmission towers, conductors, terminal station equipment) should be finalised and executed, including any provisions for cancellation payments; and (e) the financing arrangements for the proposal, including any debt plans, must have been conducted and contracts executed.
(22) *Anticipated project* means a project which: (a) does not meet each of the criteria in paragraph 21; and (b) is in the process of meeting one or more of the criterion in paragraph 21.	(13) *Anticipated project* means a project which: (a) does not meet each of the criteria in note 12; and (b) is in the process of meeting one or more of the criterion in note 12.

(23) *Modelled project* means a hypothetical project derived from market development modelling in the presence or absence (as applicable) of the relevant option or *alternative option*. Market development modelling must be undertaken on a 'least-cost' basis and, where appropriate, may be undertaken on a 'market-driven' basis, where: (a) least-cost market development modelling derives *modelled projects* on the basis of a least-cost planning approach akin to conventional central planning. The *modelled projects* derived from such an approach would be those where the net present value of benefits, such as fuel substitution and reliability increases, exceed the costs. (b) market-driven market development modelling derives *modelled projects* on the same basis as that of a private developer. The *modelled projects* derived from such an approach would be those where the net present value of generation revenues (from the spot market or contracts) exceeds the net present value of generation costs. The forecasts of price trends should reflect realistic bidding behaviour, with power flows to be those most likely to occur under actual systems and market outcomes.	(14) *Modelled projects* means a project modelled using either 'least-cost market development' modelling or 'market-driven market development' modelling: (a) Least-cost market development modelling means modelling projects based on a least-cost planning approach akin to conventional central planning. The proposals to be included would be those where the net present value of benefits, such as fuel substitution and reliability increases, exceeds the costs. (b) Market-driven market development modelling means modelling spot price trends based on existing generation and demand and includes new generation developed on the same basis as would a private developer (where the net present value of the spot price revenue exceeds the net present value of generation costs). The forecasts of spot price trends should reflect a range of market outcomes, ranging from short run marginal cost bidding behaviour to simulations that approximate non-competitive bidding or imperfect competition, with power flows to be those most likely to occur under actual systems and market outcomes.
Sensitivity testing (24) *Reasonable scenarios* under this test must encompass sensitivity testing on key input variables. Sensitivity testing may be carried out on the following, and should be appropriate to the size and type of project: (a) testing reasonable forecasts of the value of electricity to consumers. (b) price elasticity of demand. (c) capital and operating costs of *alternative options*. (d) discount rate (the lower boundary should be the regulated cost of capital). (e) market demand. (f) generation bidding behaviour using: (i) short run marginal cost; and	(15) The calculation of the *costs* or *market benefits* must encompass sensitivity testing on key input variables. Sensitivity testing may be carried out on, but not limited to, the following, and should be appropriate to the size and type of project: (a) *Market benefits*: (i) Using all reasonable methodologies; and (ii) Testing reasonable forecasts of the value of electricity to consumers. (b) Capital and operating costs of *alternative options*. (c) Discount rate (the lower boundary should be the regulated cost of capital).

(ii) approximates of realistic bidding if measuring competition benefits. (g) commissioning dates of: (i) the option being assessed; (ii) *alternative options*; (iii) *committed projects*; and (iv) *anticipated projects* (h) inclusion or exclusion of particular *anticipated projects* based on their degree of likelihood of being commissioned within the modelling period; (i) *modelled projects* based on a market-driven market development modelling approach (j) market based regulatory instruments that may be used to address greenhouse and environmental issues and (k) other sensitivity testing determined to be relevant and material to the case concerned.	(d) Market demand. (e) Generation bidding behaviour using: (i) SRMC; and (ii) Approximates of realistic bidding if measuring competition benefits. (f) Commissioning dates of: (i) Alternative projects; (ii) Committed projects; (iii) Anticipated projects; and (iv) Modelled projects. (g) Market based regulatory instruments that may be used to address greenhouse and environmental issues. (h) Other sensitivity testing determined to be relevant and material to the case concerned.

Request for information (25) For the purposes of any analysis undertaken in relation to paragraph (1)(b) of this test, a *transmission network service provider* must publish a request for information notice for a potential or proposed *new large transmission network asset*. (26) The request for information notice must request information as to the identity and detail of alternative options to the potential or proposed *new large transmission network asset*. (27) The *transmission network service provider* must include the following information in the request for information notice: (a) the details of any potential or proposed *new large transmission network asset* including: (i) all of the relevant technical details, including asset type and project configuration; (ii) the proposed construction timetable; (iii) the commissioning date; and (iv) all known expected direct costs and the likely sources of *costs* and *market benefits* associated with the proposed asset; (b) the reasons for the potential *new large transmission network asset*, including how the potential asset satisfies these reasons and, where applicable, any network limitations, reliability requirements or specific planning criteria; (c) known existing and planned infrastructure in the geographic region, including relevant transmission, distribution and generation assets; (d) load forecasts in the geographic region for the next ten years including	**N/A**

peak demand and load profiles; (e) any specific project requirements that an *alternative option* must fulfil including any technical or other limitations such as: (i) speed of demand side or generation response; (ii) size, type and location of load(s) to be reduced, shifted, substituted or interrupted; and (iii) size, type and location of generation to be installed or utilised; and (f) a description of the process for assessing *alternative options* including evaluation criteria. (28) At least 4 months before an application notice in relation to the proposed *new large transmission network asset* is published, the *transmission network service provider* must: (a) publish the request for information notice on its website and (b) provide the request for information notice to NEMMCO for publication on the NEMMCO website. (29) The request for information notice must specify a due date for submissions which must be at least 8-12 weeks after the date the request for information notice is published on NEMMCO's website. The time allowed for submissions must be proportionate to the size and complexity of the proposed or potential *new large transmission network asset.* (30) Interested parties may apply to the *transmission network service provider* to have the submission due date extended. This application must be made at the latest 4 weeks after the request for information notice is published on NEMMCO's website. (31) Any person may make a written submission to the *transmission network service provider* in response to the request for information notice.	

Transitional provisions (32) This version of the *regulatory test* (version 3) comes into operation from the date of its promulgation, subject to the following transitional provisions which are to be read in conjunction with chapter 11 of the NER. For clarity, version 2 of the *regulatory test* continues to apply in relation to: (a) possible options for which a *distribution network service provider* has commenced consultation under clause 5.6.2(f) or an economic cost effectiveness analysis under clause 5.6.2(g) prior to the promulgation of version 3 of the *regulatory test*; (b) a *new small network asset* for which a *transmission network service provider* has set out the matters required under clause 5.6.2A(b)(4) and (5) in an Annual Planning Report published prior to the promulgation of version 3 of the *regulatory test*; (c) a *new small network asset* not identified in an Annual Planning Report for which a *transmission network service provider* has published a report required under clause 5.6.6A(c) of the NER prior to the promulgation of version 3 of the *regulatory test*; (d) a *new large network asset* for which a *transmission network service provider* has published an application notice under clause 5.6.6(b) prior to the promulgation of version 3 of the *regulatory test*.	(17) This version of the regulatory test (version 2) comes into operation from the date of its promulgation, subject to the following transitional provisions. The version of the regulatory test in operation immediately prior to the promulgation of version 2 of the regulatory test continues to apply in relation to: (a) possible options for which a *Distribution Network Service Provider* has commenced consultation under clause 5.6.2(f) or an economic cost effectiveness analysis under clause 5.6.2(g) prior to the promulgation of version 2 of the regulatory test; (b) a *new small network asset* for which a *Transmission Network Service Provider* has set out the matters required under clause 5.6.2A(b)(4) and (5) in an Annual Planning Report published before 30 June 2004. The ACCC can substitute a later date if a *Transmission Network Service Provider* does not publish its Annual Planning Report by 30 June 2004 (as required by clause 5.6.2A(a) of the Code); (c) a *new small network asset* not identified in an Annual Planning Report for which a *Transmission Network Service Provider* has published a report required under clause 5.6.6A(c) prior to the promulgation of version 2 of the regulatory test; (d) a *new large network asset* for which a *Transmission Network Service Provider* has published an application notice under clause 5.6.6(b) prior to the promulgation of version 2 of the regulatory test.