Australian
Competition &
Consumer
Commission

Issues paper
Review of the regulatory test

10 May 2002

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1. Introduction

On 19 June 2001, the Australian Competition and Consumer Commission (Commission) and the National Electricity Code Administrator (NECA) released a joint statement announcing their commitment to review the current framework for essential new investment. The statement noted that the existing arrangements for the planning and approval of regulated network investment have been widely criticised. As result, the statement recognised that there is a need to streamline and simplify the arrangements whilst encouraging a nationwide approach to planning and strengthening the transmission network.

For its part, the Commission stated that it would review the *regulatory test* to ensure that it does not result in a complex and lengthy process that delays the development of regulated investment. The Commission also stated that it would consult widely as part of its review. This issues paper relates to this commitment.

2. Role of networks in the NEM

Prior to the commencement of the reforms to the electricity sector state run enterprises were charged with the responsibility for planning and constructing all elements of the electricity supply chain. Transmission networks were built to meet the supply and demand needs of the States. Consequently, planning and investment decisions were not designed around the operation of a competitive "market" in electricity.

With the introduction of the National Electricity Market (NEM), network investment decisions needed a decision making framework that recognised the operation of the market and one that ensured both prudency and competitive neutrality. This approach fits with the overall regulation of networks to ensure that the open access regime of the NEM promotes competition and access while providing asset owners and operators with a reasonable risk adjusted revenue stream to fund their investment.

The NEM incorporates market related aspects designed to encourage network investment where such investment produces lower losses and minimises energy price variability between regions. One of the criticisms of the current market design is that network losses are calculated using historical information and the existing regions are largely based along state boundaries, with the exception of the Snowy region. Ideally the network pricing arrangements would provide price signals, which reflect the extent of congestion or spare capacity and provide efficient investment signals. Hence the form of regulation and its reach is influenced by the extent to which network investment decisions are influenced and even controlled by the market.

Unless the network pricing arrangements provide pricing signals that encourage network investment the market will continue to require regulatory approval for new investment. In the NEM, the relevant regulators provide the regulatory approval. Regulated network investment will, therefore, only receive a return if it passes the criterion set out in a *regulatory test*. The *regulatory test* was developed in response to concerns raised by the National Electricity Market Management Company (NEMMCO) in its application of the *Customer* benefits test.

The Customer benefits test

The *Customer* benefits test was designed to ensure that network investment would only be undertaken if customers benefited from that investment.

In 1998, NEMMCO was asked to perform an assessment of the proposed interconnector between South Australia and New South Wales (SANI) against the criterion set out in the *Customer* benefits test. The objective was to ensure that the project was justified under the National Electricity Code (code) and would enter the relevant regulated asset base.

In its review, published in June 1998, NEMMCO noted that the code contained some ambiguities. In particular, it noted that some clauses referred to public benefit and others referred to *Customer* benefit, with customer being defined in the code as wholesale market customers, rather than customers at large. NEMMCO also noted several issues associated with identifying and measuring certain costs and benefits. Additionally, NEMMCO found the *Customer* benefits test was volatile in that when it was evaluating the benefits from SANI it would arrive at substantially different conclusions depending on which market behaviour was modelled.

Ultimately, NEMMCO found that SANI was not justified. NEMMCO also concluded that the test, as it stood, might make it difficult for any inter-regional augmentation to satisfy the criterion.

Reflecting this concern, the NSW Government lodged this issue on NEMMCO's Issues Register requiring it to be resolved prior to the commencement of the NEM. Consequently, the Commission was asked, as an independent party, to review the test and recommend changes to the test to overcome the perceived inadequacies.

3. The *regulatory test*

Development of the *regulatory test*

The Commission engaged Ernst & Young to assist it in conducting its review. The Commission published the Ernst & Young report in March 1999. On the basis of that report, the Commission published a preliminary view of the *regulatory test* in April 1999. That paper acknowledged the merit in changing the test from a *Customer* benefits test to a market benefit test based on maximising net public benefits.

On 23 July 1999, NECA sought authorisation of amendments to the code, which included changes to replace the existing *Customer* benefits test with a *regulatory test* to be determined by the Commission. The amendments also required all network service providers (including both transmission network service providers (TNSPs) and distribution network service providers (DNSPs)) to consult with interested parties when applying the *regulatory test* in deciding which network augmentations should

proceed. The consultation included examining, amongst other things, alternative generation and demand side options to determine the option that satisfied the *regulatory test*, while meeting the technical requirements (reliability) of schedule 5.1 of the code. The amendments also required the Inter Regional Planning Committee (IRPC) and NEMMCO to apply the *regulatory test* when considering possible system augmentations. The Commission authorised the code changes on 20 October 1999[1].

The Commission adopted a parallel process with the code change consultation for developing its preliminary views on the *regulatory test* and sought additional submissions. It released a draft *regulatory test* on 22 September 1999 and, following further consultation, finalised the *regulatory test* in December 1999. A copy of the *regulatory test* is attached (see Appendix A).

In developing the *regulatory test* the Commission relied on the two key principles of economic efficiency and competitive neutrality. Consequently, the Commission based the *regulatory test* on the traditional cost-benefit analysis framework but with a number of clarifications to limit any adverse impacts that regulated network investments might have on the competitive processes in the contestable parts of the industry. One of the recommended changes to the test was to remove the volatility inherent in the *Customer* benefits test and ensure even-handed treatment between network and non-network investment. That is, to extend the neutrality in the code between network and non-network alternatives such as generation, demand side or unregulated network investment to the *regulatory test*.

Key features of the *regulatory test* include:

- reference to net public benefits rather than the original net customer benefits;
- calculating the net benefits of the various options with reference to the underlying economic cost savings and not with reference to pool price outcomes which may be distorted by market participants exercising market power;
- excluding from the analysis the costs and benefits associated with competitive, non-electricity, market activities as the test is to be used to assess the merits of regulated electricity network assets;
- including in the analysis only those environmental impacts that governments or their environment agencies have sought to redress;
- using the discount rate that would be used by participants in the contestable markets; and
- relying on forecasts of future market behaviour based on both assumptions of a competitive market as well as actual market behaviour.

1 ACCC; Applications for authorisation: Market Operations for Y2K, Regulated Interconnectors and Augmentations and System Security Compensation; 20 October 1999.

Application of the *regulatory test*

The *regulatory test* has been applied by TNSPs across the NEM on intra-regional network augmentation. The intra-regional augmentations have largely been reliability driven, with a few exceptions, particularly in Victoria. While the Commission is aware that DNSPs apply the *regulatory test*, as required by the code, it is not in possession of sufficient information to comment on how the test has been applied.

In respect to inter-regional investment, only two determinations have been made by NEMMCO under the *regulatory test*. On 6 December 2001, NEMMCO released its assessment of the SNI (formerly SANI) and SNOVIC 400 (a proposed upgrade to the existing transmission interconnection between the Snowy and Victorian regions) interconnectors. In both cases it determined that the augmentations satisfied the *regulatory test*. The Commission notes that TransEnergie Australia, Yallourn Energy, and NRG Flinders have commenced proceedings in the National Electricity Tribunal (Tribunal) relating to the application of the *regulatory test* by NEMMCO in its assessment of SNI. While the Commission does not believe that it is necessary to defer the publication of this issues paper pending the resolution of this appeal, it will monitor the outcome of the Tribunal proceedings.

More recently, two new interconnector applications have been submitted to the IRPC and NEMMCO for assessment. TransEnergie Australia has asked the IRPC to evaluate whether incremental works, intended to increase the transfer capability of the existing Snowy – Victoria interconnector by an additional 400 MW, satisfies the *regulatory test*. ElectraNet SA has also proposed an upgrade of the Heywood interconnector by 150 MW. However, the IRPC has indicted that it will not consider either proposal, stating that they should be considered under the amendments to the code authorised by the Commission on 13 February 2002[2].

Concerns with the *regulatory test*

Since its introduction in December 1999 there have been some concerns expressed about network investment decisions or the lack thereof. While not all of these concerns have been expressly drawn to the Commission's attention the Commission is aware that they fall into two basic areas, intra and inter-regional investment.

Intra – regional investment

(i) Has the regulatory test been applied correctly?

Concerns have been expressed about the transparency of the assessment process undertaken by TNSPs and whether adequate time has been given to allow non-network alternatives to be developed. While a TNSP will have its capital works programs assessed at each regulatory reset by the Commission's technical consultants, this assessment does not attempt to pre-empt the *regulatory test* assessment undertaken by the TNSPs through the regulatory period. Consequently, the

2 ACCC; Application for authorisation: Network and Distributed Resources; 13 February 2002.

Commission relies on TNSPs applying the *regulatory test* correctly in their assessment of network investment. However, the Commission is able to retrospectively review actual network investment at the commencement of each revenue reset and determine whether the augmentation has been assessed against the criterion set out in the *regulatory test*. Nevertheless, there have been concerns expressed about how the test is being applied and whether some more general oversight or transparency is required.

Another criticism arises from the limited number of market driven augmentations. To date, most augmentations that have been undertaken by TNSPs are reliability driven, which are required to meet the technical requirements of schedule 5.1 of the code or jurisdictional reliability standards. Some commentators note that the test for reliability augmentations is less onerous than for market driven augmentations and provides an incentive for the TNSP to always undertake reliability augmentations.

In respect of distribution networks, while the Commission is aware that DNSPs conduct an assessment of alternatives against the criterion set out in the *regulatory test*, which in some states mirror their licensing requirements, it is not in possession of sufficient information to comment on the experience of DNSPs applying the *regulatory test*, expect in the case where joint planning has been conducted by both the TNSP and DNSP. Most DNSPs have their capital expenditure proposals reviewed by the relevant state regulator. However, the Commission is unclear as to whether this review includes some assessment of the alternatives or a check of how the proposed investment is assessed against alternatives.

(ii) Is the regulatory test an impediment to necessary network investment?

An evaluation of the capital expenditure programs forecast by the TNSPs does not suggest that the *regulatory test* impedes necessary network investment[3]. However, there may be cases at the margin where the process for assessing network investment delays network augmentations.

In respect to DNSPs there is no information available to the Commission that would indicate whether the need to evaluate network augmentation proposals against the *regulatory test* has resulted in sub-optimal outcomes either in the timing of investment or the investment option chosen.

Inter – regional Investment

While no specific concerns had been raised with the Commission prior to 2001, some concerns appear to have been expressed privately that the slow progress in assessing and proposing new interconnectors and existing interconnectors not being augmented was due, in part, to the *regulatory test.*

In early 2001, NEMMCO established an interconnector process working group. The working group's aims were to investigate and report on the processes involved in the

3 Over $2 billion in capital expenditure is forecast for TNSPs in the NEM over the next four to five years. A similar amount is also forecast for DNSPs over the same time period.

assessment of proposals to establish new interconnectors or to augment existing interconnectors.

Among the policy and process issues identified during NEMMCO's consultative process, as impeding interconnector development in the NEM were:

- the *regulatory test* does not fully recognise competition benefits and involves a complex, time consuming and indeterminate process which is open to gaming; and

- potential delays in the development of both regulated and non-regulated interconnectors due, in part, to the inability of regulated and non-regulated interconnectors to co-exist efficiently in the NEM;

The key finding of the group was that consideration be given to revising the *regulatory test* so that the test:

(a) is consistent with the role jurisdictions have determined for transmission;

(b) recognises the benefits to be gained by interconnectors through increased competition within and across regions;

(c) does not unduly favour non-regulated solutions;

(d) does not, by its very nature, require a protracted and indeterminate process; and

(e) clarifies the concept of what constitutes a "committed project" and ensure that it is less open to abuse by proponents of projects competing with the interconnector proposal which is having the test applied to it[4].

Network and distributed resources code changes

At the time of NEMMCO's working group, NECA had already submitted amendments to the code, the network and distributed resources code change package, which changed the respective roles of the IRPC, NEMMCO and the Commission in relation to assessing network investments.

The network and distributed resources amendments introduced two major changes to the code. Firstly, the code amendments devolved responsibility for the application of the *regulatory test* relating to inter-regional augmentations from NEMMCO to TNSPs. Secondly, the amendments removed the distinction between inter and intra-regional network augmentations and replaced it with a distinction between new large and small network assets. A new large network asset is defined as an augmentation that a TNSP estimates will require a total capitalised expenditure in excess of $10 million. A new small network asset is an augmentation that a TNSP estimates will require a total capitalised expenditure in excess of $1 million.

4 NEMMCO, "Interconnector Development in the NEM: A report by the Interconnector Process Working Group", June 2001

The code requires that a TNSP's Annual Planning Report contain detailed information concerning all proposed augmentations to the network. Specifically, in relation to new small network assets, the code requires information concerning the ranking of reasonable options to the project, a technical augmentation report (if required) and why the TNSP considers that the asset satisfies the *regulatory test*. The TNSP must consult with any interested parties about the proposal and develop a revised report on the proposal if any material matters change. The Commission is required to take into account this report in the process of its determination of the TNSPs' revenue cap and whether the network asset satisfies the regulatory test.

A party seeking to establish a new large network asset is required to develop an application notice and to go through a more rigorous approval process than with a new small network asset. The process may involve three key stages: consultation on the application notice; dispute resolution if certain matters remain disputed; and, should an interested party dispute the finding in an applicant's final report that the new large asset satisfies the *regulatory test*, a Commission determination on whether or not the new large network asset satisfies the *regulatory test*.

While the proposals were developed with transmission network planning in mind, NECA modified the code to ensure that the existing provisions and obligations on DNSPs were maintained but not extended. That is, DNSPs must continue to carry out economic cost effectiveness analyses of options that satisfy the *regulatory test* where it has identified necessary augmentations in its annual planning review[5]. NECA is intending to undertake further work with the industry and jurisdictional regulators on how the general principles applied to TNSPs might apply to DNPSs.

4. Issues for the Commission

This review will look at all facets of the *regulatory test* relating to large and small, inter and intra-regional network investment undertaken by both TNSPs and DNSPs. The Commission has identified a number of key issues that interested parties may choose to respond to in preparing submissions to the Commission's review. However, interested parties should not feel constrained to addressing only those issues raised in this paper. Rather, interested parties should feel free to raise any issue relevant to the Commission's review of the *regulatory test*.

Maximising net benefits

In developing the *regulatory test* the Commission extended the cost/benefit framework in order that an optimal outcome is identified and not just any option that generates a net public benefit. That is, the Commission accepted the argument that the *regulatory test* include the principle of maximising prospective benefits over costs. Therefore, a new interconnector or an augmentation option satisfies this test if it maximises the net present value of the market benefit having regard to a number of alternative projects, timings and market development scenarios.

5 Clause 5.6.2(a2)(g)

One of the key concerns expressed in NEMMCO's working group paper was that the test, as it stands, presents an inappropriately high hurdle for a proponent who is proposing a regulated interconnector[6]. One alternative that has been expressed to the Commission is that the *regulatory test* should only refer to a nominated hurdle.

- **Is the current maximising market benefits test a hurdle that is too high?**
- **Should the test simply refer to a nominated Net Present Value hurdle?**
- **If so, what should the nominated hurdle be?**
- **If adopted, how should the industry/users be protected from inefficient investment options ie high cost/low benefit solutions?**
- **What other alternatives should be considered?**
- **Does the *regulatory test* need to differentiate between TNSPs and DNSPs?**
- **If so, should different approaches apply to each?**
- **Is the current test dealing with reliability driven augmentations appropriate?**
- **Should reliability driven augmentations be required to follow a similar process to market driven augmentation?**

Competitive impacts of network investment

In promulgating the *regulatory test* the Commission argued that the test should use the principles associated with cost/benefit analyses. The implication for the test was that market prices would not be incorporated in an assessment of a potential interconnector particularly where there is reason to believe that the prices are distorted by a market failure. It is acknowledged that network investment, and interconnectors in particular, can have a major impact on competition in a region, either by reducing generator market power or reducing prices. One of the concerns raised in NEMMCO's working group is that the *regulatory test* does not fully recognise these competition benefits and that the test be modified to explicitly recognise the competition benefits.

- **Should the test be altered to reflect greater competition in a region from the introduction of network investment?**
- **If so, how should the benefits of greater competition be captured by the test?**
- **If a proposed network investment is marginal, should a competition test be included that allows the proposal to pass the test?**
- **If so, what form should the competition test take?**

6 Op. Cit, p 24.

- **Should the benefits associated with additional capacity to meet peak demands in a region be included in the assessment of a new interconnector?**

- **If so, what form should this benefit take and should any limitations apply?**

- **If a new interconnector results in lower prices in one or more regions (eg importing regions), should the benefits of lower prices be included in the test?**

- **Similarly, if a new interconnector results in higher prices in one or more regions (eg exporting regions), should the costs of the higher prices be included in the test?**

- **How will taking into account competition benefits interact with who pays for the augmentation?**

- **Should the test ensure an alignment between the beneficiaries of the investment with those who pay for it?**

- **If so what approach should be adopted?**

- **Should regulated and unregulated network alternatives be treated in the same way in terms of the benefits (or detriments) associated with them?**

Network and distributed resources code change package

Under the network and distributed resources code change package, TNSPs will have primary responsibility for the planning and development of transmission networks. Although the process is now time limited and contains a dispute resolution process, there may be some concerns that TNSPs have greater control over the design and approval of network augmentations. Furthermore, in that process some parties raised concerns about the checks and balances in place to prevent a TNSP misusing its monopoly position and preventing the appropriate consideration of non-network options.

- **Should the *regulatory test* be more prescriptive?**

- **Should the test define which costs and benefits should be taken into account?**

- **If so, what should those costs and benefits be?**

- **Should the test include a glossary of definitions?**

- **If so, which terms should be defined?**

- **Should a market test period, in which unregulated alternatives to network investment are given a specified time to respond to constraints identified by the network, be introduced into the test?**

- **What special provisions should be introduced for DNSPs to assist them and the market to ensure that the most appropriate investment option is pursued?**

Timing delays

One of the criticisms of the *regulatory test* relates to the time taken to approve an interconnector under the current arrangements. For example, SNI was approved in December 2001, two years after it had been submitted to the IRPC for assessment. One of the major benefits of the network and distributed resources code changes is that the IRPC, dispute resolution panel and the Commission are time constrained in their assessment of a regulated proposal.

- **Have the problems of time delays been sufficiently addressed in the network and distributed resources code change package?**

- **If not, how can the test be modified to overcome future delays while still ensuring that only appropriate investment proposals go forward?**

Other issues for consideration

Parties who have been involved in previous *regulatory test* processes have noted the following issues may need to be addressed in the Commission's review.

- **Should the Commission clarify its optimisation of network investment that has been assessed in accordance with in the *regulatory test*?**

- **Should the test address the weighting of outcomes? If so, how can this be achieved?**

- **Is the choice of discount rate, being the rate appropriate for the analysis of a private enterprise investment in the electricity sector, still appropriate?**

- **Should there be specific requirements for competitive tendering that could form the basis of a safe harbour provision?**

5. Commission's process

The Commission is calling for submissions from interested parties on the issues raised above and any other issues that interested parties believe that the Commission should consider in its review.

Submissions can be sent electronically to: electricity.group@accc.gov.au. Alternatively, written submissions or submissions on disk, in Word 7.0 and PDF format, can be sent to:

Mr Michael Rawstron
General Manager
Regulatory Affairs – Electricity
Australian Competition and Consumer Commission
PO Box 1199
DICKSON ACT 2602

The closing date for submissions is Friday 14 June 2002.

Comments submitted to the Commission will be included in a discussion paper. Additional comments relating to the discussion paper will be taken into account prior to the Commission releasing its final discussion paper. If need be, in accordance with clause 5.6.5A of the code, the Commission will promulgate changes to the *regulatory test*.

Further enquires can be addressed by contacting Louis Tirpcou on (03) 9290 1905.

Appendix A Regulatory test

Preamble
The Australian Competition and Consumer Commission promulgates this regulatory test in accordance with clause 5.6.5(q)(1) of the National Electricity Code (the Code).

The regulatory test is to be applied:

(a) to *transmission system* or *distribution system* augmentation proposals in accordance with clause 5.6.2 of the Code (*augmentation*);

(b) by NEMMCO and the Inter-regional Planning Committee to augmentation options identified under clause 5.6.5 of the Code other than applications for new interconnectors in accordance with clause 5.6.6 of the Code (*augmentation option*); and

(c) by NEMMCO and the Inter-regional Planning Committee to applications for new interconnectors across regions in accordance with clause 5.6.5 and 5.6.6 of the Code (*new interconnectors*).

In this test, *augmentations, augmentation options* and *new interconnectors* are called *proposed augmentations*.

The regulatory test

The Commission has determined that the regulatory test is as follows:
A *new interconnector or an augmentation option* satisfies this test if it maximises the *net present value* of the *market benefit* having regard to a number of alternative projects, timings and market development scenarios; and
An *augmentation* satisfies this test if -

(a) in the event the *augmentation* is proposed in order to meet an objectively measurable service standard linked to the technical requirements of schedule 5.1 of the Code – the *augmentation* minimises the net present value of the *cost* of meeting those standards; or

(b) in all other cases – the augmentation maximises the net present value of the *market benefit*

having regard to a number of alternative projects, timings and market development scenarios.

For the purposes of the test:

(a) *market benefit* means the total net benefits of the *proposed augmentation* to all those who produce, distribute and consume electricity in the National Electricity Market. That is, the increase in consumers' and producers' surplus or another measure that can be demonstrated to produce equivalent ranking of options in most (although not all) credible scenarios;

(b) *cost* means the total cost of the *augmentation* to all those who produce, distribute or consume electricity in the National Electricity Market. Any requirements in notes 1 to 9, inclusive, on the methodology to be used to calculate the *market benefit* of a *proposed augmentation* should also be read as a requirement on the methodology to be used to calculate the *cost* of an *augmentation*;

(c) the net present value calculations should use a discount rate appropriate for the analysis of a private enterprise investment in the electricity sector;

(d) the calculation of the *market benefit* or *cost* should encompass sensitivity analysis with respect to the key input variables, including capital and operating costs, the discount rate and the *commissioning* date, in order to demonstrate the robustness of the analysis;

(e) a *proposed augmentation* maximises the *market benefit* if it achieves a greater *market benefit* in most (although not all) credible scenarios; and

(f) an *augmentation* minimises the *cost* if it achieves a lower *cost* in most (although not all) credible scenarios.

Notes on the methodology to be used in the regulatory test to a proposed augmentation

(1) In determining the *market benefit*, the following information should be considered:

(a) the cost of the *proposed augmentation*;

(b) 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 value of energy to electricity consumers as reflected in the level of VoLL;

iii. 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;

iv. the capital costs of *committed*, *anticipated* and *modelled projects* including demand side and generation projects and whether the capital costs are completely or partially avoided or deferred;

v. the cost of providing sufficient ancillary services to meet the forecast demand; and

vi. the capital and operating costs of other regulated network and market network service provider projects that are

augmentations consistent with the forecast demand and generation scenarios.

(c) the proponent's nominated *construction timetable* must include a *start of construction*, *construction time* and *commissioning*, where:

i. *start of construction* means the date at which construction is required to commence in order to meet the *commissioning* date, taking into consideration the *construction time* nominated by the proponent;

ii. *construction time* is the time nominated by the proponent to order equipment and build the project and does not include the time required to obtain environmental, regulatory or planning approval; and

iii. *commissioning* means the date, nominated by the proponent, on which the project is to be placed into commercial operation.

(2) In determining the *market benefit,* 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 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*.

(3) The costs identified in determining the *market benefit* should include 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. 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. Any other costs should be disregarded.

(4) In determining the *market benefit,* any benefit or cost which cannot be measured as a benefit or cost 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 (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.

(5) In determining the *market benefit,* the analysis should include modelling a range of reasonable alternative 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. These scenarios should include projects undertaken to ensure that relevant reliability standards are met.

These market development scenarios should include:

(a) projects, the implementation and construction of which have commenced and which have expected commissioning dates within three years (*committed projects*);

(b) projects, the planning for which is at an advanced stage and which have expected commissioning dates within 5 years (*anticipated projects*);

(c) generic generation and other investments (based on projected fuel and technology availability) which are likely to be commissioned in response to growing demand or as substitutes for existing generation plant (*modelled projects*); and

(d) any other projects identified during the consultation process.

(6) Modelled projects should be developed within market development scenarios using two approaches: 'least-cost market development' and 'market-driven market development'.

(a) The least-cost market development approach includes modelled 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) The market-driven market development approach mimics market processes by 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 tends should reflect a range of market outcomes, ranging from short run marginal cost bidding behaviour to simulations that approximate actual market bidding and prices, with power flows to be those most likely to occur under actual systems and market outcomes.

(7) In determining the *market benefit,* the *proposed augmentation* should not pre-empt nor distort potential unregulated developments including network, generation and demand side developments. To this end:

(a) a *proposed augmentation* must not be determined to satisfy this test more than 12 months before the *start of construction* date;

(b) a *proposed augmentation* will cease to satisfy this test if it has not commenced operation by 12 months after the *commissioning* date unless there has been a delay clearly due to unforeseen circumstances;

(c) unless there are exceptional circumstances, *new interconnectors* must not be determined to satisfy this test if *start of construction* is within 18 months of the project's need being first identified in a network's annual planning review or NEMMCO's statement of opportunities (or in some similar published document in the period prior to 13 December 1998).

(8) The consultation process for determining whether a *proposed augmentation* satisfies this test must be an open process, with interested parties having an opportunity to provide input and understand how the benefits have been measured and how the decision has been made. Specific consultation is required on:

(a) identifying *committed projects* and *anticipated projects*;

(b) setting input assumptions such as fuel costs and load growth;

(c) modelling market behaviour and considering whether the market development scenarios are realistic;

(d) the proponent's *construction timetable*;

(e) understanding how benefits will be allocated; and

(f) understanding how a decision has been made.

(9) Any information which may have a material impact on the determination of *market benefit* and which comes to light at any time before the final decision must be considered and made available to interested parties.