TransGrid

ACCC Review of the Regulatory Test Discussion Paper February 2003

TransGrid Submission

24th April 2003

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1. Introduction

TransGrid welcomes the opportunity to make this submission to the Australian Competition and Consumer Commission (ACCC) on its Discussion Paper of February 2003 concerning the review of the regulatory test and expresses its appreciation to the ACCC for granting an extension of time.

As stated in its 2002 submission on the May 2002 issues paper, TransGrid is a strong supporter of the fundamental principles embodied in the regulatory test. As a TNSP, the NSW Jurisdictional Planning Body and a member of the IRPC, TransGrid is committed to ensuring that the regulatory test maximises economic efficiency, promotes good planning outcomes and minimises the scope for inappropriate disputes.

The ACCC's Discussion Paper sets out three options for amending the regulatory test, and calls for submissions both on the details of these options themselves, and on what combination of these options should be adopted.

In preparing its response TransGrid has used the services of two economics consultants, National Economic Research Associates (NERA) and Frontier Economics (FE), to provide assistance with certain issues raised in the discussion paper.

NERA's reports on various aspects of Options 1 and 2 and Option 3 are included as Attachment 1 and Attachment 2 respectively. The FE report, Attachment 3, covers a specific example of how "competition benefits" may be included in applications of the regulatory test.

2. Option 1 – Minor Amendments

2.1. Changes to the Preamble of the Regulatory Test

TransGrid agrees with the ACCC that the preamble to the regulatory test should be aligned with the NDR Code changes.

In order to be fully consistent with the Code, the preamble should be changed to:

> "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 TNSPs to *new small network assets* identified under clause 5.6.2A(b)(5)(iii) and pursuant to clause 5.6.6A of the Code; and
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> (c) by applicants to *new large network assets* pursuant to clause 5.6.6(b)(5) of the Code.
>
> In this test, augmentation, *new large network assets* and *new small network assets* are called *proposed augmentations*."

However, a robust and much better approach would be to omit this part of the preamble altogether. The Code itself sets out when the regulatory test should be applied, and repeating these Code references in the preamble to the regulatory test means that the test may need to be updated again and again if the Code provisions change in future.

For further discussion refer to Attachment 1 Section 2.1.

2.2. Changes to the "Reliability Limb" of the Regulatory Test

TransGrid believes that for full consistency with the NDR Code changes the wording of limb (a) of the regulatory test should be changed to:

> (a) in the event the *augmentation* is proposed as a *reliability augmentation* – the *augmentation* minimises the net present value of the *cost* of meeting the relevant *network* performance requirements.

For further discussion refer to Attachment 1 Section 2.2.

2.3. Thresholds for Small and Large New Network Assets

The ACCC has asked interested parties to comment on the current classification between small and large new network assets in the Code.

TransGrid's view is that the current thresholds of $1 Million for a new small network asset and $10 Million for a new large network asset are both too low. Clearly there are no specific values for which a definitive and unambiguous argument would apply. Nevertheless TransGrid suggests that they be raised to $5 Million and $25 Million respectively, on grounds of practicality.

The following examples support this view.

New Small Network Assets Threshold - $5 Million

The estimated cost of very small projects (around $1 Million) is often subject to significant percentage variations due to design changes, evolving project scope and the like. This often makes it difficult to assess, a priori, whether or not a very small augmentation is above the $1 Million threshold.

A more fundamental problem is that applying the principles of the regulatory test in any meaningful way to projects of this size is, at best, problematic. The Code implies that, when applying the regulatory test, the size and importance of the project should be taken into account, but it is not clear from the wording of the regulatory test as to what specific parts of the test can be excluded for small projects.

The following simple examples illustrate other pertinent issues (the examples and issues are meant to be illustrative, not exhaustive).

1. New 132 kV capacitor banks and switchbay (cost $1 - $2 Million).

This type of project is often required for main system reactive support. In these cases it may be difficult to ascribe the problem to a specific part of the network and thus to determine what genuinely equivalent alternatives there might be. Installation of capacitors is generally found to be very cost effective and often needs to be implemented within a short lead time. This means that even a simplified application of the regulatory test is often not practical.

2. Additional transformer capacity at an existing substation (cost $2 - 5 Million).

The cost of increasing transformer capacity at existing substations is in the range $20-$100/kVA. TransGrid's experience over the last 4 years has been that interested parties have not suggested alternatives to this type of project. This suggests that alternatives are either not available or not as cost effective.

With regard to the consideration of different network alternatives, quite often only one transformer option would be seriously considered, given the specifics of the relevant site. Thus in most cases it is difficult to see how the regulatory test can be applied in a useful way to projects of this type, i.e. with meaningful alternatives that interested parties could consider or that could be used to judge the "efficiency" of the proposal.

New Large Network Assets Threshold - $25 Million

TransGrid previously proposed a $25 million threshold for New Large Network Assets at the ACCC's pre-determination conference for the NDR package in September 2001 and in its written submission to the Commission.

Application of the regulatory test involves a considerable administrative burden, and will often require complex market modeling. The value of such an analysis for levels of investment of less than $25 million, given the associated cost of the analysis, may therefore be questionable, particularly when considering the inevitable uncertainty surrounding the inputs and assumptions involved in the analysis. Coupled with the current unrestricted access to the right to dispute, applying the regulatory test to projects of less than $25 million could conceivably lead to significant delays to relatively minor, but important augmentations.

The example TransGrid previously used to illustrate the problems in this area was that of the installation of a Static Var Compensator in the Sydney area at a cost above $10 million but less

than $25 million. The "need" for this proposal was very complex, involving the consideration of both local and “global” problems. This would have made a fair comparison with alternative projects such as demand management or local generation extremely difficult. Thus, a detailed application of the regulatory test to a proposal of this type would have been problematic.

2.4. The Regulatory Test, Replacement Assets and Refurbishments

The ACCC proposes that the regulatory test should only be applied to that part of an investment project that augments a network, as opposed to the replacement of existing assets.[1]

TransGrid supports the ACCC’s proposal.

TransGrid’s view is that the refurbishment or replacement of assets (where there is no increase in the capacity of part of a network) does not constitute an *augmentation.* The network development provisions of the Code (Clause 5.6.2) and the preamble of the regulatory test (see 2.1 above) therefore make clear that such a refurbishment or replacement does not require the regulatory test to be applied.

Furthermore, TransGrid notes that there are three situations when, in replacing part of a network, its capacity may, in practice, be increased without there being any “need” (for example due to load increases) for a capacity increase:

1. Changes in technology may result in an “unavoidable” increase in capacity (where the most cost effective replacement has a higher capacity) and/or;
2. Current *good electricity industry practice* may dictate the use of higher capacity plant (for example, to ensure compatibility with similar plant in a network) and/or;
3. There may be new statutory requirements that lead to an unavoidable increase in capacity (for example, where environmental or occupational health and safety requirements result in increased capacity plant being mandated.

TransGrid’s view is that in these situations, the replacement is not an *augmentation* and therefore the regulatory test should not be applied.

In some cases a replacement "project" is combined with an *augmentation* "project" as a single “physical” project. In these cases TransGrid’s view is that only the *augmentation* component of the physical project is subject to the network development procedures under Chapter 5 of the Code. For example, if an aging substation is replaced (in situ) and at the same time larger capacity transformers are proposed for the specific purpose of providing increased capacity to meet load growth, then only the marginal cost of the increased transformer capacity is an *augmentation*.

TransGrid notes the ACCC's comments on p 27 of its discussion paper that replacement assets are less likely to face a risk of optimisation if the regulatory test has been applied.

TransGrid’s view is that application of the regulatory test (either in its current form, or any form proposed by the ACCC in its discussion paper) to the replacement or refurbishment of assets would be highly problematic in practice. As discussed above such projects are not *augmentations* and in most cases there would be no reasonable alternative projects (other than construction of an equivalent replacement project).

TransGrid believes that a “prudency test” for expenditure on replacement assets would be more appropriate. The ACCC’s discussion paper notes that replacement or refurbishment expenditure would be subject to a ‘prudency’ assessment.

2.5. Other Minor Changes to Improve Clarity and Avoid Unnecessary Disputes

TransGrid believes that the following minor changes to the wording of the regulatory test will improve its clarity:

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[1] ACCC Discussion Paper, p.26.

1. References to the term "project" in the test should make clear the distinction between those that refer to alternative options and those that refer to future developments that form part of market development scenarios.
2. The wording of the phrases in brackets in paragraphs (e) and (f) in the section beginning "For the purposes of the test" should be changed to read:

   "…(although not necessarily all)."

For further discussion refer to Attachment 1 Section 2.3.

3. Option 2 – Definitional Changes

3.1. Alternative Projects

TransGrid is of the view that a clearer definition of alternative projects would be helpful, and suggests that the wording of the definition should be as follows:

(a) the project should be a genuine alternative to the project being assessed, ie, a substitute; and

(b) the project should be practicable.

With the definition of 'practicable' being:

"Practicable:

In considering the practicality of a proposal, the following issues need to be considered:

- the technical feasibility of the alternative proposal; and
- the commercial feasibility of the alternative proposal.

Where a proposal has a clearly identifiable and credible proponent, the project should be considered to be practicable."

For further discussion refer to Attachment 1 Section 3.1.

3.2. Proposed Indicative Lists of Costs and Benefits

TransGrid supports inclusion of a list of costs and benefits, similar to the one that the ACCC has proposed, as examples in the regulatory test. It is to be understood that the inclusion, or exclusion, of each cost or benefit in the list, or of other costs and benefits, depends only on the materiality of that cost or benefit to each option being considered.

In regard to the ACCC proposal to include costs of disruption to the NEM for testing in the list of costs, TransGrid notes that in applying the regulatory test wealth transfers do not alter the market benefit. Consequently the net cost to the NEM of testing may not be material.

In regard to "deferment of reliability plant", NERA has raised the issue that different interpretations as to how this ought to be calculated may give materially different results (Attachment 1).

TransGrid's view is that the ACCC should provide guidance on the acceptable range of methods.

For further discussion refer to Attachment 1 Section 3.2.

3.3. Committed/Anticipated Projects

TransGrid's view is that the ACCC's proposal to set out a clear set of criteria for when projects should be considered 'committed' or 'anticipated' would enhance the clarity surrounding the regulatory test and reduce the scope for disputes.

The ACCC's proposal to adopt the SOO criteria for a committed project and its proposal for a similar set of criteria for an anticipated project are a reasonable starting point. However, a more equitable application of these criteria must recognise the different processes that apply to the decision making process for development of regulated and unregulated assets. The criteria applying to regulated and non-regulated projects must result in a similar level of confidence in accepting that the project would, in fact, proceed. A proposal that treats them on an equal footing, would be as follows.

For a project to be considered as 'committed', two criteria, that would be required for both regulated and non-regulated projects, are:

1. The proponent has obtained all required planning consents, construction approvals and licenses, including completion and acceptance of any necessary environmental impact statement; and

2. Construction of the proposal must either have commenced or a firm commencement date must have been set.

A regulated project would need to also meet the following additional criteria:

1. The proponent has demonstrated that the investment satisfies the regulatory test, in line with the provisions in the Code.

A non-regulated project would need to also meet the following additional criteria:

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

2. Contracts for supply and construction of the major components of the plant and equipment (such as generators, turbines, boilers, transmission towers, conductor, terminal station equipment) should be finalised and executed, including any provisions for cancellation payments; and

3. The financing arrangements for the proposal, including any debt plans, must have been concluded and contracts executed.

The above criteria could be modified to apply to anticipated projects.

For further discussion refer to Attachment 1 Section 3.3.

3.4. Discount Rate

TransGrid agrees with the analysis by NERA (refer Attachment 1 Section 3.4) that concludes:

> *"… the term 'commercial' discount rate does not appear to provide sufficient clarity in relation to the choice of discount rate to be applied under the regulatory test. In our opinion, the appropriate discount rate is the weighted average cost of capital (WACC) determined by the average risk profile of the market portfolio. Adopting the capital asset pricing model (CAPM) this can be calculated using the market average equity beta of 1, de-levered for the average market gearing (of around 30%) to gain an average asset beta of around 0.7. The market average asset beta should then be applied to the same estimate of market risk premium adopted by the ACCC at its most recent TNSP revenue determination, and combined with an up-to-date estimate of the risk free rate."*

TransGrid also agrees with NERA's view that to choose a different discount rate risks undermining the objective of competitive neutrality and that this is likely to have already occurred in the past.

3.5. VOLL, PPC and VCR

TransGrid's view is that the current "VOLL", i.e. the cap on spot market prices, is not a true measure of the amount that end use customers (consumers) might be prepared to pay for reliability. As a result, VOLL should not be regarded as an accurate basis on which to estimate the benefits to consumers due to the avoidance of unserved energy, in applications of the regulatory test. However the use of VOLL in the regulatory test in the context of modeling market outcomes and the pattern of generation entry is appropriate.

For the sake of clarity, when applying the regulatory test, these two "interpretations" of VOLL should be given different labels. TransGrid would prefer the use of the terms "Value of Consumer Reliability" (VCR) for the value that consumers place on reliability and "Pool Price Cap" (PPC) for capping the pool price of electricity.

Therefore it is suggested that Note (1) (b) (ii) of the regulatory test should be altered to "the value of reliability of supply to electricity consumers (VCR) and the wholesale market pool price cap (PPC). Note 6(a) may also require clarification of the term "reliability increases".

Values of consumer reliability have been estimated in a number of studies. For example, TransGrid sponsored a study by Monash University's Centre for Electrical Power Engineering in 1998, which concluded, inter alia, that a composite VCR in the range $20,000 - $24,000/MWh would be appropriate. TransGrid notes that VENCorp is currently consulting on the adoption of a revised value of VCR based on the outcomes of a similar study and has proposed the adoption of a prima facie value of $29,600 /MWh. TransGrid also notes that VCR studies all recognise the locational and sector specificity of VCR values.

TransGrid supports the adoption (in applications of the regulatory test) of a composite value of VCR of not less than $20,000 /MWh, to be used in the absence of better information. Where actual sector and/or locational VCR information is available this information should be used in the analysis.

TransGrid supports the continued use of the PPC (currently $10,000/MWh) in market simulations involving reliability generation bidding and the projection of future pool prices (as input to deriving market development scenarios).

For further discussion refer to Attachment 1 Section 3.5.

3.6. Reliability Augmentation

TransGrid notes that the ACCC proposes in its discussion paper to include a requirement for NSPs to disclose a range of information in relation to reliability augmentations.[2] This information includes the cost of the augmentation and the benefits that the augmentation provides.

TransGrid notes that under the 'reliability limb' of the regulatory test, the NSP has to demonstrate that the augmentation has the lowest net market cost. Such an assessment requires an analysis of both the costs and benefits of the augmentation (in order to determine the 'net cost') and therefore will automatically include information on both the cost of the augmentation and the benefits it provides (such as deferral of generation investment). TransGrid does not therefore believe that the additional information requirements proposed by the ACCC are required.

TransGrid notes that the ACCC, on p 36 of its discussion paper, states that reliability augmentations are not subject to dispute.

4. Option 3 – Inclusion of Competition Benefits in the Regulatory Test

As discussed in the Introduction, TransGrid has used the services of two economics consultants to determine whether, and if so how, the so called "competition benefits", should be included in the regulatory test. A summary of TransGrid's view is given here and the ACCC is referred to Attachments 2 and 3 for detailed discussions of various aspects of this complex topic.

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2 ACCC Discussion Paper, p.37.

"Competition benefits" are understood to be those benefits that arise from:

- Spot market prices being above generation marginal costs (due to presence of generation market power) and then becoming more closely aligned with marginal costs as a consequence of a project (due to reduction of market power, i.e. "greater competition"); and
- Consumption of electricity increasing in response to lower spot market prices (elasticity).

The components of these benefits can be categorized as:

- Productive efficiency gains (more efficient dispatch outcomes);
- Allocative efficiency gains (increased consumption due to lower prices); and
- Dynamic efficiency gains (delayed, ie more economically efficient, generation entry).

All of these components may arise (to some extent) in applications of the regulatory test that assume perfect competition, although to date, allocative efficiency gains have not been considered to be significant because:

- Demand elasticity has been assumed to be low; and
- Changes in costs have been used as a substitute for changes in the consumer and producer surplus.

Thus, if the following are allowed:

Condition 1 Assumptions are made that result in a difference between generation costs and spot market prices (essentially a non-competitive bidding model that quantifies the price effects of market power)

Condition 2 Demand elasticity is assumed to be non-zero; and

Condition 3 The consumer and producer surplus is measured directly,

then the quantum of the above benefits can be expected to increase, i.e. "competition benefits will have been included".

TransGrid considers that the only robust way to incorporate competition benefits in the regulatory test is through an approach that allows for non-competitive market bidding in conducting the market modeling underpinning the analysis. The issue of "inclusion of competition benefits in the regulatory test" essentially means whether Condition 1 should be allowed. Clearly the wording of the regulatory test allows for Conditions 2 and 3 although, as discussed above, these conditions have not been included in recent applications of the test.

In Attachment 2, NERA discusses "net" competition benefits and so-called "gross" benefits (the difference between the net and gross measures being a wealth transfer from producers to consumers.) As an integral part of market modeling both net and gross measures are calculated and thus can be reported.

TransGrid's view is that as it is currently worded, the regulatory test allows for net competition benefits to be included (i.e. Condition 1 is allowed). If there is any doubt in this regard then the regulatory test should be reworded to remove any such doubt and ambiguity.

In Attachment 3, Frontier Economics provides a market modeling exercise that uses "Cournot-Nash Equilibrium" (Nash Equilibrium) bidding strategies (as an implementation of Condition 1) to estimate increases in productive and allocative efficiencies (in broad terms the static effects of the inclusion of net competition benefits) for a notional project. (The Nash Equilibrium model has the advantage of not making explicit assumptions about the extent of market power.) The increase in the surplus thus calculated was significant.

The conclusion TransGrid draws from this exercise is that there is evidence that net competition benefits, if correctly estimated, may be significant. To the extent that such benefits represent real world effects, they should not be excluded from consideration in applications of the regulatory test.

To do so would expose the NEM to the risk that an economically efficient proposal would otherwise not pass the regulatory test and not be built.

TransGrid supports the use of Nash Equilibrium modeling as one possible implementation of Condition 1 but would welcome the option of other models if they reflect actual market behaviour.

TransGrid's recommendations for the inclusion of net competition benefits in the regulatory test are as per Attachment 2, and for clarity, are summarised here:

(a) the notes to the regulatory test be amended as necessary, to clarify that the regulatory test analysis can include non-competitive bidding, where this is considered to reflect actual market behaviour;

(b) the inclusion of non-competitive bidding should not be mandatory, but could be undertaken by NSPs where it is able to be shown that that actual market behaviour involves non-competitive bidding and that the "competition impact' of the augmentation will be significant; and

(c) in order to increase transparency, the magnitude of any competition benefits should be explicitly identified as part of the regulatory test assessment, together with their impact on the project rankings.

5. Network Augmentations for Customer Benefit

We agree with the ACCC that the matter of dealing with the gross customer benefits within an economic test is a difficult one but in view of the almost universal criticisms made regarding the lack of investment in interconnectors needs to be dealt with.

There are three main issues:

- allocation of benefits of NEM recognizing, perceived or real, generator market power;
- relative sharing of payment for transmission, in particular interconnections; and
- regulatory precedence on protecting customers from market exploitation.

These three issues are discussed below.

Allocation of NEM benefits

The recently released Parer Report, prepared on behalf of the Council of Australian Governments, clearly recognises the governments' rightful concern regarding potentially inequitable distribution of reform benefits (Chapter 4, p. 149).

The distributional issues in allocating benefits in the NEM generally arise from exercises of market power and, to the extent that generators may have some market power, it is important that a mechanism is put in place to measure this and publish the outcomes. Calculation and publication of a market power index such as the Herfindahl-Hirschmann Index (HHI) adjusted for demand elasticity as proposed by the ACCC would be a positive step in this direction.

The approach proposed by Frontier Economics (Attachment 3) is another way of measuring and reporting on the market power.

Relative sharing of payment for transmission in the NEM

Of the entire regulated transmission, over 95% is paid for by consumers (as shared assets), while generators only pay less than 5% (for shallow connection assets). Interconnectors are classified entirely as shared assets and are 100% paid for by consumers.

Therefore, it can be argued that network augmentation proposals, in particular interconnection proposals that assist in accruing gross benefits to consumers, should be preferred over those that do not. This proposition is in complete alignment with one of the primary aims of the market reform process, which is to benefit consumers.

In order to facilitate such an outcome, the Parer report suggests that "The public interest would be best served by governments adopting off-market mechanisms…". This is essentially a policy matter.

In this light, network (and in particular interconnection) augmentation proposals, may be "justifiable" based on gross customer benefits rather than net benefits. It would be a simple matter for applications of the regulatory test (for such proposals) to report on the potential magnitude of gross benefits. A decision can then by made via a suitable jurisdictional vehicle as a matter of policy.

Regulatory precedence on protecting consumers

The ACCC has a statutory obligation to protect consumers from market exploitation. It exercises its powers of discretion to discharge this obligation as a matter of course while making determinations on proposed mergers and acquisitions. Notable recent examples include telecommunications, airlines and media industries.

In conclusion, network augmentation proposals that assist in correcting distributional issues by accruing gross benefits to consumers should be allowed to proceed as a matter of policy determination. This proposition is in accord with the primary aims of the market reform process and the aims of market regulation.