SUBMISSION IN RESPONSE TO

ACCC DISCUSSION PAPER:

REVIEW OF THE REGULATORY TEST

4 April 2003

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1. EXECUTIVE SUMMARY

This paper sets out VENCorp's responses on the key issues and options outlined in the ACCC's February 2003 Discussion Paper on the Regulatory Test.

The ACCC's Discussion Paper canvasses three broad options for the Regulatory Test. VENCorp's views on each of these options are summarised below.

The first option canvassed is the retention of the Regulatory Test in its present form, with some minor amendments to align the test with the Code, following the gazettal of the Network and Distributed Resources Code changes. VENCorp concurs with the ACCC that there are advantages associated with maintaining the test in its current form. VENCorp has successfully applied the Regulatory Test in all of its intra-regional augmentation decisions, and in the recent "SnoVic" inter-regional augmentation decision. Given these factors, VENCorp believes that the existing Regulatory Test (with minor modifications to ensure alignment with the Code) provides a systematic and robust framework for the analysis of transmission investment decisions. Overall, VENCorp remains strongly committed to the retention of the test in its current form.

The second option canvassed involves the clarification of elements of the Regulatory Test that may currently be considered ambiguous and open to interpretation.

In principle, VENCorp supports any refinement of the Regulatory Test that has the effect of clarifying the scope, interpretation and application of the test. However, VENCorp notes that further specification and detailed prescription of the test may not necessarily close off the opportunities for interested parties to present strategically-biased assessments, which nonetheless comply with the (potentially highly detailed) requirements of the Regulatory Test. It is therefore important for any further refinements to the form of the test to reinforce the overall substance and intent of the Regulatory Test, which VENCorp understands to be: the comprehensive, systematic and even-handed assessment of options to address emerging network constraints.

On the questions of deterministic planning standards and "reliability augmentation", VENCorp considers that:

- rigorous analysis should be undertaken to establish the underlying economic basis of deterministic standards that might be used to justify new network investment; and
- any definition of "reliability augmentation" that forms the basis of a network investment decision criterion should itself be established pursuant to a rigorous and comprehensive economic justification.

In addition, VENCorp considers that any definition of "substitute projects" should not enable interested parties to unduly limit the range of feasible and potentially more cost-effective alternatives.

Finally, VENCorp strongly disagrees with the proposal to use the VoLL wholesale market price cap as the basis for estimating the value of supply reliability to consumers under the Regulatory Test. VENCorp proposes to apply a value of customer reliability (VCR) in its transmission investment evaluations derived from the results of customer surveys (the most recent of which suggest an average VCR of $29,600 per MWh in Victoria), on the basis that:

- this value is consistent with the VoLL of around $26,500 per MWh implied by the Reliability Panel's reliability standard for the wholesale electricity market; and
- the adoption of this approach is consistent with VENCorp's objectives, which require its transmission augmentations to be aimed at maximising net benefits directly associated with the production and consumption of electricity to electricity industry participants (including end consumers) as a whole.

The third option canvassed by the ACCC is the incorporation of a competition test into the Regulatory Test.

VENCorp remains strongly of the view that broadening the scope of the Regulatory Test to attempt to capture the benefits of greater competition raises policy issues that should be addressed separately and transparently by the Jurisdictions.

The Productivity Commission's recent review of the national access regime, and the WA Supreme Court's recent judgement in the case brought by Epic Energy against the WA Office of Gas Access Regulation illustrate some of the practical issues involved in attempting to:

- apply economic concepts to the regulation of competition; and
- intervene in markets to unambiguously improve on market outcomes.

Again, VENCorp sees these matters as important policy issues, to be addressed transparently by the Jurisdictions and the competition regulators outside the framework of the Regulatory Test. It is the role of policy makers to adjudge the weight that should be given to a consideration of welfare distribution impacts or "competition benefits" in any decision to construct new transmission infrastructure. It is VENCorp's view that:

- any analysis of competition benefits should be undertaken separately from the assessment of net market benefits made pursuant to the Regulatory Test in its present form; and
- the Regulatory Test, which is founded on the basic principles of cost-benefit analysis should continue to be the primary economic assessment tool applied by TNSPs.

It is suggested that a policy objective of increasing competition in the electricity market through the construction of more transmission infrastructure should be founded on a careful and rigorous public policy analysis, having regard to the guidance provided by the Productivity Commission's review of the national access regime and the WA Supreme Court's recent decision in the Epic Energy case.

Notwithstanding these views, VENCorp has examined the different approaches to measuring competition benefits that are canvassed in the ACCC's Discussion Paper.

It appears that at least some of the measures of "competition benefits" produced by these approaches include changes in transfer payments between market participants. VENCorp considers that the inclusion of changes in transfer payments in an assessment of competition benefits is likely to produce dysfunctional signals and misleading estimates of competition benefits. VENCorp considers that a valid basis for assessing competition benefits may be to estimate the ***net*** benefits expected to flow from changes in transfer payments (i.e. lower electricity prices), which lead to an increase in efficiency for the economy as a whole. These benefits could be estimated by undertaking a general equilibrium analysis. Any such analysis should be undertaken separately from the assessment of net market benefits made pursuant to the Regulatory Test. The Regulatory Test should continue to be the primary economic evaluation tool applied by TNSPs.

In any event, VENCorp considers that a competition benefits test should only be applied if:

- there is reasonable confidence that the level of market power and competition can be measured objectively; and
- there is a reasonable basis for objectively estimating the ***net*** expected benefits of "increased competition".

Having regard to these criteria, VENCorp considers that the alternatives canvassed in the ACCC's Discussion Paper are unlikely to provide a robust and objective estimate of the net benefits expected to arise from increased competition.

2. INTRODUCTION AND BACKGROUND

In May 2002, the ACCC released an Issues Paper as part of its commitment to reviewing the Regulatory Test. VENCorp submitted a response to that Issues Paper in June 2002.

Following the conclusion of the National Electricity Tribunal's consideration of the SNI matter, the ACCC published a Discussion Paper (*titled Review of the Regulatory Test*) in February 2003.

This paper sets out VENCorp's responses on the key issues and options outlined in the ACCC's February 2003 Discussion Paper. This paper should be read in conjunction with VENCorp's June 2002 submission to the ACCC on this matter, a copy of which is available at:
http://www.accc.gov.au/electric/regulation/other_rw/pdf/VENCORP.pdf

This paper is structured as follows:

- Section 3 outlines VENCorp's views in response to the first option (minor amendments to the existing test) proposed in the ACCC's Discussion Paper.
- Section 4 sets out VENCorp's comments on the second option (definitional amendments).
- Section 5 sets out VENCorp's views on the merits of extending the Regulatory Test to include a "competition benefits test" (the third option canvassed in the ACCC's Discussion Paper).

3. OPTION 1: MINOR AMENDMENTS TO EXISTING TEST

3.1 Overview of the ACCC's proposal and VENCorp's position

The first option canvassed is the retention of the Regulatory Test in its present form, with some minor amendments to align the test with the Code, following the gazettal of the Network and Distributed Resources Code changes. Pages 22 and 23 of the ACCC's Discussion Paper note that:

- Most interested parties support the retention of the "maximising net benefits" test arguing that it is the appropriate test to apply to network investments and is consistent with the principles of ensuring that only efficient and prudent investments are granted regulated status.

- There are several advantages in maintaining the regulatory test in its current form. For instance, the regulatory test has been applied on a number of occasions in its current form and there is an understanding of how it is to be applied. Further, the regulatory test has now been subject to an appeal to the National Electricity Tribunal.

VENCorp concurs with the ACCC that there are indeed advantages associated with maintaining the test in its current form. VENCorp has successfully applied the Regulatory Test in all of its intra-regional augmentation decisions, and in the recent "SnoVic" inter-regional augmentation decision. Given all of these factors, and the merits of the test (as described in VENCorp's June 2002 submission to the ACCC), VENCorp believes that considerations of good public policy suggest that the existing arrangements should only be revised if a robust case for change can be made.

VENCorp believes that the existing Regulatory Test (with minor modifications to ensure alignment with the Code) provides a systematic and robust framework for the analysis of transmission investment decisions. Overall, VENCorp remains strongly committed to the retention of the test in its current form.

VENCorp's detailed comments on the minor amendments proposed by the ACCC are set out in Sections 3.2 to 3.7 below.

3.2 Clarification of the Regulatory Test preamble

VENCorp agrees with the amendment proposed on page 24 of the ACCC's Discussion Paper.

3.3 Clarification of part (a) of the Regulatory Test

Part (a) of the Regulatory Test prescribes the criteria that must be met if a reliability augmentation is to be included in the regulated asset base of an NSP. VENCorp agrees with the amendment proposed on page 25 of the ACCC's Discussion Paper.

However, VENCorp reiterates the views expressed in its June 2002 submission to the ACCC, that:

- There appear to be sound reasons to question whether an approach based on part (a) of the Regulatory Test (namely, least-cost compliance with deterministic standards) provides a comprehensive means of assessing the economics of proposed augmentations alongside other options, as required by part (b) of the test.

- Therefore, it is reasonable to question whether the net present value of the market benefit is maximised when investment decisions are justified simply on the basis of least-cost compliance with deterministic standards.

- Parts (a) and (b) of the Regulatory Test should be consistent with one another, and should be expected to deliver the same decision signals when applied to the same augmentation proposal. This suggests that at the very least, any definition of "reliability augmentation" that forms the basis of a network investment decision criterion should itself be established pursuant to a rigorous and comprehensive economic justification. It is VENCorp's understanding that no such analysis has yet been undertaken to establish the underlying economic basis of deterministic standards that might be used to justify new network investment.

- In view of this, VENCorp strongly suggests that the definition of "reliability augmentation" and any associated standards in Schedule 5.1 of the Code should be undertaken by an independent body, and clarified as a matter of urgency. It is noted that clause 5.6.3(a)(5) of the Code provides for the IRPC to publish criteria for assessing whether a proposed new small network asset or new large network asset is a reliability augmentation, in accordance with guiding objectives and principles developed by NECA. It is noted however that the IRPC is comprised predominantly of TNSPs that have a commercial interest in building and owning networks. Notwithstanding NECA's involvement, VENCorp considers that the credibility of the process to establish the economic basis of deterministic investment criteria would be enhanced if that process was seen to be completely independent of all parties that have a commercial interest in developing and owning network assets.

It is also suggested that parts (a) and (b) of the test would be further clarified if paragraphs (e) and (f) of the test were amended as suggested below:

> (e) a proposed augmentation maximises the market benefit, <u>pursuant to part (a) of the test</u> if it achieves a greater market benefit in most (although not all) credible scenarios; and
>
> (f) an augmentation minimises the cost, <u>pursuant to part (b) of the test</u> if it achieves a lower cost in most (although not all) credible scenarios.

3.4 Amendments to remove references to NEMMCO

VENCorp agrees that the proposed amendments detailed at the bottom of page 25 of the ACCC's Discussion Paper are required to align the provisions of the Regulatory Test with the provisions set out in the "Network and Distributed Resources" Code changes.

3.5 Definition of small and large network assets

VENCorp has not encountered any significant practical difficulties in administering the Code's arrangements in accordance with the present definitions of small and large network assets.

3.6 Definition of asset replacement and refurbishment

VENCorp welcomes the ACCC's clarification (stated on page 26 of the Discussion Paper) that:

> "The Commission sees clause 5.6.6 and 5.6.6A as requiring the regulatory test to be applied only to that part of an investment project that augments a network, as opposed to the replacement of existing assets."

It is noted that the ACCC proceeds to state (on page 27):

> "However, if a TNSP replaces an existing asset with one that simultaneously increases the capability of its network, the Commission is of the view that the part of the investment project that augments the network is subject to the regulatory test."

VENCorp concurs with the principles underpinning the ACCC's view. However, it is noted that in some cases, it may be difficult in practice to clearly distinguish between investment associated with the replacement of existing capability, and investment that increases capability. This practical consideration does not present significant problems, but it does suggest a need for pragmatism in the application of the Regulatory Test.

3.7 Optimisation risk

On page 27 of the Discussion Paper, the ACCC acknowledges the responses of interested parties to the issue of optimisation, and states that it will consider this issue further in its finalisation of the Statement of Regulatory Principles. VENCorp looks forward to participating in the ACCC's consultation process.

4. OPTION 2: DEFINITIONAL AMENDMENTS

4.1 Overview of the ACCC's proposal and VENCorp's position

The second option suggested by the ACCC responds to suggestions made by some parties that the ACCC should take a more rigorous approach to defining the boundaries of the regulatory test, to minimise the scope for different interpretations of its application being adopted to suit individual needs.

Accordingly, the second option canvassed involves the clarification of elements of the regulatory test that may currently be considered ambiguous and open to interpretation.

In principle, VENCorp supports any refinement of the Regulatory Test that has the effect of clarifying the scope, interpretation and application of the test. However, VENCorp notes that further specification and detailed prescription of the test may not necessarily close off the opportunities for interested parties to present strategically-biased assessments, which nonetheless comply with the (potentially highly detailed) requirements of the Regulatory Test. It is therefore important for any further refinements to the form of the test to reinforce the overall substance and intent of the Regulatory Test, which VENCorp understands to be: the comprehensive, systematic and even-handed assessment of options to address emerging network constraints.

On the questions of deterministic planning standards and "reliability augmentation", VENCorp considers that:

- rigorous analysis should be undertaken to establish the underlying economic basis of deterministic standards that might be used to justify new network investment; and
- any definition of "reliability augmentation" that forms the basis of a network investment decision criterion should itself be established pursuant to a rigorous and comprehensive economic justification.

In addition, VENCorp considers that any definition of "substitute projects" should not enable interested parties to unduly limit the range of feasible and potentially more cost-effective alternatives.

Finally, VENCorp strongly disagrees with the proposal to use the VoLL wholesale market price cap as the basis for estimating the value of supply reliability to consumers under the Regulatory Test. VENCorp proposes to apply a value of customer reliability (VCR) in its transmission investment evaluations derived from the results of customer surveys (the most recent of which suggest an average VCR of $29,600 per MWh in Victoria), on the basis that

- this value is consistent with the VoLL of around $26,500 per MWh implied by the Reliability Panel's reliability standard for the wholesale electricity market; and
- the adoption of this approach is consistent with VENCorp's objectives, which require its transmission augmentations to be aimed at maximising net benefits directly associated with the production and consumption of electricity to electricity industry participants (including end consumers) as a whole.

VENCorp's detailed comments on the key amendments proposed by the ACCC are set out in Sections 4.2 to 4.8 below.

4.2 Definition of alternative projects

VENCorp generally concurs with the ACCC's assessment of the issues surrounding the definition of alternative projects (on pages 28 to 30, inclusive, of the Discussion Paper). In particular, VENCorp agrees with the ACCC's view (stated on page 30) that:

> "[It] is not necessary for the proponent criteria to be linked to the practicability of an alternative project, as this would eliminate projects which seem technically and commercially feasible from the analysis or other legitimate proposals… [and] that including a proponent criterion in the alternative project definition may also lead to gaming by the TNSP who will have the ability to determine which projects are considered under the regulatory test, and to only agree to be a proponent for its preferred projects."

VENCorp broadly concurs with the criteria (set out on page 30 of the Discussion Paper) for deciding which alternative projects should be taken into account in applying the Regulatory Test, subject to satisfactory resolution of the concern, discussed below, that VENCorp has in relation to defining a "substitute project".

On page 30 of the Discussion Paper, it is proposed that:

> "For a proposal to be a substitute:
>
> - the outcomes delivered by the proposal should be similar to those delivered by the project; and
> - the proposal should become operational in a similar time frame to the project."

Whilst this proposal may be perceived as clarifying the requirements of the test, it also necessitates an interpretation of the term "similar". VENCorp is concerned that this proposed requirement may be used by interested parties to unduly limit the consideration of otherwise feasible, and potentially more efficient alternatives. The recent Application of Murraylink Transmission Partnership (MTP) to convert the status of Murraylink from MNSP to regulated interconnector provides an example of VENCorp's concerns in this regard.[1] VENCorp strongly suggests that any definition of "substitute projects" should be framed in light of the need to ensure that such definition would not provide a means of unduly limiting the consideration of feasible and potentially more cost-effective alternatives.

Finally, VENCorp concurs with the ACCC's view (stated on page 31) that:

> "In regard to the number of alternatives to consider, the Commission does not believe that it is appropriate to strictly define the number of alternatives to consider when assessing a proposed augmentation under the regulatory test, as this will vary from case to case. The Commission is still of the view that the number of alternatives considered should be proportional to the size and/or importance of the proposed augmentation."

4.3 Defining market benefits

VENCorp agrees with the ACCC's suggestion (on page 32 of the Discussion Paper) that it would be helpful for the Regulatory Test to include a list of examples of market benefits after the definition of "market benefits". However, the list set out on pages 31 and 32 contains some items that are somewhat unclear, or appear to be redundant. For instance:

- Benefits of savings in fuel consumption arise only from reductions in fuel costs. Reduced fuel costs, may, in turn be caused by changes in dispatch patterns and/or reductions in transmission losses. It

[1] A copy of VENCorp's submission on this Application is available at the ACCC's website at the following address: http://www.accc.gov.au/electric/regulation/murry_subs/VENCorp.pdf

would probably be helpful if the proposed list of market benefits distinguished between the cause or source of the benefit (eg changes in dispatch patterns or reduced losses) and the mode of its measurement (i.e. reduced fuel costs).

- The relevance of "total volume of VoLL generation forecast" (item 3a on page 32) is unclear. In terms of supply reliability, the only relevant consideration in an evaluation of net benefits is the expected level of involuntary supply interruption.

As noted in its June 2002 submission to the ACCC, VENCorp considers that there is a need to amend Note (1)(b)(ii) of the Regulatory Test to clarify that the net market benefit is to be evaluated using the marginal value of supply reliability to consumers, rather than the VoLL wholesale market price cap. Further detailed analysis of the issue of valuing supply reliability is set out in Section 4.7 below.

4.4 Defining Costs

VENCorp concurs with the ACCC's views on the definition of costs to be included in an assessment under the Regulatory Test. VENCorp agrees in principle that the "cost of disruption to the NEM for testing of augmentations or upgrades" should also be included in the economic evaluation. It is noted however, that the basis for estimating any such cost should be consistent with the principles underpinning the definition of "net market benefits". That is to say, an estimate of the ***net*** cost of interconnector commissioning testing should be included.

Notwithstanding this important principle, it is noted that the TNSP responsible for commissioning an interconnector may incur commissioning costs that are in excess of the net cost (due, for instance, to payment obligations associated with high negative settlements residues, or bilateral contracts with generators required to facilitate testing). To the extent that the financial obligations imposed on the TNSP exceed the net cost, then the payments made by the TNSP will represent transfer payments. Under the principles of the Regulatory Test, these transfer payments would be netted off, however it is expected that the TNSP will recover the financial costs of any such payments through its regulated transmission charges.

4.5 Definition of committed and anticipated projects

VENCorp generally concurs with the definitions of committed and anticipated projects proposed on pages 33 and 34 of the Discussion Paper.

However, VENCorp considers that the Regulatory Test should be clarified to ensure that **all** incremental costs of alternative options, including "committed" projects are included in the evaluation. For instance, the results of the Regulatory Test may be biased if the incremental (i.e. avoidable) costs of "committed" projects are treated as sunk (i.e. unavoidable costs) and excluded from the evaluation. In this context, it is noted that a large proportion of the costs of a "committed" project may still be avoidable if the project does not proceed or is abandoned in the early stages. The Regulatory Test should require take avoidable costs to be taken into account in the economic evaluation.

4.6 Commercial discount rate

The discount rate applied in the economic evaluation of transmission augmentation should be consistent with the opportunity cost of capital of an investment in electricity infrastructure. The opportunity cost should reflect the market risk, or undiversifiable risk associated with the investment.

The Capital Asset Pricing Model (CAPM) provides a reasonably straightforward framework for estimating the premium over a risk free rate of interest that investors require to bear market risk. The

CAPM is also presently used by Australian regulators (including the ACCC) to estimate the opportunity cost of capital of regulated utilities.

The ACCC has stated that the net present value calculation in the Regulatory Test should use a discount rate appropriate for the analysis of a private enterprise investment in the electricity sector. Page 35 of the ACCC's Discussion Paper also notes that:

> "Submissions to the earlier Issues Paper have indicated that a commercial discount rate is appropriate for calculating the NPV of projects. It was noted that the use of a discount rate for regulated investments applicable to an equivalent private investment in the electricity sector is appropriate, consistent with the uniform treatment of regulated and unregulated projects."

VENCorp concurs that there should be consistent treatment of regulated and unregulated options in the application of the Regulatory Test. It is noted that this principle should be achieved if the discount rate used is consistent with the opportunity cost of capital.

It is reasonable to suggest that regulatory determinations of the WACC for regulated TNSPs provide a guide as to the opportunity cost of capital (albeit for regulated electricity infrastructure).

It would also be reasonable to suggest that the cost of capital of unregulated electricity infrastructure (such as generation) provides a guide to the opportunity cost of capital. Generation is typically regarded as being "more risky" than regulated transmission or distribution, so it is generally expected that the opportunity cost of capital of (unregulated) generation would be higher than that of (regulated) transmission. It is beyond the scope of this submission to estimate a WACC for electricity generation, however, the following observations can be made:

- Under the CAPM framework, the only risk that impacts on the cost of capital is undiversifiable risk[2].
- Intuitively, the undiversifiable risk of generation seems unlikely to exceed the undiversifiable risk of the market, given the comparatively low elasticity of demand for electricity.

Having regard to these basic observations, an estimate of the opportunity cost of capital could be made by examining the returns on the share-market as a whole.

The two WACC estimates described above (namely, the regulated WACC for TNSPs and the market cost of capital) probably provide reasonable estimates of the lower and upper limits (respectively) of the discount rate that should be applied in the Regulatory Test.

VENCorp concurs with the ACCC's suggestions (on page 36 of the Discussion Paper) that:

- The definition of the discount rate used should be consistent with the definition of the cash flows being discounted.
- The estimated market benefit cash flows that are discounted in the Regulatory Test are expressed on a before-debt and before-tax basis.

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[2] Under the CAPM framework, undiversifiable or "systematic" risk is a measure of the sensitivity of the returns on a particular asset compared to the returns on the stock market as a whole. It is the risk that is borne by an investor who holds a diversified portfolio of assets. Within the CAPM, this risk is denoted as beta (β) risk, and the market has a β of equity of 1. (This is not to suggest that diversifiable or insurable risks are not relevant; a key assumption of the CAPM framework is that the expected costs of any asymmetric diversifiable or insurable risks are reflected in the cash flows of the asset, rather than its cost of capital.)

- Typically, the processes of forecasting cash flows and calculating net present values are simplified if cash flows are expressed in real terms

- It would therefore be appropriate to use a real pre-tax discount rate (WACC) and real pre-tax cash flow forecasts for the purpose of the Regulatory Test.

VENCorp also concurs with the ACCC's observations regarding the impact on the WACC estimate of applying the two different transformation methods described on page 36 of the Discussion Paper. At the levels of inflation and real WACCs that prevail at the moment, the choice of the transformation method does not appear to have a material impact on the estimate of the discount rate, as shown in the table below and the accompanying footnotes.

The table below sets out VENCorp's estimates of the lower and upper bound discount rates, based on the ACCC's December 2002 Victorian Transmission Network Revenue Caps Decision, updated to reflect the prevailing ten year risk free rate.

Parameter	Lower bound discount rate (TNSP WACC)	Upper bound discount rate (Australian market WACC)
Real risk free rate (Interpolated 10 year yield on capital indexed bonds)	3.2%	3.2%
Market risk premium	6%	6%
Equity beta	1	0.7 (estimated asset beta for Australian market)
Debt margin	1.2%	N/A
Effective tax rate (T)	30% (assume full statutory rate)	30% (assume full statutory rate)
Capital structure	60% debt to total assets	100% equity
Value of imputation credits (γ)	50%	50%
Real post tax cost of equity (k_e)	9.2%	7.4%
Real pre-tax cost of equity ($k_e \div [1-T(1-\gamma)]$)	10.8%[3]	8.7%[4]
Real pre-tax cost of debt	4.4%	N/A
Real pre-tax WACC[5]	**7%**	**9%**

3 The alternative transformation sequence would involve "grossing up" the nominal post tax cost of equity for effective tax. Applying the alternative transformation sequence and then converting the nominal pre-tax measure to a real pre-tax measure results in an estimate of the real pre-tax cost of equity of 11%. The effect on the WACC of applying the alternative transformation sequence is to increase the estimated WACC by 8 basis points.

4 The alternative transformation sequence would involve "grossing up" the nominal post tax cost of equity for effective tax. Applying the alternative transformation sequence and then converting the nominal pre-tax measure to a real pre-tax measure results in an estimate of the real pre-tax cost of equity of just over 8.9%. The effect on the WACC of applying the alternative transformation sequence is to increase the estimated WACC by around 25 basis points.

5 Rounded, to allow for the effect of applying alternative transformation sequences.

Based on the above analysis, VENCorp submits that a discount rate in the range of 7% to 9% real pre-tax would be an appropriate discount rate to apply under the Regulatory Test. The discount rate should be reviewed regularly to reflect material changes in market-related parameters (namely, the real risk free rate).

4.7 Marginal value of supply reliability ("VoLL")

Page 36 of the ACCC's Discussion Paper proposes that to ensure consistency with the Code, the value of VoLL for the purpose of the regulatory test should be as specified in clause 3.9.4 – that is, $10,000/MWh. The ACCC's Discussion Paper also notes (correctly) that:

> "There has been confusion surrounding what the appropriate VoLL level should be used for the purpose of the regulatory test, and whether the value should be the value specified in the code or another."

VENCorp agrees that this issue has certainly been the subject of considerable debate over recent years. There is a need for regulators and policy makers to carefully consider this issue and to ensure that the value ascribed to the cost of involuntary supply interruption under the Regulatory Test is consistent with:

- Jurisdictions' policy objectives relating to the overall level of supply reliability to be delivered to consumers by the NEM; and

- the maximisation of efficiency across the market as a whole.

As noted in further detail (in the Appendix), VENCorp has completed substantial research and analysis of the issues surrounding the estimation of the cost to consumers of supply interruption, and the relevance of the VoLL wholesale market price cap to the estimation of the value of supply reliability for transmission planning purposes.

On the basis of its analysis, VENCorp strongly disagrees with the proposal to use the VoLL wholesale market price cap as the basis for estimating the value of supply reliability to consumers under the Regulatory Test. VENCorp proposes to apply a value of customer reliability (VCR) in its transmission investment evaluations derived from the results of customer surveys (the most recent of which suggest an average VCR of $29,600 per MWh in Victoria), on the basis that:

- this value is consistent with the VoLL of around $26,500 per MWh implied by the Reliability Panel's reliability standard for the wholesale electricity market;

- the adoption of the $10,000 per MWh VoLL wholesale market price cap as a proxy for the VCR in transmission investment evaluations will result in the market as a whole foregoing transmission investment projects that deliver net benefits in excess of their costs;

- the adoption of the approach proposed by VENCorp management is consistent with VENCorp's objectives.[6]

In addition, VENCorp has carefully considered the relevance of the VoLL wholesale market price cap to the valuation of unserved energy in economic assessments of network augmentations. VENCorp concludes that the VoLL wholesale market cap is not directly relevant to the valuation of unserved

[6] VENCorp's objectives require its transmission augmentations to be aimed at maximising net benefits directly associated with the production and consumption of electricity to electricity industry participants (including end consumers) as a whole. This is consistent with the Regulatory Test's objective of maximising net market benefits.

energy in economic assessments of network augmentations. As noted above, a VoLL of around $26,500 per MWh is implied by the Reliability Panel's reliability standard for the wholesale electricity market. Given this, it would seem somewhat illogical to:

- on the one hand, mandate the application of a reliability standard in the wholesale market commensurate with a VCR of around $26,500 per MWh; and then

- on the other hand, deliberately limit the capacity of transmission infrastructure to a level commensurate with a VCR nearly two-thirds lower than that implied by the Reliability Panel's wholesale market reliability standard.[7]

VENCorp has carefully reviewed the wording of the Regulatory Test, and concluded that it would be reasonable to infer that a reference to "VoLL" made within the Regulatory Test means the value of unserved energy to consumers.

Finally, VENCorp has examined the reasoning underpinning a recent decision of the Victorian Essential Services Commission (ESC) on the economic justification of the recovery from customers of network support payments made to Somerton Power Station (an embedded generator). The ESC's decision accepted as legitimate the application of a "VoLL" of around $28,000 per MWh in a network investment evaluation. VENCorp commends this particular case study to the ACCC. The ESC's reasoning and analysis provide clear guidance on:

- the proper interpretation of the value that should be placed on the cost to consumers of unserved energy, in the context of the requirements of the National Electricity Code; and

- the sorts of measures that can be taken to ensure the maintenance of competitive neutrality between the energy market and regulated transmission development, when the wholesale market price is capped at a level materially below the value of customer reliability.

The Appendix sets out further background information on the issue of VoLL. It also provides a detailed analysis of the issue of competitive neutrality, and the relevance of the VoLL wholesale market price cap to the estimation of the value of supply reliability for transmission planning purposes.

4.8 Reliability augmentation

As noted in Section 3.3 above VENCorp remains concerned that an approach based on part (a) of the Regulatory Test (namely, least-cost compliance with deterministic standards) is unlikely to provide a comprehensive means of assessing the economics of proposed augmentations alongside other options, as required by part (b) of the test. VENCorp has also raised concerns (noted in Section 3.3 above) regarding the process for defining a "reliability augmentation".

Page 37 of the ACCC's Discussion Paper acknowledges the concerns expressed by VENCorp and others, and proposes to incorporate into the Regulatory Test notes on reliability driven augmentation, which would require a NSP to disclose certain prescribed information in respect of a reliability driven augmentation.

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[7] This arrangement would have the effect of creating a transmission constraint that deprives consumers of electricity supply when the spot price reaches the spot market price cap of $10,000 in spite of a conscious decision by policy makers to provide a level of generation reliability commensurate with a maximum spot price of $26,500. In other words, even if the Reliability Panel's generation reliability standards are met, there would be insufficient transmission infrastructure to ensure delivery of all of that generation to the demand side of the market.

VENCorp welcomes and supports the ACCC's suggestions. However, VENCorp remains concerned that the proposed arrangements fall short of requiring the net economic benefits of a reliability driven augmentation to be assessed or demonstrated. VENCorp accepts and understands that the assessment of net benefits in some circumstances is a complex matter, and the reliability driven augmentation regime provides an effective way of delivering a level of transmission investment consistent with deterministic standards. Nonetheless, VENCorp remains of the view that:

- rigorous analysis should be undertaken to establish the underlying economic basis of deterministic standards that might be used to justify new network investment; and
- any definition of "reliability augmentation" that forms the basis of a network investment decision criterion should itself be established pursuant to a rigorous and comprehensive economic justification.

5. OPTION 3: COMPETITION TEST

5.1 Overview of the ACCC's proposal and VENCorp's position

The ACCC's Discussion Paper states that one of the biggest criticisms of the regulatory test is that it does not recognise competition benefits. The Discussion Paper states that in view of the benefits that may flow from the application of a competition test, there is merit in considering whether such a test should be incorporated into the Regulatory Test.

VENCorp remains strongly of the view that broadening the scope of the Regulatory Test to attempt to capture the benefits of greater competition raises policy issues that should be addressed separately and transparently by the Jurisdictions.

The Productivity Commission's recent review of the national access regime, and the WA Supreme Court's recent judgement in the case brought by Epic Energy against the WA Office of Gas Access Regulation illustrate some of the practical issues involved in attempting to:

- apply economic concepts to the regulation of competition; and
- intervene in markets to unambiguously improve on market outcomes.

Again, VENCorp sees these matters as important policy issues, to be addressed transparently by the Jurisdictions and the competition regulators outside the framework of the Regulatory Test.

It is VENCorp's view that:

- any analysis of competition benefits should be undertaken separately from the assessment of net market benefits made pursuant to the Regulatory Test in its present form; and
- the Regulatory Test, which is founded on the basic principles of cost-benefit analysis should continue to be the primary economic assessment tool applied by TNSPs.

It is suggested that a policy objective of increasing competition in the electricity market through the construction of more transmission infrastructure should be founded on a careful and rigorous public policy analysis, having regard to the guidance provided by the Productivity Commission's review of the national access regime and the WA Supreme Court's recent decision in the Epic Energy case.

Notwithstanding these views, VENCorp has examined the different approaches to measuring competition benefits that are canvassed in the ACCC's Discussion Paper.

It appears that at least some of the measures of "competition benefits" produced by these approaches include changes in transfer payments between market participants. VENCorp considers that the inclusion of changes in transfer payments in an assessment of competition benefits is likely to produce dysfunctional signals and misleading estimates of competition benefits. VENCorp considers that a valid basis for assessing competition benefits may be to estimate the ***net*** benefits expected to flow from changes in transfer payments (i.e. lower electricity prices), which lead to an increase in efficiency for the economy as a whole. These benefits could be estimated by undertaking a general equilibrium analysis. Any such analysis should be undertaken separately from the assessment of net market benefits made pursuant to the Regulatory Test. The Regulatory Test should continue to be the primary economic evaluation tool applied by TNSPs.

In any event, VENCorp considers that a competition benefits test should only be applied if:

- there is reasonable confidence that the level of market power and competition can be measured objectively; and
- there is a reasonable basis for objectively estimating the ***net*** expected benefits of "increased competition".

Having regard to these criteria, VENCorp does not consider that any of the alternatives canvassed in the ACCC's Discussion Paper would provide a robust and objective estimate of the net benefits expected to arise from increased competition.

5.2 Practical application of economic concepts in competition regulation

On page 38 of the Discussion Paper the ACCC states:

> "Competition benefits arise from increased competition between generators, and the reduction in market power, resulting from free flowing interconnectors. A competition benefits test may therefore ensure that all allocative efficiency benefits, market prices are at marginal cost, and dynamic efficiency benefits, eliminating inefficient generator entry, of network augmentations are captured."

At a conceptual level, VENCorp concurs with these suggestions. It is noted however that the successful implementation of a competition benefits test, and the delivery of efficient outcomes depend on the successful ***practical*** application of economic concepts.

During the course of its recently concluded review of the national access regime, the Productivity Commission made a number of statements that are pertinent to the ACCC's present consideration of the merits and practicality of a competition test. For instance, in a paper presented at IPART's "Incentive Regulation at the Crossroads" Conference on 5 July 2002, the Chairman of the Productivity Commission, Gary Banks, commented:[8]

> "Competition is not an end in itself. National Competition Policy and related policies were based on an understanding by all governments that, by and large, competition leads to greater productivity, stronger incentives for innovation, lower costs and improved service, and so eventually to higher incomes. It is broadly understood by regulators — as emphasised by Hilmer back in 1993 — that competition itself is not the goal of competition regulation, but a means of achieving higher standards of living for Australians.
>
> Even so, the notion of exposing former monopolies to competitive disciplines is so alluring, the political rhetoric so compelling and the statutes themselves so structured, that at times regulators may understandably give undue emphasis to achieving competition and push the fundamental objective of efficiency into the background. In the context of infrastructure regulation, this poses several risks for regulators and to adjudicators of competition regimes."

Banks proceeded to comment on the potential pitfalls associated with the pursuit of regulatory polices that place undue emphasis on the theoretical ideal of a competitive market. He stated:

> " 'Perfect' competition would be costly… [The] trigger for regulatory action must not just be a departure from some competitive ideal. Entry barriers and market power lie on a continuum, with some market structures and outcomes closer to those of perfect competition than others, but none attaining that theoretical abstraction. The costs of a particular unconstrained market outcome depend on what alternative is realistically achievable. Given the compliance, administrative and other more significant

8 Gary Banks, *The 'baby and the bath water': avoiding efficiency mishaps in regulating monopoly infrastructure,* presentation to IPART's "Incentive Regulation at the Crossroads" Conference, 5 July 2002.

> costs of regulation, there is limited scope for beneficial policy interventions in markets that remain 'workably' competitive.
>
> The more sophisticated regulators no doubt accept this. However, tolerance for imperfection in competition seems to be rather lower for infrastructure than for other sectors of the economy, despite the fact that the costs of regulatory error may well be higher…"

Banks also notes the practical challenges involved in attempting to measure competition, and in framing appropriate regulatory responses to situations where there is a perception that market power may exist:

> "Undue emphasis on competition may encourage a 'numbers game' in which competition is not measured primarily by entry barriers but by how many actual competitors there are…
>
> In short, regulators have a tough task in gauging and responding to potential market power. The complexities facing them cautions against assessing competition and market power in a static context, or one which doesn't account for market reactions to that power being exercised…
>
> Ultimately, a large element of judgment is unavoidable in deciding whether and how to intervene, and this raises the prospect of regulatory error. The inevitability of error has special risks where long-lived investments in essential infrastructure are involved. The Californian energy crisis sent a chill through regulators around the world. Here was a situation in which a modern sophisticated regulatory authority had presided over, at least in hindsight, what appeared to be grave regulatory mistakes. This is sobering stuff and hopefully has done some good for the future…
>
> Given the manifold uncertainties and information difficulties, there are limits to what regulators can be expected to achieve. Rather than aiming for an ideal but unattainable outcome, the public policy goal should be a set of regulatory arrangements that will improve efficiency through time, while minimising the scope for regulatory errors. A framework is needed in which regulators are encouraged to intervene only when significant improvements in efficiency are in prospect…"

Banks' comments suggest that whilst *in concept*, the "competitive market ideal" appears to be a valid and straightforward model, its *practical* application in a regulatory context presents a number of substantial challenges. These practical considerations are highlighted in a recent decision of the Western Australian Supreme Court, in an action brought against the Western Australian Office of Gas Access Regulation by Epic Energy (the owner of a major gas transmission pipeline).

The Epic Energy case turned on the detailed interpretation of the National Gas Code, which is the primary instrument governing the regulation of gas pipelines in Australia. In this context, expert evidence was put forward concerning the principles and theory underlying the economic regulation of infrastructure. In considering this evidence, the Court made a number of comments, which are relevant to the meaning of concepts such as "economic efficiency", "abuse of monopoly power", and "competition". The case is therefore relevant to a consideration of the practical merits of implementing a competition test founded on basic economic concepts, such as those canvassed in the ACCC's Discussion Paper.

In this context, it is noteworthy that the Court stated:

> "[A] competitive market, in this sense of an economist's understanding of a workably competitive market, is not a fixed and immutable condition with any absolute or precise quantities, but a process which involves rivalrous market behaviour. As such, a workably competitive market will react over time and according to the nature and degree of various forces that are happening within the market. There may well be a degree of tolerance of changing pressures or unusual circumstances before there is a market reaction. The expert evidence and writings tendered in evidence suggest that a workably competitive market may well tolerate a degree of market power, even over a prolonged period. The underlying theory and expectations of economists, however, is that with workable competition market forces will

> increase efficiency beyond that which could be achieved in a non-competitive market, although not necessarily achieving theoretically ideal efficiency."[9]

The key conclusions that emerge from the material cited above are as follows:

- In practice, defining a "competitive market", measuring the level of competition, and estimating the costs and benefits of intervention (such as construction of new transmission capacity aimed at increasing competition) are very difficult and imprecise tasks involving a large element of judgment.

- Implementation of the National Competition Policy should not be aimed at replicating the outcomes of a theoretically "perfect" market, which is an abstraction. Rather, the policy should be implemented so as to promote outcomes similar to those that might occur in a "workably" competitive market, which may sometimes include elements of persistent market power.

- Given the considerable uncertainties and information difficulties, intervention in market outcomes should be undertaken only when there are reasonable expectations of significant improvements in efficiency. There is generally limited scope for beneficial policy interventions in markets that remain "workably competitive".

- A policy objective of increasing competition in the electricity market through the construction of more transmission infrastructure should be founded on a careful and rigorous public policy analysis, having regard to the guidance provided by the Productivity Commission's review of the national access regime and the WA Supreme Court's recent decision in the Epic Energy case.

5.3 The nature of "competition benefits" and the role of policy makers

The Discussion Paper cites the Californian Independent System Operator's (CA ISO) application of "residual supply analysis" as an example of a competition based assessment of a proposed augmentation to "Path 15" of the Californian transmission system. Page 41 of the Discussion Paper states:

> "The [CA ISO's] study found that under a number of scenarios the potential annual benefits to load in northern California range from US$208 million to US$1.3 billion, with the cost of the transmission project at US$300 million. This compares to the potential benefits of around $500 million delivered under the primary study."

The results of CA ISO study (as summarised in the ACCC's Discussion Paper) imply that it would be rational and efficient for northern Californian electricity consumers to expend up to $1.3 billion per annum to secure the estimated competition benefits. However, on the basis of the results of the primary study's estimate of the net market benefits of $500 million, it seems highly likely that a very large proportion of the competition benefit accruing to northern Californian electricity consumers is a transfer payment. This transfer payment represents a cost incurred by other market participants.

The CA ISO's documentation of its methodology addresses the issue of measuring net benefits as follows:[10]

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9 Re: Dr Ken Michael AM; Ex parte Epic Energy (WA) Nominees Pty Ltd & Anor [2002] WASCA 231, [128].

10 *A Proposed Methodology for Evaluating the Economic Benefits of Transmission Expansions in a Restructured Wholesale Electricity Market*, prepared by The California ISO and London Economics International LLC, 28 February, 2003

> "The benefits of a transmission expansion can accrue to both suppliers and consumers and can involve significant welfare transfers between these groups or between locations. Therefore, it is important to measure producer and consumer benefits on a regional basis and to understand how the welfare of these groups shifts under a transmission expansion. For example, a transmission expansion that has a significant impact on reducing market power will, for the most part, simply shift welfare from producers to consumers. A conventional social welfare objective in which producer and consumer welfare are given equal weights would show very little net benefit because such a criteria does not consider the distribution effects. It only measures the net effect."

The case study of Path 15 provides an indication of the complexity involved in estimating "competition benefits".[11] This simple case study also illustrates that a competition benefits assessment that includes a consideration of changes in transfer payments seen by only one group of market participants can generate potentially dysfunctional investment signals.[12]

From the perspective of society as a whole, changes in transfer payments between market participants do not represent tangible net gains or "returns" that should be attributed to an investment that facilitates an increase in competition. It would therefore seem reasonable to challenge the validity of including transfer payments in a competition benefits assessment.

These considerations point to the conceptual robustness of the principles underpinning conventional economic cost-benefit analysis. These principles, which also underpin the present Regulatory Test require a proposed investment to satisfy two requirements, namely that:

- the benefits of the transmission investment outweigh the costs of the investment; and
- the transmission investment delivers the highest net surplus.

Applying these same principles to a competition benefits test suggests that a valid basis for assessing competition benefits may be to estimate the ***net*** benefits flowing from changes in transfer payments (i.e. lower electricity prices), which lead to an increase in efficiency for the economy as a whole. These benefits could be estimated by undertaking a general equilibrium analysis aimed at estimating the ***net*** benefits attributable to increased competition.

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11 Moreover, in the particular case of the Northern Californian Path 15 transmission augmentation, the performance of a supplementary competition benefits assessment appears to be redundant. The net benefit of the project ($500 million) is comfortably in excess of the cost ($300 million).

12 Applying the criterion of maximising social welfare, the total amount that should be committed to the transmission investment should not exceed the present value of the net market benefit, in this case, $500 million. As already noted, from the more limited perspective of one group of market participants, a level of expenditure of up to $1,300 million per year could appear to be justified.

It is VENCorp's view that:

- any such analysis should be undertaken separately from the assessment of net market benefits made pursuant to the Regulatory Test; and

- the Regulatory Test, which is founded on the basic principles of cost-benefit analysis should continue to be the primary economic assessment tool applied by TNSPs.

In considering the role of policy makers in the pursuit of competition benefits, it is instructive to examine the setting within which the CA ISO is applying its competition benefits assessment. The following is an excerpt from the CA ISO's opening brief in the California Public Utilities Commission's assessment of the benefits of upgrading Path 15:

> "Based on a $300 million cost estimate, the CA ISO strongly believes that the Path 15 upgrade should be undertaken in order to support a workably competitive wholesale electricity market. First, the CA ISO considers that, given the experience of the California electricity markets over the past two years, and the severe and rapid manner in which the exercise of market power can destabilize the wholesale electricity markets and cause significant consumer harm, it is imperative that aggressive progress be made on all the key fronts that affect the ability of suppliers to exercise market power. Key actions include putting into place the necessary transmission infrastructure, assuring adequate supplies, developing demand response, and putting into place adequate long-term contracts. Each of these actions is important and has been adopted by the CA ISO as part of its ongoing Market Design 2002 effort. Moreover, each of these actions taken alone is less likely to be effective than a comprehensive approach. Accordingly, there should be an aggressive effort to pursue all actions needed to support a workably competitive market. Further, the CA ISO considers that it would be risky and short-sighted to rely, on an on-going basis, on effective regulatory intervention and price mitigation by the Federal Energy Regulatory Commission as an alternative to a comprehensive effort to put into place the structural elements necessary to support a competitive market. As the CA ISO has stated repeatedly, collective and timely action by state and federal policymakers is necessary if California is to remedy identified problems in the electricity markets."

It is significant that while the CA ISO appears to regard itself as making a contribution to an aggressive effort to address perceived problems of market power, the CA ISO also explicitly acknowledges that:

- in practice, the role of the Independent System Operator is confined to the analysis of whether the benefits of a proposed transmission investment outweigh the costs[13] (i.e. applying a net market benefits test); and

- it is the responsibility of policymakers to address market power issues.

The CA ISO has also (correctly) acknowledged that "public policy makers generally do care about distributional effects". The CA ISO has stated that it therefore considers that "benefit measures that reflect the distributional effects are essential to the methodology."[14] Accordingly, the CA ISO's benefit evaluation methodology defines three different Objective Functions that may be applied to measure the benefits of transmission investment, as follows:

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13 *A Proposed Methodology for Evaluating the Economic Benefits of Transmission Expansions in a Restructured Wholesale Electricity Market*, prepared by The California ISO and London Economics International LLC, 28 February, 2003.

14 Ibid.

Objective Function	Description
1. Change in Net Welfare	This approach equally weights consumer and producer benefit, and is analogous to the Regulatory Test's present objective of maximising net market benefits.
2. Change in Consumer Benefit plus Change in Competitive Producer Surplus	This approach considers the change in Consumer Surplus plus any change in Producer Surplus associated with the competitive component of market clearing prices (i.e. no marginal social value is ascribed to economic rents accruing to generators from the exercise of market power).
3. Change in Consumer Benefit	This approach only looks at changes in Consumer Surplus.

The CA ISO notes that:

> "The first [objective function] might be considered more consistent with a fully deregulated market where there is considerable customer choice and competition. The second might be considered more consistent with a market in which a regulator of final prices has an objective to ensure ongoing supply to customers at lowest sustainable price. Under this measure, no marginal social value is ascribed to positive economic profits by generators derived from strategic bidding behavior (i.e. market power). The third approach focuses exclusively on consumer surplus with no consideration for producer surplus. Since competitive producer surplus (i.e. producer surplus devoid of market power rents) is not apt to change much under most transmission expansions due to the homogeneity of thermal production costs throughout the western interconnect, there may not be much discernable difference between the second and third approach.
>
> Since different agents can take different views of the marginal social value of different surpluses, the most useful output from the transmission valuation methodology will be the building blocks necessary to evaluate the given transmission investment project under all three different objective functions."

Unfortunately, the CA ISO's document does not provide a more detailed definition of the three objective functions. Nonetheless, VENCorp considers that the approach developed by the CA ISO is worthy of further study by policy makers.

VENCorp recognises that issues relating to the impacts of transmission investment on wealth distribution are important. In this regard, it is noted that VENCorp has already adopted a policy of providing information on externalities and transfer payments associated with its decisions, so that Government, market participants and other stakeholders may be informed of such issues, where they may have a bearing on the investment decision.[15] It is also noted that NEMMCO's Guideline titled *Assessing the efficiency impact of proposed changes to market arrangements* advocates a similar policy[16].

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15 Refer to the VENCorp document titled *Advice to Stakeholders: Conclusion of Consultation Process on Electricity Transmission Network Planning Criteria*, July 2001 at http://www.vencorp.com.au/docs/elecplng/Advice%20to%20Stakeholders.pdf. As a matter of practice, VENCorp includes material changes in transfer payments as part of the information disclosed in accordance with this policy.

16 NEMMCO's framework document states:

> "NEMMCO's assessment framework does allow for quantification of prospective transfer payments (or existing relevant cross-subsidies), but these transfers do not affect the assessment of efficiency. Where transfer payments are expected to be significant, it is likely that the prospective market change will raise policy issues. In such circumstances, NEMMCO's approach will generally be to notify the relevant policy-maker(s) prior to continuing with the efficiency assessment."

VENCorp recognises that:

- A rigorous application of the net market benefits test may indicate that a particular project is welfare-enhancing, however the project may be considered undesirable if its benefits are disproportionately skewed toward particular groups.

- Conversely, a rigorous application of the net market benefits test may indicate that a particular project is not welfare-enhancing, however the project may be considered desirable *because* it results in a redistribution of welfare.

However, such matters of judgement are the domain of policy makers. It is the role of policy makers to determine the weight that should be given to a consideration of welfare distribution impacts or "competition benefits" in any decision to construct new transmission infrastructure. VENCorp's views on the arrangements that should govern the application of a wider competition benefits evaluation are set out in Section 5.4 below.

5.4 Arrangements governing an investment decision based on competition benefits

As noted in VENCorp's June 2002 submission, clause 3.1.4(b) of the Code states that the wholesale market rules are not intended to regulate anti-competitive behaviour, which is subject to the relevant provisions of the Trade Practices Act and the Competition Codes of participating jurisdictions. It would not be unreasonable to argue that the intent of this provision should also apply to regulated TNSPs in their application of the Regulatory Test. Such an argument would posit that:

- the regulation of anti-competitive conduct, and the resolution of issues relating to perceived misuse of market power are the responsibility of the competition regulators;

- the Regulatory Test should be applied in the context of a market in which the existing level of market power has, in effect been pre-determined by policy-makers; and therefore

- promoting network investment that aims to increase competition, or to induce changes in transfer payments between one group of market participants and another is a matter for policy-makers and not TNSPs.

Moreover, it might reasonably be argued by some participants that new investment in regulated transmission that does not satisfy the requirements of the present Regulatory Test, but which is justified on the basis of increasing competition represents a form of intervention in the wholesale market.

Whilst VENCorp does not necessarily subscribe to any of the views outlined above, VENCorp considers that broadening the scope of the Regulatory Test to attempt to capture the benefits of greater competition raises policy issues that should be addressed separately and transparently by the Jurisdictions.

In relation to the process that might apply in a situation where market power is perceived to be a problem, it is noted that the Productivity Commission has made some useful comments:[17]

A copy of the document is available at http://www.nemmco.com.au/future/design/108-0019.pdf.

17 Gary Banks, *Competition regulation of infrastructure: getting the balance right*, Presentation to the IIR Conference, "National Competition Policy Seven Years On", Eden on the Park, Melbourne, 14 March 2002.

> "In areas where market power appears to be a problem but the correct regulatory response is uncertain, good process is essential to determine the significance of the problem and how best to address it. For example, in its review of the Prices Surveillance Act, the Commission argued that modified inquiry and monitoring functions needed to be written into a new section of the Trade Practices Act, allowing the Prices Surveillance Act to be repealed. Rather than the regulator having the main say about what firms or industries should be subject to price oversight, the Commission argued for separate and independent public reviews of the market circumstances in such cases, including an assessment of the full range of potential policy responses. The current inquiry by the Productivity Commission into harbour towage, currently declared under the Prices Surveillance Act, is a good example of this approach at work.
>
> Once reviews of appropriate responses to market power problems have been completed and governments have decided their broad approach, the details of implementation can benefit from consultations with affected parties. Such consultations can test the practicalities of proposed regulation and alert people to its implications — thereby reducing uncertainty and the potential for subsequent disputation."

5.5 Assessment of alternative competition benefits tests

The ACCC's Discussion Paper canvasses six alternative forms of a competition benefits tests. Page 38 of the Discussion Paper states:

> "One of the Commission's key objectives in developing a competition based test is that it must be objective and robust over a range of market development scenarios."

VENCorp strongly concurs; moreover, it is VENCorp's view that inclusion of a competition test should only proceed if there is a reasonable basis for objectively estimating the ***net*** expected benefits of "increased competition".

The guidance provided by the Productivity Commission and the WA Supreme Court (cited in Section 5.2 above) indicates that there are likely to be considerable challenges associated with the successful practical implementation of a transmission investment regime founded on a competition benefits test. Moreover, the ACCC's Discussion Paper correctly identifies considerable practical problems associated with all of the alternative competition benefits tests canvassed. These problems include:

- the reliance of the all of the tests on subjective assessments and forecasts of outcomes, leading the prospect of disputation and subsequent delays;
- practical difficulties associated with defining the occurrence of market power, and objectively measuring the exercise of market power (leading to a lack of any sound basis for objectively estimating the benefits of increased competition); and
- in some cases, a lack of rigour and an undue reliance on historic information, simplifying assumptions, and/or qualitative assessments.

Finally, it appears that at least some of the approaches canvassed in the Discussion Paper include transfer payments in the measurement of competition benefits. As noted in Section 5.3 above, the inclusion of transfer payments may produce dysfunctional investment signals and misleading estimates of competition benefits.

Given these considerations, VENCorp considers that the alternatives canvassed in the ACCC's Discussion Paper are unlikely to provide a robust and objective estimate of the net benefits expected to arise from increased competition.

APPENDIX:
RATIONALE FOR VENCORP'S POSITION ON THE VALUATION OF CUSTOMER RELIABILITY IN TRANSMISSION INVESTMENT DECISIONS

A1. Background

In its June 2002 submission to the ACCC, VENCorp noted:

- In the context of Note (1)(b)(ii) of the Regulatory Test[18], "VoLL" is typically interpreted to mean the VoLL wholesale market price cap.

- One of the outcomes of applying this value of VoLL is that it appears to ensure a competitively neutral assessment of mutually exclusive generation and regulated network options to alleviate a constraint within the framework of the Regulatory Test.[19]

- However, the available evidence strongly suggests that the present wholesale market price cap significantly under-states the marginal value of supply reliability to consumers.

- Accordingly, VENCorp had commenced further research into consumer interruption costs and the valuation of customer reliability in transmission investment decision analysis. That research was to consider, among other things:

    - the validity of the "VoLL" wholesale market price cap as an indicator of the value of customer reliability that should be applied in transmission investment decision analysis; and

    - the objective of maintaining neutrality between centrally-coordinated transmission investment decisions and commercial decisions of wholesale market participants.

That research was completed in December 2002. The research found that the "composite" or weighted average cost of unsupplied energy to Victorian consumers (measured across a range of interruption durations) is around $29,600 per MWh.

In January of this year, VENCorp published a consultation paper canvassing submissions from interested parties on a range of matters relating to the valuation of unserved energy in transmission investment evaluations.[20] Following its analysis of all submissions, VENCorp management concluded that the measures adopted to mitigate price risk in the wholesale spot market are not directly relevant to the valuation of unserved energy in economic assessments of network augmentations. Accordingly, VENCorp management propose the application of a value of customer reliability (VCR) in transmission

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18 Note (1)(b)(ii) on the methodology to be used in the Regulatory Test states: "In determining the market benefit, the value of energy to electricity consumers as reflected in the level of VoLL should be considered."

19 The VoLL price cap represents that maximum reward that is available to generators from the wholesale market for enhancing supply reliability.

20 The paper provided a summary of the findings of a study commissioned by VENCorp and completed by Charles River Associates (CRA) on the cost to electricity consumers of supply interruption, and the conversion of those cost estimates into a value of customer reliability ("VCR") to be expressed on a $ per MWh basis. The paper also provided an overview of the changes that VENCorp proposed to make to its transmission planning criteria, in light of the results of CRA's report.

investment evaluations derived from the results of customer surveys (the most recent of which suggest an average VCR of $29,600 per MWh in Victoria).

Sections A2 to A5 below provide a detailed analysis of the issue of competitive neutrality, and the relevance of the VoLL wholesale market price cap to the estimation of the value of supply reliability for transmission planning purposes. These sections contain excerpts of submissions received by VENCorp in response to its Consultation Paper on the value of customer reliability.[21]

A2. Competitive neutrality

Three submissions responding to VENCorp's Consultation Paper[22] (Energex, Edison Mission and TXU) suggested that the VoLL wholesale market price cap should continue to be applied by VENCorp as a proxy for the value to consumers of unserved energy. Edison Mission and TXU expressed the view that use of the VoLL price cap in this manner is important, to mitigate the risk of reductions in economic efficiency arising through inefficient transmission investments crowding out efficient merchant investments.

VENCorp's view on this issue was set out in its Consultation Paper as follows:

> "With respect to the issue of the "VoLL" wholesale market price cap as an indicator of the value of customer reliability that should be applied in transmission investment decision analysis, VENCorp recognises that risk management and other considerations may well, in practice, lead to the adoption of a value of VoLL for the wholesale market that is below the consumers' true value of reliability. Any supply reliability issues arising as a result of the attenuation of the market price cap can be managed in the wholesale market through the occasional deployment of "reliability safety net" arrangements ie the Reserve Trader mechanism. These safety-net arrangements are designed to ensure the maintenance of a generation system reliability standard that is determined "outside of the market" by the NECA Reliability Panel.
>
> However, in the case of transmission planning, the purpose of VoLL is to represent the cost to consumers of involuntary supply interruption. Therefore, attenuating the VoLL value used in transmission planning gives rise to the risk of distortions in transmission investment decisions. While any such distortions can be managed in the wholesale market through the occasional deployment of the reliability safety net, no such "safety net" arrangements are at present available to VENCorp as a transmission network service provider. The lack of such a safety net in transmission planning was an additional driving force to complete a study into the real value that customers placed on the reliability of supply."

In their responses, Edison Mission and TXU stated they considered it was inappropriate for VENCorp to rely on the existence of the Reserve Trader function (to substantiate the use of a value of unserved energy in excess of the wholesale market price cap), given that the National Electricity Code presently provides for the cessation of that function on 30 June 2003, notwithstanding that NECA has recently lodged Code change proposals to extend the operation of the Reserve Trader for a further two years.

In VENCorp's view, the arguments advanced by respondents in opposition to VENCorp's position point to a more fundamental issue in the wholesale market; namely that there is evidence to suggest that the

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21 Full copies of all submissions received by VENCorp in relation to this matter are available at: http://www.vencorp.com.au/html/corp_consultation_docs.htm#The Value of Unserved Energy Used By VENCorp for Electricity Transmission

22 A copy of the VENCorp Consultation Paper is available at the web address shown above.

present VoLL wholesale market price cap is well below the level of marginal cost to consumers of involuntary supply interruption.[23]

Indeed, such views are expressed in a number of submissions. For instance, the submission lodged by Edison Mission (EMEAL) states:

> "EMEAL accepts that addressing the competitive neutrality [issue] may be perceived to be difficult. It is clear that the problem arises not because VENCorp's $29,600/MWh (as an average) is necessarily incorrect, but because the NEM's $10,000/MWh is clearly too low."

Similarly, TXU's submission states:

> "The reserve trader cannot operate at prices in the wholesale market below the price cap, which causes large short-run inefficiencies. If a low wholesale price cap is mitigated only through the use of a reserve trader, then the power system is clearly being inefficiently invested and operated…
>
> By bidding at VoLL the reserve trader is designed to avoid suppressing market signals and therefore crowding out commercial investment, creating a vicious circle of low reserves and intervention…
>
> TXU accepts that addressing the competitive neutrality [issue] will be difficult. It is clear that the problem arises not because VENCorp's $29,600/MWh is necessarily incorrect, but because the NEM's $10,000/MWh is clearly incorrect."

Ergon Energy's submission also states:

> "In relation to the concepts of a wholesale market Value of Lost Load ("VoLL") and VENCorp's proposed Value of Customer Reliability ("VCR"), Ergon Energy agrees that these numbers should not be considered to represent the same thing…
>
> Similarly, the methodology for calculating the VoLL and VCR are very different given the significant risk management considerations (and their difference) that have to be factored into the process of setting wholesale market VoLL."

VENCorp concurs with respondents that it is important to mitigate the risk of reductions in economic efficiency arising through inefficient transmission investments crowding out efficient merchant investments.[24] VENCorp considers, however, that it is also fundamentally important to ensure that its transmission planning and investment decisions are aimed at delivering the socially optimum level of supply reliability to transmission network users, on the basis that such an aim is consistent with the objective of maximising economic efficiency across the market, including end users, as a whole.[25]

It is a matter of fact that if there is a material under-estimation of the value of unserved energy in transmission investment decision evaluations, then:

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23 In this context it is noted that the June 1999 submission of VPX (VENCorp's predecessor) to the NECA Reliability Panel's review of VoLL observed that there was ample evidence cited in the Reliability Panel's own discussion paper suggesting that the marginal value of involuntary supply interruption to consumers is at least $20,000 per MWh. VPX submitted at that time that in principle therefore, a strong case exists to increase the wholesale market price cap to a value not less $20,000.

24 A discussion of arrangements that may facilitate the mitigation of such risks is set out in Section A3 below. Section A4 provides some examples of the way in which competitive neutrality has been maintained in practice.

25 This objective is consistent with VENCorp's objectives for transmission planning, as stated on page 8 VENCorp's Consultation Paper, titled Electricity Transmission Network Planning Criteria of February 2001, a copy of which is available at: http://www.vencorp.com.au/html/corp_consultation_docs_clsd.htm#Electricity

- those evaluations will provide decision signals that lead to an inefficiently low level of network investment; and
- the market as a whole will be foregoing transmission investment projects that deliver benefits in excess of their costs.

It is noted that while some submissions advocated limiting the value of unserved energy to the level of the wholesale market price cap, other submissions expressed support for VENCorp's proposal. For instance, SPI PowerNet stated:

> "SPI PowerNet supports the view that the benefits provided by transmission investments should not be limited to the wholesale electricity market price cap (the current value of VOLL is $10 000/MWh), but should reflect end consumers' value of supply reliability."

Similarly, Powercor stated that it was comfortable with the arrangements proposed by VENCorp.

Having regard to these considerations, VENCorp remains of the view that economic evaluations of transmission investment decisions should be undertaken using the estimated VCR as a proxy for the marginal cost to consumers of involuntary supply interruption. VENCorp notes that its position is consistent with its fundamental objective of undertaking effective planning and development of the shared transmission network so as to maximise net benefits to electricity industry participants (including end consumers) as a whole.

It is also noted that the Reliability Panel's present reliability standard for the wholesale market implies a value of unserved energy of not less than $26,500 per MWh (in December 2002 dollars).[26] This value is consistent with the Victorian composite VCR of around $29,600 per MWh, determined in the recent CRA study commissioned by VENCorp.

VENCorp also acknowledges that its position raises issues in relation to the preservation of competitive neutrality between the regulated and unregulated parts of the NEM. These issues are discussed in further detail in Section A3 below.

A3. Maintaining competitive neutrality

The submissions of TXU and Edison Mission state that the presence of the $10,000/MWh wholesale market price cap should be recognised in the network planning process, and other measures should be

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[26] Under clause 8.8 of the National Electricity Code the Reliability Panel is required to determine reliability standards on the advice of NEMMCO, and to establish guidelines for their implementation by NEMMCO. In a paper titled *Calculation of Minimum Generation Reserve Levels for Triggering NEMMCO Intervention in Market Operations,* NEMMCO sets out the techniques it used to determine the theoretical "economic" level of supply reliability and the minimum generation reserves required to deliver that supply reliability. That paper forms an appendix to the Reliability Panel's June 1998 Determination on Reserve Trader and Direction Guidelines. Page 8 of the NEMMCO paper states:

> "NEMMCO recommends that the maximum acceptable level of unserved energy in any region be set to no more than 2.0 x 10^{-3}% of the region's annual energy demand based on the weighted average of the 10%, 50% and 90% unserved energies. To achieve this standard VoLL should not be less than $23,000, at which point the weighted unserved energy in the NSW region is 1.0 GWh, 0.35 GWh in Victoria and 0.25 GWh in SA."

Adjusting the minimum VoLL of $23,000 per MWh (as at June 1998) for inflation implies a minimum VoLL of around $26,500 per MWh as at December 2002. Copies of the Reliability Panel's determination and NEMMCO's advice are available from NECA's website at:
http://www.neca.com.au/ReliabilityPanel.asp?CategoryID=35&SubCategoryID=114

in place "to ensure the investment playing field is kept level to avoid the risk of an inefficient investment bias." VENCorp concurs with these views.

The objective of maintaining competitive neutrality in the network planning process has been a matter of high priority for VENCorp. In this context, it is noted that Chapter 5 of the Code explicitly requires network planners to ensure that competitive neutrality is maintained between market-based and regulated solutions to network constraints, by comparing the relative costs and benefits of all such solutions in any proposal to establish a new network asset. For instance, clause 5.6.6(b)(1) of the Code states:

> "[An application to establish a new large network asset must set out] a detailed description of the proposed new large network asset… [and]… all other reasonable network and non-network alternatives to address the identified constraint or inability to meet the network performance requirements identified in [the application]. These alternatives include, but are not limited to, interconnectors, generation options, demand side options, market network service options and options involving other transmission and distribution networks…"

Clause 5.6.6(b)(3) of the Code states:

> "[The application to establish a new large network asset must set out] an analysis of the ranking of the proposed new large network asset and all reasonable alternatives. This ranking must be undertaken by the Transmission Network Service Provider in accordance with the principles contained in the regulatory test."

The requirement on network planners to ensure maintenance of competitive neutrality is reinforced in note 7 of the Regulatory Test, which states:

> "In determining the market benefit, the proposed augmentation should not pre-empt nor distort potential unregulated developments including network, generation and demand side developments."

On the question of the valuation of reliability benefits in a network investment evaluation, note 1(b)(ii) of the Regulatory Test states:

> "In determining the market benefit… the value of energy to electricity consumers as reflected in the level of VoLL [should be considered]."

VENCorp interprets the ACCC's reference to "VoLL" in this context to be a reference to the value of unserved energy to consumers, rather than the wholesale market price cap. This interpretation is based on note 6(a) of the Regulatory Test, which states:

> "Modelled projects should be developed within market development scenarios using two approaches: 'least-cost market development' and 'market-driven market development'. 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." [Emphasis added].

As noted in Section A2 above, if "reliability increases" are valued at a level below the marginal cost to consumers of unserved energy (the VCR), then the resultant level of supply reliability delivered to consumers will be inefficiently low. In light of this consideration, it is VENCorp's view the value of "reliability increases" must be assessed with reference to the VCR.

Any over-riding considerations of competitive neutrality give rise to a further need to ensure that the VCR is consistent with the fundamental driver of reliability levels in the wholesale market, which is the Reliability Panel's reliability standard. As noted in Section A2 above, the VoLL implied by the Reliability

Panel's reliability standard is not less than $26,500 per MWh. This value is consistent with the VCR determined during the recent study commissioned by VENCorp.

A4. Ensuring competitive neutrality is maintained in practice

There are a number of examples in Victoria that demonstrate the effectiveness of actions taken by transmission network planners in ensuring the maintenance of competitive neutrality in the alleviation of network constraints. Details are set out below.

A4.1 Procurement of network support services from main system generators

VENCorp and its predecessor VPX have entered into network support agreements with generators for the provision of reactive support. The procurement of these services from generators has facilitated the deferral of investment in network assets, to the net benefit of the market as a whole. At the same time however, the network support agreements have provided a source of additional revenue to generators.

A4.2 Procurement of network support services from embedded generators

The network support arrangements under which the new Somerton Power Station operates provide an excellent case study demonstrating:

- the effective practical application of a $28,000 per MWh VCR in a transmission investment decision analysis; and

- the achievement in practice of competitive neutrality between the wholesale market and the regulated transmission sector in the delivery of an economically efficient level of supply reliability to consumers.

On 7 May 2001, the then Office of the Regulator-General wrote to AGL Electricity (AGLE) in response to AGLE's application to the Office to approve the pass-through in transmission tariffs of network support payments to AGL Power Generation (AGLPG) in respect of the proposed Somerton Power Station.[27] That letter sets out the Office's interim decision on AGLE's application. It is understood that the letter reflects the current thinking of the Essential Services Commission.[28]

The Office of the Regulator-General further commented on the valuation of supply reliability for network planning purposes in its letter to AGLE. The Office's letter stated:

> "An issue that has arisen is whether it is appropriate for AGLE to use a value of lost load (VoLL) of $28,000 per MWh of unserved energy, given that it is significantly higher than the impending $10,000 cap on pool prices available to generators. Use of this figure arguably could bias investment decisions in favour of network solutions and result in excessive overall expenditure to meet demand growth.
>
> The Office has considered this issue and concluded that its concerns are mitigated by the availability of network support payments which, in effect, partially remunerates the generator at the higher VoLL.

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27 Somerton Power Station is an embedded generation plant. Its installation has led to the deferral of transmission connection and other network augmentation works that would otherwise have been required to meet peak demand growth in the north-western Melbourne metropolitan area. The installation of the power station has therefore generated some benefits (in the form of avoided or deferred network augmentation costs) to network users. AGL Electricity (the DB responsible for transmission connection planning and provision of distribution network services in the affected area) has entered into a network support contract with the owners of Somerton Power Station, to procure the services that enable the network augmentation works to be avoided.

28 A copy of the letter is available from the ESC's website at: www.esc.vic.gov.au/electricity.php@pageid=285.htm.

> Further, the Monash University study of 1996 estimated a VoLL for Victoria of $28,000/MWh; AGLE has therefore adopted the maximum VoLL that is currently supported by measurement of customer preferences.
>
> The Office therefore has no current basis on which to require the adoption of a lower VoLL."

VENCorp considers that the ESC's reasoning underpinning its decisions on the economic justification of the recovery from customers of network support payments made to Somerton Power Station provides clear guidance on:

- the proper interpretation of the value that should be placed on the cost to consumers of unserved energy, in the context of the requirements of the National Electricity Code; and

- the sorts of measures that can be taken to ensure the maintenance of competitive neutrality between the energy market and regulated transmission development, when the wholesale market price is capped at a level materially below the value of customer reliability.

Moreover, it is noted that if the economic assessment of Somerton Power Station's network support service had assumed a (reduced) value of $10,000 per MWh for unserved energy, then the payment of the present level of network support payments to the owners of the power station could not be economically justified. Under such circumstances, the amount of revenue flowing to the owners of the power station would be ***lower***, all other things held constant. In other words, the owners of Somerton Power Station have accrued a financial benefit as a direct result of the application of a value of customer reliability of $28,000 per MWh (or nearly three times higher than the wholesale market price cap) in the economic assessment of the need for network support services.

A4.3. Conclusion

VENCorp considers that experience in Victoria confirms that the objective of maintaining competitive neutrality can be achieved in the regulated development of the network, through adherence to the processes set out in Chapter 5 of the National Electricity Code. Artificially suppressing the value attributed to unserved energy in economic evaluations of solutions to network constraints is not an appropriate means of achieving competitive neutrality, as it is highly likely to result in an inefficiently low level of supply reliability being delivered to consumers.

It is noted that the submissions of Edison Mission and TXU contained suggestions as to the sort of arrangements that VENCorp might adopt to maintain competitive neutrality. Based on the analysis set out in Sections A2, A3 and A4 above, VENCorp considers that it has adopted and applied arrangements that broadly accord with those suggestions.

A5. Recognition of wholesale market price risk mitigation measures

The submission from Energex stated:

> "Not only is ENERGEX of the view that VoLL is an appropriate reference for VENCorp's planning studies, but we further suggest that the current "Cumulative Price Threshold" (CPT) concept should also be embedded into any future augmentation modelling. That is, we believe that VENCorp's planning scenarios should acknowledge that continuing high pieces in the market would be subject to the CPT paradigm and the application of an administer price [sic] should the upper limit be exceeded."

In response, VENCorp notes that the Cumulative Price Threshold arrangement is a risk management tool that was introduced to protect retailers from sustained high prices in the spot market. As already noted:

- Price mitigation measures employed in the wholesale spot market do not necessarily provide a valid proxy for the marginal value of supply reliability to consumers.[29]

- The artificial attenuation of the value of customer reliability (to mirror the spot market price risk mitigation arrangements) will result in an inefficiently low level of supply reliability, having regard to the marginal cost to consumers of unserved energy.

- Questions relating to the impact of spot price risk mitigation measures on incentives for investment in capacity are best addressed directly in the context of the market rules.

For these reasons VENCorp considers it would be inappropriate to adopt the suggestion made by Energex.

[29] Indeed, as noted in Section A2, there appears to be ample evidence that the present wholesale market price cap is materially below the marginal cost to consumers of unserved energy.