Loy Yang Marketing Management Company Pty. Ltd.

AGL Hydro Pty. Ltd.

International Power (Hazelwood, Synergen, Pelican Point and Loy Yang B)

TRUenergy Pty. Ltd.

Flinders Power

27 May 2008

The Reliability Panel
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Dear Panel Members

AEMC Reliability Panel's Review of Transmission Reliability Standards

I refer to your call for comments and feedback on the Reliability Panel's Transmission Reliability Standards Review Draft Report dated 24 April 2008.

This is a joint submission made by a group of generators in the National Electricity Market. It includes Loy Yang Marketing Management Company Pty Ltd, AGL Hydro Pty Ltd, International Power Australia, TRUenergy Pty Ltd, and Flinders Power (the Group). We have a combined generation capacity of 10,500 MW, which accounts for approximately 25% of all registered generation capacity serving the National Electricity Market. We thank you for this final opportunity in the review process to submit our views and concerns on the Panel's proposals as documented in the Draft Report.

This submission focuses only on a few key issues addressed in the Draft Report. The absence of any comments in this submission in respect of the broad range of other matters addressed by the Panel in its Draft Report should not be interpreted as tacit agreement of the Panel's proposals. Our views and concerns as expressed in our submission both in response to the Panel's Issues Paper and in the presentation at the Public Forum on 30 April 2008 still apply.

1. General

The Group notes that the Draft Report appears to be little more than a re-iteration of the Panel's position expressed at the Public Forum. In addition, the Draft Report includes minimal analysis of the Panel's views as to how well any of the options satisfy the Panel's proposed criteria and therefore provides very little new information

on which to comment. It would also appear to us that the Panel has as yet not had sufficient opportunity to consider our views and concerns expressed in our previous submission and at the Public Forum.

The primary objective of this Review should be to develop and implement network planning standards that not only are consistent with the NEM Electricity Objective as far as network investment is concerned but also facilitate the economically efficient investment in the generation sector.

In this regard, over time, investment in new generation plant and refurbishment of old plant is likely to exceed the necessary future investment in transmission infrastructure by a factor of at least four to one.

Given current policies of the various State Governments in the NEM, there is likely to be a much stronger reliance on private investment in new generation infrastructure in the future. We believe our views are representative of the broader community of likely private investors in future generation:- we want:

- Competitive neutrality;
- Regulatory stability; &
- Predictability in the likely outcome of future network planning decision-making.

Within the framework of the current transmission network access regime in the NEM, a proper value-based approach to network planning which takes due account of the future planning uncertainties over the full economic life of any proposed investment is the only approach that would deliver what we seek. Other methods which ignore much of the future uncertainty and/or attempt to over-simplify the value proposition in network investment decisions will not be competitively neutral and they will not deliver predictable investment outcomes.

Private generator investors understand and accept all of the market risks associated with their investments in the NEM. We also accept long term technology risk and face considerable sovereign risk associated with potential shifts in Government energy-related policies. All of these issues are assessed and appropriately factored into the risk-adjusted cost of capital when considering any new generation investment.

Without a proper value-based approach to network planning implemented in a highly transparent manner, the network planning regime becomes yet another risk factor to be assessed and included in the generation sector's cost of capital. The Panel needs to bear in mind that the outcome of this Review will not only impact on the level of supply reliability being targeted for consumers and network planning policies and practices, it could also materially impact on the cost of capital for future generation capacity in the NEM. In our view, the Panel's current proposals do not bode well in this respect.

2. *Deterministic Versus Probabilistic Planning*

The Panel's Draft Report still leaves open the question of deterministic versus probabilistic planning methods and standards insofar as it does not offer a definitive position of the Panel on the issue.

However, it states as follows:

> *"The Panel notes that while probabilistic standards and planning methods for complex systems might have developed considerably over the last fifteen years, as suggested by the Group, as yet few power systems in advanced economies are developed in this way. The jurisdiction of Victoria is an international pioneer in this regard. While the methods used in Victoria might be improved upon, as suggested by the Group, the adoption of such an approach across the NEM would present many challenges. A very compelling case would have to be made to governments and regulators to switch to probabilistic standards and planning methods, given that international history and practice is to use deterministic standards and planning methodologies."*[1]

The hurdles presented here for the adoption of probabilistic planning together with nation-wide probabilistic planning standards bear no relationship to the Panel's nine proposed principles.[2]

The basis for the Panel determining what the appropriate approach is for the NEM should focus on a clear set of principles as the Panel has already proposed. While we have some concerns with the current proposed set of principles as is discussed in Section 4 of this submission, we do not support their expansion to incorporate the thinking inherent in the above.

The principal arguments against probabilistic planning being offered by both the Panel and its detractors amongst stakeholders appear to be:

- Complexity; and
- Uniqueness.

Grid Australia also argues that economically based deterministic standards will deliver essentially the same outcomes as a full probabilistic approach. The Reliability Panel has chosen not to critically assess each of these arguments as yet. Instead, it simply says that someone, as yet undefined, would need to make a "very compelling case" in support of a probabilistic approach. We believe it is incumbent on the Reliability Panel to undertake the detailed analysis of each of the options presented and test the validity of the arguments for and against each option. However, in the absence of such analysis, the following is our response to each of these arguments. It is not intended to be a comprehensive analysis; it is merely a qualitative response based on minimal research of the subject.

2.1. Complexity

The complexity of any planning methodology is determined primarily by the complexity inherent in the planning problem which is the subject of the planning study in question. Attempting to optimize network investment strategies and project timings

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[1] Panel's Draft Report: page 56

[2] Panel's Draft Report: page 18

involving multi-million dollar investments, each having an economic life of 40 years or more, taking into account all of the material risks and uncertainties that can impact on the relative economics of the available alternatives is in most cases a very complex problem.

Simplifying the analysis by in essence ignoring a lot of its complexities can only be regarded as acceptable if either:

- The complexities being ignored can be demonstrated to be trivial and would have minimal impact on the result of the analysis; or
- The correct but more complex analysis is simply not practical, either because the analytical tools or processes have not been developed, or the costs of such an analysis would outweigh the benefits to be derived from a more accurate outcome.

We contend that the experience of VENCorp (and its predecessor, VPX) with probabilistic planning over the past decade or more is clear evidence that neither of these arguments is valid. First, as was discussed at the Public Forum, analyses they have undertaken in the past have shown the optimum timing of a range of network investments was some 3-4 years later using a probabilistic standard compared with the simplified deterministic standards applied in the northern States. Such savings in network costs and charges are certainly non-trivial. Secondly, their practical implementation of a probabilistic planning methodology has not resulted in a major increase in required planning personnel, material increases in the difficulties encountered in undertaking planning studies, planning-related public consultations or regulatory approval of proposed investments.

We are the first to acknowledge that VENCorp's approach to probabilistic planning is less than ideal. Its planning methodologies could be enhanced quite considerably and the range of potential planning risks it assesses in its planning studies probably needs to be expanded. Nevertheless, in our view, a less-than-ideal probabilistic planning approach is likely to deliver a closer-to-optimum network investment strategy and timetable than an over-simplified deterministic approach which either masks or ignores much of the future uncertainty that is material to the network planning decision.

One needs to bear in mind that the current network planning standards and planning philosophies were developed in an era of:

- Vertically integrated utilities;
- Centrally planned power systems in which much if not all of the market risk associated with new investments in all infrastructure including generation were allocated to consumers and not the investing utility;
- Energy and demand growth rates of 7% per annum or more when the costs and risks associated with over-investment were low; and
- Simple planning tools with little or no in-built capability for computer-based analysis of planning risk and uncertainty.

None of these exist today. We need planning approaches and planning standards that befit the energy industry and markets of today and how these are likely to evolve

and change over the next few decades. Those planning approaches and planning standards need to recognize and accommodate all of the material planning risks and uncertainties that are relevant to any investment decision, not merely those which were considered in the past in a totally different era.

In summary, anecdotally at least, VENCorp's practical application of probabilistic planning methods and standards over many years is a clear indication of the lack of any real substance in the '*complexity*' argument.

2.2. Uniqueness

The '*uniqueness*' argument suggests that 'few power systems in advanced economies' are developed using probabilistic planning approaches and that this somehow reduces its legitimacy. While we acknowledge that few power systems in advanced economies are being developed this way at present, we utterly reject the contention that this is a valid argument against its adoption in the NEM.

First, it has already been applied in the NEM, and quite successfully, for a period of more than 10 years. It was introduced with very little fanfare, it has not created any degree of controversy with the network planning and investment decision-making in the Victorian jurisdiction with market participants or consumers over that period, and it is now well entrenched in Victoria and well accepted by the vast majority of Victorian market participants. In this regard, we would view any decision to revert back to a more simplified deterministic approach as a backward step which is clearly at odds with the demands of today's modern competitive energy market environment.

Secondly, even though international application of probabilistic planning is in the embryonic stages, there is clearly a growing recognition of the need to move in this direction, particularly in places where competitive power markets have been introduced.

In New Zealand for example, the NZ Electricity Commission have seriously considered the extent to which probabilistic planning of the grid would be appropriate in New Zealand. As part of this process, in 2004, they commissioned PB Associates to advise them on the subject, the result of which was a comprehensive report on the matter from a New Zealand perspective[3]. Even though it was prepared specifically for the New Zealand situation and is probably already out of date, the Panel may find this report quite instructive on the subject. As yet however, New Zealand still applies a deterministic standard.

Also in the US, the Electric Power Research Institute has been undertaking a major research project to develop probabilistic planning methodologies and tools for its member utilities, some of whom are located outside the US. In December 2003, EPRI published a very brief progress report[4] in which it said:

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[3] "Probabilistic Transmission Planning: Comparative Options and Demonstration", PB Associates, prepared for the NZ Electricity Commission, August 2004

[4] "Report Summary: Moving Toward Probabilistic Reliability Assessment Methods", EPRI, December 2003

> *"Traditional deterministic methods of performing reliability assessments for power system planning purposes are no longer adequate in today's environment. To address the range of uncertainties facing planners, probabilistic reliability assessment (PRA) methods are needed.....*
>
> *Widespread adoption of PRA methods and tools will require a significant effort across a range of stakeholders in the electric power industry, including regulators, ISOs, regional transmission organizations, transmission owners, and technology developers. Accomplishing this goal will require institutional changes, continued technological development, consideration of data issues, and a program to promote understanding and awareness. However, the benefits of improved, long-term, reliable delivery of power across North America clearly justify the work required....."*

This EPRI work has been ongoing over the past 5 years and, as of now, its grid planning research program[5] is centred almost entirely on the development and application of advanced probabilistic planning methods and tools.

A practical example of at least partial adoption of probabilistic planning methods and standards in the US can be found in California. The Californian ISO has been using this approach for the past 6 years. As part of the preamble in its official standards document[6], it states:

> *"This standard is also a change in the approach the ISO uses in planning from primarily deterministic planning standards toward probabilistic planning standards. It is the general belief of the PSC[7] that this trend will be an improvement in that it will provide additional information for the ISO and others to use when making decisions associated with making improvements to the grid."*

In summary, VENCorp and its predecessor, VPX, may have indeed been world pioneers in the development and application of probabilistic planning methods and standards, but there is growing recognition amongst the more enlightened in the industry in other parts of the world of their advantages, and the inevitability of their eventual adoption, particularly in areas where competitive power markets have been introduced.

The NEM itself has been a pioneering initiative in terms of the global development of competitive power markets. Its energy-only design has been quite unique and, in spite of this, the NEM is highly regarded internationally. As has been the case for the development of the NEM, we should be aiming for world's best practice in the development and use of transmission reliability standards, even if this means we need to continue to be pioneers in this field as well.

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[5] "Electric Power Research Institute 2008 Portfolio: 40 Grid Planning" which can be downloaded from mydocs.epri.com/docs/Portfolio/PDF/2008_P040.pdf

[6] "California ISO: Planning Standards", published by the ISO, dated February 2002.

[7] California Public Utilities Commission

2.3. Comparative Outcomes

Grid Australia have suggested that deterministic standards based on economic benchmarks will deliver essentially the same outcomes as a fully probabilistic approach. In support of this argument, they suggest that our (i.e. the Group's) acceptance of the use of deterministic surrogates in limited circumstances is a clear recognition on our part that this is indeed the case.

This is an over-simplification of our position. The validity of an economically based deterministic standard is confined to planning studies where all of the parameters involved and the planning uncertainties being addressed are quite similar to the parameters used in deriving the standard. This would only apply in very limited circumstances for planning studies involving highly localized issues and standardized network design parameters. Even then, it would probably be necessary to develop a suite of deterministic standards to cater for variations in demand profile to be able to reliably deliver similar outcomes.

Our position on this issue is very clear:- we want probabilistic methods and standards to apply universally for all transmission grid related investments. This also includes substitutes in the form of non-network alternatives and, where applicable, sub-transmission that directly supports the main grid. A deterministic surrogate derived from the probabilistic standard would be quite acceptable provided that it is only applied in circumstances where it would clearly result in the same outcome. In this regard, the probabilistic standard is still the standard; the deterministic surrogate is merely an accepted way of applying the standard in a more streamlined assessment process where appropriate.

2.4. Summary

In summary, we wish to re-affirm our strong support for the development and implementation of probabilistic planning methods and nationally-applied probabilistic standards. As stated in our earlier submission:

> *"We believe there are a number of compelling arguments in favour of the probabilistic approach including the following:*
>
> - *A probabilistic approach which incorporates an appropriate value of reliability to electricity users is the only way to ensure that competitive neutrality is preserved between the various competing forms of investment (generation in potentially different locations, network infrastructure, NLCAS and demand management measures). The probabilistic approach enables different forms of investment with potentially different reliability impacts to be assessed against one another and for the option providing the best overall value proposition for the market to be identified.*
> - *The probabilistic approach ensures that each investment option is assessed and measured in a way that is totally compatible with the NEM Objective, i.e. each is assessed in*

terms of its relative economic efficiency from an overall market perspective.

- *Deterministic approaches currently applied in the NEM still involve probabilistic type considerations in respect of some but not all of the key inputs to the planning evaluation. For example:*
  - *The forecast level of demand used in the planning studies may be a 0%, 10% or 50% POE (probability of being exceeded) demand projection;*
  - *The generation loading pattern assumed in the studies is generally a "typical range" of the potential options taking into account the expected plant merit order and their expected availabilities; and*
  - *Consideration of potential contingencies includes credible or higher probability contingency events but excludes so-called non-credible lower probability events."*

There is sufficient evidence available now to show that:

- Probabilistic planning techniques and standards are superior to deterministic approaches in ensuring true value-based grid planning and decision-making; and
- There is a growing recognition of this, particularly in advanced economies with competitive power markets and there is considerable effort being devoted to developing improved probabilistic planning techniques and computer-based tools for improving its practical application.

As this is clearly the way of the future, it would be an unfortunate retrograde step for the NEM if, after 10 years or so of applying this approach in Victoria, probabilistic grid planning is now completely abandoned in the NEM.

3. Preferred Option

As discussed in Section 2 above, we believe the arguments put forward by the protagonists of probabilistic grid planning lack credibility. It would appear that Option D has been developed by the Panel consistent with our views and preferences as stated in our submission in response to the Panel's Issues Paper, and it is therefore quite clearly our preferred option.

In addition to entrenching a probabilistic grid planning approach, it also guarantees national consistency, essentially removes any jurisdictional role in the technical regulation of the transmission grid, precludes jurisdictional discretion in the derivation and application of grid reliability standards and creates a more cohesive national regulatory framework which has the potential to evolve into a totally consistent and holistic approach to grid reliability and performance issues across the NEM for the future.

In many respects, these latter issues are just as, if not more, important to us than a NEM-wide adoption of probabilistic planning at this time. There is no doubt in our

minds that the compelling logic of a value-based probabilistic planning approach will prevail, if not now as a result of this review process, then in the very near future. Australia, through VENCorp and its predecessor, VPX, have been pioneering probabilistic grid planning for a decade or more as is acknowledged[8] by the Panel. It would be an extremely disappointing result to us if Australia's position at the forefront of this development effort is weakened or abandoned as a result of this Review.

We acknowledge that there is room for a considerable amount of improvement in the way VENCorp has implemented its probabilistic planning methodology. Much more development work is needed on both the probabilistic planning methodology itself and the computer-based tools for applying it.

While we continue to question the legitimacy of the perceived barriers which may dissuade the Panel from recommending a full probabilistic based approach to grid planning at this time, we acknowledge the need for some sort of transition period. Therefore, rather than recommending other options, we would propose that the Panel recommends a variation of Option D which:

- Demonstrates a clear commitment to transition to a probabilistic planning approach in the medium term; but
- Is sensitive to the views and concerns of those who are still opposed to it, at least during a suitable period of transition.

The table overleaf discusses possible variations to Option D from this perspective. We have also put forward a number of proposals about the way in which each of these variations to Option D should be implemented so as to preserve the fundamental integrity of the proposed standard, and which allows a full probabilistic approach to apply to the Victorian Grid while the remainder of the NEM can use deterministic surrogates for all but the very large projects. Over time, as improved probabilistic planning methodologies and analytical tools are developed, we would expect the continued application of deterministic approaches across the NEM will decline in favour of more complete probabilistic based planning studies even for small to medium sized projects.

We have not discussed in the table any potential variations to the proposal for the new standards to be set by an independent national body. This issue is addressed in Section 5 below, at least in terms of how a national standard should be determined. If however, State-based standards are retained, we have some concerns about the practicality of creating and appropriately staffing truly 'independent' bodies to perform this function in each State.

The South Australian model works because the ESIPC has a much broader role than merely establishing a transmission reliability standard. Creating a new body in each of the other States for this sole purpose, or alternatively stapling this responsibility on to an existing State body that has no relevant technical expertise is much more problematic.

[8] Panel's Draft Report: page 56

Features	Option D; i.e. our preferred Option	Potential Variation(s)	Proposed Approach if Adopted	Comments
Form of Standard	Probabilistic, with more developed probabilistic assessments than currently used by VENCorp.	Hybrid form, as proposed in Options A,B & E	If this approach is preferred by the Panel, we propose that: • A customer valuation of reliability based standard be retained as the principal standard • A range of deterministic surrogates be developed together with strict guidelines for their application to ensure each surrogate is only applied for planning studies where it is suitable. These surrogates are not standards in themselves, they are merely seen as a more streamlined way of applying the CVR in grid planning studies • The application of deterministic surrogates be confined to "small to medium" individual projects or project sequences. All quite large investment proposals are to be subjected to a more complete probabilistic assessment. In addition, at least for medium sized projects, where the range of options being considered in a planning study could result in materially different reliability outcomes, interested stakeholders should have the right to request a full value –based assessment be undertaken. However, vexatious use of this right should be prohibited. Finally, TNSPs should have the right to undertake full probabilistic analyses and not use a deterministic surrogate if they so desire • A new improved method of probabilistic assessment be jointly developed by a TNSP-based working group chaired by the NTP. The public consultation processes for rule-making under the Market Rules should apply to the process, and when finalized and approved by the AER, its use should be mandatory for all probabilistic based assessments. Until then, pragmatic interim assessment techniques may be used • In addition, at least for medium sized projects, where the range of options being considered in a planning study could result in materially different reliability outcomes, interested stakeholders should have the right to request a full value –based assessment be undertaken. However, vexatious use of this right should be prohibited	We believe this is a pragmatic solution to the current dilemma facing the Panel. It demonstrates that the Panel is committed to proper value-based grid reliability standards and project assessments while still largely satisfying the concerns of the TNSPs. It also allows AEMO, as VENCorp's successor, to continue to apply a probabilistic approach for the Victorian network if it wants to, or if it can be convinced to do so by the Victorian stakeholders. Thirdly, it places the onus on the NTP and the TNSPs to jointly develop and refine over time, the probabilistic planning methods and tools, so that the NEM can transition in an orderly way to a more probabilistic based approach as TNSPs and market stakeholders become more familiar with it and understand its advantages compared with past practices. Finally, it should allay the "fears of the unknown" amongst regulatory staff and more particularly policy-makers and Government officials about the change in approach and its potential implications for grid development in their State. In summary, this would be a very pragmatic and quite responsible way to transition the NEM to probabilistic based planning.

Features	Option D; i.e. our preferred Option	Potential Variation(s)	Proposed Approach if Adopted	Comments
Scope of Standards	Common across NEM jurisdictions. Allowance for connection point reliability standards to differ between CBD, metro and rural areas depending on customer valuation of reliability.	Tailored to each jurisdiction as per Option A (without a reference standard being published)	If this approach is preferred by the Panel, we propose that: • The precise form of the standard be exactly the same across all jurisdictions and only the quantum of the standard be tailored • Some limitations be placed on the extent to which the standard can be tailored in each jurisdiction to protect against a plethora of "regional" as opposed to "jurisdictional" based standards emerging • The body responsible for specifying the standard in any particular jurisdiction be required to publish a report comparing the various standards across all of the jurisdictions and provide a comprehensive explanation of the reasons for their standard particularly in relation to the differences between it and the other jurisdictional standards in force • The frequency with which jurisdictional based standards may be reviewed and revised be limited, and timed to fit appropriately with the periodic ARR determination of the principal TNSP in each jurisdiction	The proposed constraints on jurisdictional based standards are designed to maintain national consistency as much as possible while still allowing the jurisdictions to set their own standard. However, we see no justification whatsoever for the jurisdictions being permitted to in effect develop more than a single jurisdictional standard. Without any limitations they could in theory at least develop a different standard for each connection point.
		Tailored to each jurisdiction, but with publication of a national 'reference standard' as per Option E	As above, except that: • The body responsible for specifying the standard in any particular jurisdiction should be required to publish a report comparing the jurisdictional standard with the reference standard and provide a comprehensive explanation of the reasons for their standard particularly in relation to the differences between it and reference standard	Even though it is non-binding and for informational purposes only, the development and publication of a national 'reference standard' would probably discourage individual jurisdictions from developing and implementing State-based variations.
		Retain the common default standard across all jurisdictions but grant each jurisdiction the right to modify the standard for a specific purpose	If this approach is preferred by the Panel, we propose that: • The process by which the jurisdiction invoked such a right should be clearly specified in the form of a regulatory instrument • Interested stakeholders should be consulted before a decision is made • It's application would be time limited and only apply to a nominated project or group of projects • The cost impacts of the decision would be borne initially by the jurisdiction	This alternative takes the 'reference standard' proposal to the next level; it formalizes its implementation as the default national standard, but gives jurisdictions the option to vary it for specific cases where, in their view, the circumstances justify it. Under this approach, even less deviation from the national standard is likely.

Features	Option D; i.e. our preferred Option	Potential Variation(s)	Proposed Approach if Adopted	Comments
Where are the standards specified?	National Transmission Grid Code, which would replace existing jurisdiction specific transmission code/license conditions and incorporate the technical standards currently set out in Schedules 5.1, 5.1A and other chapters of the NER.	Combined in a single instrument such as the NER as per Options B & C	If this approach is preferred by the Panel, we propose that: • Sufficient steps be taken at the national level to ensure that the legal force and effect of these provisions within the NER take precedence over any conflicting jurisdictional based legislation or regulatory instrument • Appropriate implementation guidelines be developed and published to ensure that TNSPs have minimal discretion in their interpretation and application of the relevant standard (we have assumed that, under the Option D proposal, this would be addressed within the framework of the National Grid Code) • New compliance and appeal related provisions tailored to specific needs of the planning process be developed and introduced rather than relying on the existing general provisions.	In our opinion, the NER is not well suited for dealing with highly technical issues. It is primarily concerned with the rights and obligations of NEMMCO/AEMO in running the market and operating the power system and the associated rights and obligations of registered market participants in their interactions with NEMMCO/AEMO and the market. These rules are often supplemented by detailed business rules/operating procedures prepared and published by NEMMCO/AEMO. The network access related provisions of the NER on the other hand are high level and leave a considerable degree of discretion in the hands of TNSPs. In some instances, this is constrained by AER guidelines and/or jurisdictional instruments of one form or another. New NER provisions would need to recognize and address the potentially severe shortcomings of this legal and regulatory framework.
		Jurisdictional instruments	If this approach is preferred by the Panel, we propose that somewhere within the national regulatory regime, there would need to be specified all of those things necessary to be able to maintain "national consistency". In these circumstances, this would suggest at the very least that some reasonably comprehensive new NER provisions would be needed in any event.	As per table.

4. Proposed Principles

The Panel has proposed 9 fundamental principles or assessment criteria which it will use to analyse the various options and thereby reach a decision regarding its recommendations to the AEMC at the conclusion of this Review.

In broad terms, the Group supports the Panel's development and use of fundamental principles or assessment criteria as the basis for making its decision. We also generally agree with the assessment criteria being proposed. However, there are a few instances where we either disagree with the Panel's proposal or our support is qualified to some extent. These are discussed further below.

4.1. Transparency

The Panel suggests[9] "*there should be greater transparency in the processes used for setting standards*". We wholeheartedly agree with the Panel in this respect; however, the principle should be expressed in terms of a required standard of transparency that needs to apply rather than it merely being an improvement on past practice. In this regard, it may be sufficient to refer to the transparency requirements imposed on the AEMC under the NEL for rule making as an acceptable benchmark.

Secondly, the transparency principle should be extended to require a high degree of transparency in the way in which the standard is capable of being applied and enforced so that stakeholders can not only have a high level of confidence in the validity of the standard itself but also its appropriate application by network planners.

4.2. Specificity of Standards

The Panel has clarified[10] its intentions in respect of this proposed principle to mean that "*transmission reliability standards should be clearly specified on a connection point basis or on some other readily understandable basis (e.g. by geographic area, such as CBD, large regional city, etc.)*".

From a value based perspective, what ultimately matters is the impact on supply reliability at a consumer's point of supply as a result of any particular planning decision. By assessing the issue from this perspective, the reliability assessment would take into account load transfer capability between transmission connection points and the speed with which this could be implemented, the expected frequency and duration of contingency events and so on.

There is no need to set the standards on anything other than the consumer's point of supply unless the standard is not a reliability standard at all but is in fact a network redundancy standard.

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[9] Panel's Draft Report: page 16

[10] Panel's Draft Report: page16

We would argue that the concept of supply reliability at the consumer's point of supply (and therefore in this case, the contribution to this provided by the transmission grid or non-network substitutes) is readily understandable. The real issue here is whether in fact it is capable of being analysed and determined reasonably accurately and is therefore enforceable as a standard.

There is no doubt that the specificity of a probability based standard expressed in terms of the delivered reliability at the consumer's point of supply is the ultimate form of specificity from a reliability standpoint. Including this principle as proposed is giving a level of legitimacy and credibility to grid redundancy standards that they don't deserve, implying that they are in fact a valid way of defining reliability when in reality they are not.

A deterministic redundancy standard can imply a certain level of reliability; however, the level of reliability implied for any given standard can vary quite considerably from one situation to another depending upon load profile, network topology, detailed network design practices, equipment failure rates due to localized environmental factors, network operations policies and practices and so on.

If the aim is to in fact define a reliability standard, the principle of specificity ought to be one which aims to ensure that the standard is specified in a form which is indeed a true measure of reliability itself and not just a measure of redundancy.

4.3. Maintaining Existing Levels of Performance

In our view, there are a range of reasons why adopting the principle that any new grid planning standard must enable existing levels of network performance to be maintained is not needed and it should be deleted.

First, in some parts of the NEM, the grid has been over-built in the past and network performance has been in excess of what would be expected even if extremely risk averse and quite economically inefficient grid planning standards had been in place. This may have resulted from the lumpiness of major network investments or the use of unduly conservative planning assumptions. However, regardless of the reasons for it, there are no justifiable political, social or economic argument to continue unnecessarily 'gold-plating' the network merely because this is what occurred in the past.

Secondly, if a uniform national standard is to be adopted, this principle demands that the uniform standard be set for the whole network at a level that will enable the best historical network performance to be maintained.

Thirdly, in order to determine the required quantum of the standard which would satisfy this principle, the body charged with the responsibility of setting the standard would need to undertake a comprehensive and quite detailed analysis of the actual historical network performance across the NEM, and then determine what reliability planning standard applied in the future would enable TNSPs to maintain this level of performance taking into account expected changes in transmission technologies, network design practices, asset management practices, network operations and so on. Alternatively, it would be forced to include a generous 'safety margin' in the proposed standard.

Finally, the impact on the reliability of supply enjoyed by consumers at their point of supply due to potential variations in transmission planning standards that could emerge as a result of a new consistent national framework for setting these standards will not be discernible by consumers. Any potential change in this respect will be swamped by the reliability performance of the local distribution network, which itself varies considerably from year to year largely as a result of variability in weather conditions.

4.4. Consistent Relationship with Sub-transmission Standards

When addressing this issue in our submission in response to the Panel's Issues Paper, our comments were quite specifically in relation to the question put by the Panel on the subject, namely: "*What are the costs and issues if a common transmission standard leads to an inconsistency with the DNSP sub-transmission standard in the same jurisdiction?*"

In response to that question, we said:

> *"The new national standard should apply to the "main transmission system" which includes elements of the sub-transmission network where they support the operation of the transmission network.*
>
> *As transmission connection arrangements are generally the subject of a contractually based agreement, the contract provisions should take precedent over the national standards*
>
> *The retention of jurisdictional network standards at the local distribution level, while potentially inefficient, has a limited impact on the operation of the wholesale NEM as the local network fulfills a different role to the main transmission system. A national standard for the major transmission and sub-transmission network should therefore not create any major inconsistencies."*

The brevity of this response appears to have created some misunderstanding by the Panel of the Group's position on this issue, as is indicated by the following[11]:

> *"The Group also favours consistency in the standards applied to transmission and sub-transmission networks, but does not [see] this necessarily resulting in a change in jurisdictionally mandated distribution network standards."*

As a general rule, the planned reliability of the sub-transmission network and the relevant standards which apply are addressed at a jurisdictional level as part of the overall regulatory supervision of the distributors who are usually the owners and operators of the sub-transmission network.

While there may be some inefficiencies in the way the reliability standards for both the sub-transmission network and the distribution network are currently defined and applied,

[11] Panel's Draft Report: page 17

that is not a matter that is the subject of this Review and, in our opinion, there is no good reason why the form or quantum of those standards should have any influence on the form or quantum of any proposed national transmission reliability standard.

However, there are some situations where elements of the sub-transmission network directly support the transmission network in the area concerned and, because of this, they are considered to be a part of "the main power system" and are included in the operational control area of the NEMMCO. For any part of the sub-transmission network that is considered to be a part of "the main power system" it would be logical for that part of the network, in its transmission support role, to be required to meet any new national transmission grid planning standard. At the same time, it may also be required to meet the reliability standards that normally apply to sub-transmission networks in that area, and these standards may be more stringent or less stringent (in terms of the level of redundancy required) than the transmission grid planning standard.

In our view, these two different standards can readily co-exist even if the form and the quantum of each are different, and the expected performance of the sub-transmission network can be readily assessed against each as required. While it would be highly desirable for the economic rationale for each standard to be mutually consistent, in reality, these standards are generally defined in the form of a redundancy standard in which case the economics of the network built on this basis will vary considerably from place to place both within and between networks in any event.

The AEMC, in its Draft Report[12] for the NTP Review, made the following comment in relation to the application of its proposed new Regulatory Investment Test:

> *"Under the new arrangements, network augmentations necessary to meet deterministic planning standards applied to distribution networks will continue to be assessed under the current regulatory test, while proposed projects addressing identified needs on the transmission network will be subject to the new RIT-T. The Commission does not consider that having two separate project assessment processes would prevent [the] joint planning process from continuing, but seeks views from market participants on whether having two separate process[es] would create complications."*

It would appear that our views are very closely aligned to those of the AEMC on this point.

Where we strongly disagree with Grid Australia and apparently the Panel therefore is that, in our view, the form and quantum of existing jurisdiction-based sub-transmission and distribution grid reliability planning standards should not in any way constrain the development and implementation of a proper, economically based transmission grid

[12] "National Transmission Planning Arrangements – Draft Report" published by the AEMC on 2 May 2008, page 32

planning standard. As a result, we urge the Panel to delete this proposed principle from the list.

5. *Independent Standard-Setting Body*

We have argued for a consistent national framework that involves a uniform national grid reliability standard set by an appropriate independent national body. In our submission in response to the Panel's Issues Paper, we suggested[13] that this body could be "*the AEMC on the advice of the Reliability Panel and the AER*".

After further thought on the matter, we have come to the view that it may be more appropriate for the National Transmission Planner to be given the responsibility to develop the detailed wording and proposed quantum of the new national standard. The NTP would be required to comply with the transparency requirements specified in the NER/National Grid Code when undertaking this work and its recommendations would need to be ratified by the AEMO Board, the Reliability Panel and the AER before it would come into effect. It would also be appropriate if the timing of both the initial introduction of the new standard and any subsequent changes to it were a decision of the AEMC after further consultation with both the AER and market stakeholders.

In our view, this process has a number of advantages compared with our previous proposal:

- The NTP will have the relevant technical expertise and grid planning experience amongst its staff to undertake and/or supervise the detailed analysis that will be necessary in developing the details of the standard. At the same time, even though it is a grid planning body, it will be completely independent of all of the market stakeholders directly involved in planning and/or investing in the grid at the TNSP level.
- The multi-stage process which requires the AER and Reliability Panel to ratify the NTP's recommendations and the AEMC to determine the timing of their implementation provides stakeholders with what is in effect a quasi appeals mechanism if any stakeholders are particularly aggrieved with the NTP's processes or findings. In our view, this would be a more flexible and more appropriate way to deal with such grievances rather than using the formal appeal mechanisms under the Market Rules or the NEL. We would expect the processes for the Reliability Panel's role in ratifying the recommended standard and dealing with stakeholder concerns and the AEMC's role in establishing the implementation timetable would be specified, at least in broad terms, in the proposed National Grid Code.

[13] The Group's Submission in response to the Panel's Issues Paper: Attachment 3, page 14

6. Analysis of the Options

The Group is concerned that the Draft Report fails to provide any quantitative or qualitative analysis of the various options listed in the report. As a result, there is no clear indication of which option the Panel is likely to recommend. At the same time however, the Draft Report states[14] as follows:

> *"... the working approach adopted by the Panel is to submit a final report to the Commission by 30 July 2008, so that the Commission can consider the Panel's advice in the context of the Commission's other recommendations to the MCE concerning: the role and functions of a National Transmission Planner (NTP); and a new Regulatory Investment Test (RIT) for transmission."*

We can only presume that, while this current round of consultation has been in progress, the Panel has arranged for the detailed analysis of the options to be undertaken by experienced planners well versed in the application of both deterministic and probabilistic planning approaches. We also anticipate that this work has included a proper cost benefit analysis of probabilistic versus deterministic planning, and a critical assessment of the relative accuracy (from an economic efficiency standpoint) of each. If this is not the case, then we strongly urge the Panel to initiate this work as soon as possible.

The above timetable also raises the question of whether the Panel intends to submit its final report to the AEMC without any further stakeholder consultation, in which case we will not have had any opportunity to input our views on any of the specifics of the Panel's detailed analysis or proposed recommendations.

We must also assume that, even if the recommendation of the Panel is to move to a uniform national standard, it is not considered by the Panel to be within the Terms of Reference of this particular Review to develop and recommend a specific quantum or precise wording of the proposed planning standard in a way that would define the level of transmission network reliability that should be targeted by the TNSPs.

7. The Way Forward

The Terms of Reference for this Review prepared by the AEMC stated[15], in respect of stakeholder consultation to be undertaken, as follows"

> *"The review of the jurisdictional transmission reliability standards is likely to have important implications for NEM stakeholders. Consistent with its philosophy of engaging with those parties, the AEMC requests the Panel to plan to involve stakeholders by seeking submissions and*

[14] Panel's Draft Report: page 1

[15] Reliability Panel:- National Transmission Planner: Transmission Reliability Standards. AEMC Terms of Reference (17 August 2007) – page 2

holding forums on the main review issues paper and on each of its draft decisions."

According to its original working program, the Panel had no stated intention of any further public consultation after having received stakeholder feedback on its Draft Report. Normally, this would be quite acceptable because the draft report would generally include information on the draft findings and recommendations arising out of the Review. However, that is not the case here, and, as a result, stakeholders have not as yet had the opportunity to make submissions on each of the Panel's *draft decisions* as called for in the Terms of Reference.

Therefore, we would propose that, as soon as possible, the Panel publish a further interim report which includes, at a minimum:

- The final list of principles or assessment criteria used by the Panel;
- The final list of options assessed;
- A summary of the analysis undertaken to assess each of the options and compare them;
- The Panel's interim findings and draft recommendations to the AEMC.

Unless the Panel can find its way clear to revert back to its original timetable, there will be very little time between when the Panel is likely to be in a position to release a further interim report and when it now plans to submit its final Report to the AEMC. In recognition of this, we would be satisfied with a further round of consultation that is essentially limited to the process adopted by the AEMC as part of the NTP Review where it released a discussion paper on 28 March 2008 and held a Public Forum on 2 April 2008.

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We would be pleased to discuss any of the matters raised in this submission with Panel Members or your support staff in more detail at your convenience if you wish, and if you have any questions regarding this submission, please contact the undersigned on (03) 8628 1280.

Yours faithfully,

Mark Frewin

Regulatory Manager

TRUenergy Pty Ltd

(on behalf of the participants listed)

..... **Ken Thompson** General Manager Loy Yang Marketing Management Company Pty Ltd	..... **Alex Cruickshank** Manager NEM Development AGL Hydro Pty Ltd
..... **Mark Frewin** Regulatory Manager TRUenergy Pty Ltd	..... **David Hoch** Regulatory Policy Manger International Power
..... **Reza Evans** Manager Energy Policy & Regulation Flinders Power	