



**SPARK AND CANNON**

**TRANSCRIPT  
OF PROCEEDINGS**

Telephone:

Adelaide	(08) 8110 8999
Hobart	(03) 6220 3000
Melbourne	(03) 9248 5678
Perth	(08) 6210 9999
Sydney	(02) 9217 0999

---

**AUSTRALIAN ENERGY MARKET COMMISSION  
RELIABILITY PANEL**

**TRANSMISSION RELIABILITY STANDARDS REVIEW**

**PUBLIC FORUM**

**MR IAN WOODWARD, Chairperson**

**HELD ON WEDNESDAY, 30 APRIL 2008  
MELBOURNE AIRPORT HILTON  
9.00AM — 11.00AM**

## Contents

PRESENTATION 1: Mr Ian Woodward (Chairman Reliability Panel) ....	3
PRESENTATION 2: Mr Rainer Korte (Grid Australia).....	7
PRESENTATION 3: Mr Jim Gallagher (Southern Generators Group).	14
Q&A plus OPEN DISCUSSION .....	20

## **PRESENTATION 1: OPENING ADDRESS, Mr Ian Woodward (Chairman Reliability Panel)**

MR WOODWARD: Good morning, everyone, good morning and welcome. There are a couple more people who are going to join us shortly and who are just parking, including one of the people who is going to speak to us today. Can I welcome you on behalf of the Reliability Panel to our forum this morning where we're going to look at issues related to the move towards a nationally consistent framework for transmission reliability standards.

I will introduce more formally in a moment my colleagues from the panel. My name is Ian Woodward. I have the privilege of chairing the panel and I'm also a commissioner of the AEMC. We have - and thank you - a very large roll-out of people to talk about these issues this morning. As many of you who have participated in other consultation forums with the panel before would be aware, we place great store in our analysis and policy development and recommendation development process on consultation, and not only through the formal submissions process and the opportunity to interact with the various members of the panel, but through forums like this morning.

We gave the opportunity to any of those who had made submissions into the process on this to say a few words. We will have two of those, from Rainer Korte and from Jim Gallagher, during this morning, then we'll open up to questions and commentary. I just thought I'd set the scene with a few comments about this particular review and the work the panel is doing in providing advice on this matter to the AEMC, which ultimately will be presented to the Ministerial Council on Energy.

The AEMC simply asked the panel, as one of three work streams within the various review elements of looking at National Transmission planning arrangements, to in particular undertake some detailed consultation and analytical work related to a nationally consistent framework for transmission reliability planning standards, and we're tasked to provide that advice to the AEMC by or around the end of July. The AEMC will then provide recommendations to the Ministerial Council by the end of September on the development and the move towards a framework.

One of the things that is very important in this process is the opportunity to genuinely assess not only competing proposals but different ideas about the way in which you could execute and implement a nationally consistent framework and, as part of that the panel, we published a draft report last week which I'm sure many of you have now had the opportunity to at least look at, and I'll make a few comments briefly on it this morning.

In terms of the policy process and the analytical process, I do want to make it clear that the panel's work is part of a continuum towards the advice that the Ministerial Council will get, including analytical work and consideration by the commission before it makes its final recommendations in September.

Can I introduce some of my colleagues from the panel: Les Hosking, Gordon Jardine, Jeff Willis, Mark Grenning and David Swift. We have apologies this morning from Steven Orr, from Kerry Connors, and a couple of our other colleagues are on their way via plane.

The key theme that we've been looking at is: if you are going to develop a nationally consistent framework, there will be considerable implications of executing such a framework; simply because there is such a diversity not only in form and level of standards across the NEM, but also in the instruments that contain the standards— from state legislation, through licences, through code arrangements and the like.

So not only are we looking at the policy issues here, but how executable and how deliverable is a nationally consistent framework. Clearly that focuses on issues such as the form of the standard and consistency and desirability around that. Secondly, what ought to be the level of the standards and who ought to set that, the instruments to give effect to a consistent framework across the NEM, given the multiplicity of legal basis for the planning standards that exist today.

We asked in our issues paper to get views from stakeholders as to how they might see and envisage such a process, moving towards a level of national consistency, and there were very detailed submissions put to the panel over the last three months and we've replicated those in a number of options that were put out in our draft report last week.

One thing I think that's very important, that comes through the diversity of views that have been put in the consultation process to date, is that there is a surprising degree of consensus around a number of matters, particularly that a nationally consistent framework requires a set of policy principles to underpin it. The consistency across the different viewpoints that has been put to the panel so far shows us that there are a number of these principles that would in fact enjoy broad-scale support.

The first, and perhaps the most important, is that – in whatever format, whatever levelling and whatever structure for a nationally consistent framework – there needs to be appropriate transparency and governance arrangements for both the setting of the standard and the reviews of the standard. Thirdly, that economic efficiency is a principle that ought to underlie both the form and substance of the standard. That there needs to be a specification of the standards, in particular to ideas such as making them

specific at connection point definitions. That the standards have to be fit for purpose and that there has to be accountability built into the whole process, not only for setting the standards but for delivering them.

In addition the panel has highlighted, through its analysis, three additional principles which it believes are appropriate in setting up a nationally consistent framework. The seventh of those is the maintenance of at least the existing levels of network performance; that there should be technology neutrality with respect to the standards, and this is a particularly important theme if we think that a nationally consistent framework on transmission planning standards is going to evolve in the next five years and be implemented in that time frame, just when we are going to witness some of the most dramatic transformation in the level, shape and investment in the network and the range of generation alternatives that will come into the NEM as a result of ETS [Emissions Trading Scheme] and 2020.

That there is also a desirability for a consistent relationship between transmission standards and sub-transmission standards, especially relating to distribution networks because when you analyse where the reference points are for planning, there is considerable overlap and connection between the DNSPs and the TNSPs.

So the panel reported, in its paper last week, on four options which were drawn from submissions and a fifth option that the panel has put forward for the basis of consultation that draws across a number of these to demonstrate ways in which you could establish this nationally consistent framework. All of the options build around the fundamental principles I just talked about, but I also make the point that any of these, if implemented, would require very fundamental change, not only to the National Electricity Law but to a range of state laws and instruments, to implement it.

In terms of the key issues, one which the panel identified in its paper on the options, is that for a nationally consistent framework to have a reference position, there needs to be national application of at least the form of the standard, that the form of the standard has to be specified, that there are genuine points of debate around who should set the level of the standard, either whole of NEM-wide or within each of the jurisdictions, that there are issues about aligning the standards, particularly if the format of the national framework were to change from either a deterministic or a probabilistic setting that exists in most of the NEM jurisdictions to, for example, a hybrid setting where we have examples in South Australia.

We've also raised, in terms of the issues from the panel, the potentiality that if the form of the standard is NEM-wide that its specification is NEM-wide, that if it is set with proper transparency, accountability and governance arrangements and analysis but that there might be differences from one

jurisdiction to the actual level of the standards as they are applied to connection points, that there may well be tremendous value, on an information basis, of having a NEM-wide information reference standard as part of the national system, as a point of information, a point of clarification and a point of contrast.

Clearly the panel's work program is going to focus - and this consultation forum is part of that - on not only the areas of agreement but the areas of disagreement in the positions that have been put forward from submissions at present and as part of our analysis work. These, in particular, will go to looking at the form of the standard national versus jurisdictional setting of standards levels and accountabilities which would necessarily flow from the first two points. Equally, part of the advice that we will provide to the AEMC at the end of July will have to look at questions of implementing the regime for this framework, and a transition plan at least at high level.

As part of the submission process to our draft report, we're not only looking for stakeholders to either affirm, reaffirm or change the positions that they may have put in their earlier submissions, but in particular to address questions about the implementation and execution of the various options as we consider what is the most appropriate one to recommend. So there's been nine submissions to date on the issues paper. We're currently requesting submissions on our draft report. There is a lot of opportunity for further engagement and, as everyone is well aware, there is a broad scale of representation and expertise on the panel itself across the sectors, from users through generators, TNSPs, NEMMCOs, DNSPs and other market participants.

Our process is a serious attempt to get input from stakeholders and it is an attempt, however, to deliver something that is workable, implemental, and which will be seen as a beneficial set of reforms for the NEM. So with those opening comments I'll just briefly talk about our process. We're going to have a couple of presentations and, Jim Gallagher, welcome. We'll hear firstly from Rainer Korte from Grid Australia and then Jim Gallagher on behalf of a number of the generators.

We'll take questions. I suggest we take questions in an open forum way after we've had the two presentations, and then we should be able to finish and wrap up by about morning tea time at 11.00. If anyone has any queries or concerns or needs anything done, Julian Eggleston and Ignatius Chin from the AEMC secretariat are here, so please feel free to contact them. So with those few comments, I might ask Rainer if you would like to speak first and then we'll get Jim set up.

## **PRESENTATION 2: Mr Rainer Korte (Grid Australia)**

MR KORTE: Good morning, and thank you for the opportunity to provide some high-level comment on the panel's draft report. As Ian said, I'm representing Grid Australia this morning. First of all, just a couple of points of introduction, I guess. We just note that COAG, in setting up a brief for the Reliability Panel, in giving instructions for establishing or reviewing the possibility of establishing a national consistent framework for reliability standards, cautioned on a couple of points: first of all, that in pursuing this path we need to be mindful of different physical characteristics of the jurisdictional networks; that the existing regulatory treatments in the jurisdictions, which balance reliability and the cost of reliability to consumers, and just obviously - I think it's obvious to all of us — that the jurisdictional reliability standards underpin the security of supply that customers enjoy.

So what we draw out of that, which I think is being clearly recognised by the panel in this draft report, is that a nationally consistent framework doesn't mean a "one size fits all" standard which is applied everywhere. Just before we get into the meat of it, in the context of the NTP review - the National Transmission Planner review, which is also being undertaken by the AEMC at this time - COAG agreed that any new planning arrangements that are put in place must, as a minimum, be no slower than the present time taken to gain regulatory approval for transmission investment.

We believe this is an important consideration that needs to be taken into account in this setting, as well, when we're contemplating a shift to different forms of reliability standard, and note that the AEMC has in fact stated that it will consider the panel's advice in the context of the commission's other recommendations that are coming out of the NTP review, and also consideration of a new Regulatory Investment Test. So those few comments there just provide a little bit of a basis for some of the comments made later in the presentation.

The next few slides just take another look at those principles that Ian had up earlier, which the panel has set out in its draft report. Grid Australia, in its submission on the issues paper, also set out a number of criteria that we thought are important in assessing any framework for establishing a national consistent set of standards, or framework for standards. So in these next three slides, in the left-hand column we have the Reliability Panel's principle and in the right-hand column we've set out the criteria that we highlighted in our submission, and where there is no match we make a comment on the principle outlined in the Reliability Panel's report.

"Transparency" is important and that seems to be universal, that everybody wants to see greater transparency in the process for setting standards and for

reviewing those standards. We agree with that; that was one of the principles that we set out. But, in addition, I think it's important to recognise that standards also need to be clear and specific in how they're actually applied, and that's an important aspect of transparency, so that all participants can understand how the standards work and there's some transparency about how they're actually applied via networks.

"Governance" is a non-controversial principal. I think everybody agreed on that, and we certainly agree that the body that sets the standards must be independent of the TNSPs that apply them.

"Economic efficiency" seems to also be a universally agreed principle, and we certainly support that, that any reliability standards or changes in standards, as they are considered, need to be on the basis of sound economic efficiency principles.

"Specificity of standards": we agree that standards need to be specified very clearly and at a connection point level.

"Fit for purpose": the Reliability Panel noted, which flows from the COAG point I made earlier, that standards should be able to vary between and within jurisdictions to take account of significance of load, et cetera. We certainly agree with that principle, as consistent with the COAG brief and also consistent with principles of economic efficiency.

On the principle of "accountability": the thrust of that principle in the panel's report was that TNSPs should be accountable to appropriate authority for meeting reliability standards and to the AER for performance against the resulting service incentives. We had a similar criteria that we'd identified in our submission, so we agree with that, but also again just like to make the point that I think this principle requires that outcomes can be readily measured and compared with clear and specific planning standards. You know, if we can achieve that in terms of the form of the standard, it goes a long way to enhancing accountability.

"Maintenance of existing levels of reliability" was a concept that was added in the panel's report, certainly consistent with the criteria that we outlined, and we agree with that.

"Technologically neutral": we have no issues with that criterion and see it as consistent with the current framework for network investment.

The final one that the panel identified was "consistency between transmission and sub-transmission standards in order to facilitate joint planning and economically efficient joint investment outcomes", and we agree that was an inherent part of our criterion, which is the next one, on "robustness".



We think that's actually a particularly important issue [i.e. robustness]. There's the significant investment that takes place at the boundary between transmission and distribution networks and so this principle, we think, is particularly relevant and important, that we consider consistency in the form of standards at that boundary. There was another element that we had included in our robustness criterion, and that is the concept of perhaps having a look at what takes place and how these issues are dealt with in other jurisdictions worldwide. You know, when the lights go out it's often a bit of a protection to all concerned if we can sort of see that we've got the best practice arrangements in place to ensure reliability for consumers.

The last principle that we identified, if you like, which we also think is very important, we called "effectiveness", and this was to do with the fact that the form of standards should facilitate timely delivery of investment to meet customer expectations for reliability and to minimise disputes, so complexity will increase the possibility for disputation and will also challenge timely delivery of investment needed for reliability, and we see that criterion as consistent with the point I made earlier from COAG, that in the new planning arrangements coming out of the NTP review, as a minimum there should be no delays introduced into the process for obtaining regulatory approvals for network investment required for reliability.

So having just reviewed those principles and criteria, this slide just summarises what Grid Australia proposed, which is reflected in the panel's draft report as option A. I don't think we were the only ones that proposed that type of model, but that's where you'll find our model reflected. So, just in a nutshell, what we're seeing as a nationally consistent framework is a framework that's set out in the National Electricity Law and the National Electricity Rules; we agree with Ian that there would need to be changes to those instruments, and what would be set out in those instruments, at a minimum, would be a common form of reliability standard that's supplied uniformly across the jurisdictions, and the form that we would propose is a deterministic express form of standard, which is derived from economic analysis and economic considerations. This approach has been referred to in the panel's report as "the hybrid approach".

We would also see in those instruments the process by which those standards are set and reviewed, and the bodies responsible for determining those standards in the jurisdictions. The level of reliability standards within that nationally consistent framework we see being set at customer connection points by a jurisdictional authority which is independent of the TNSP that must apply to standards in making investment decisions. We see that those standards would be set following a very transparent process, cost-benefit assessment and public consultation, and that the standards - the level of standards should be, at least, subject to regular review at five-year intervals in sync with TNSP revenue determination processes. So, in a nutshell, that was the model for a

nationally consistent framework of standards that Grid Australia proposed.

The next couple of slides then just align that model with the criteria that we've just discussed. So just to go through each of those principles and criteria in turn:

- **Transparency** - we believe that option A measures up on this count. Standards are set by an independent body following a transparent process in the law, and the rules and public consultation. The other point I made earlier is that the standards, if they are derived from economic considerations but expressed as deterministic, will also promote transparency in application of the standards, and hence accountability.
- **Governance**: we believe that option A will meet this criterion, standards set by an independent jurisdictional body. Economic efficiency: the standards would be set on the basis of economic assessment but expressed in deterministic form, so the economic efficiency principle is promoted. Another important point here, I think, that needs to be considered, is how the form of standards affects the setting of ex ante capex allowances and TNSP revenue determinations, and we believe that having those standards expressed in a deterministic form makes it much easier for the AER and stakeholders to assess with TNSPs put forward in their revenue proposals and to be able to actually establish an efficient level of ex ante capex for the required investment that's needed in the forthcoming regulatory period.
- **Specificity**: we're talking about clear and specific connection point standards, expressed in deterministic form. We believe that these are more readily understandable by all participants and will facilitate timely delivery of investment and minimise disputes. Fit for purpose: the level of standards following the model we're outlining would be set at a connection point level, according to size critically of load and other factors that may be important. In terms of accountability, the standards derived from economic considerations but expressed as deterministic, as I've said already, promote transparency and application of the standards against which performance can be readily measured and compared, which I think is an important principle.

The next two panel principles we didn't particularly comment on in our submission, but we believe option A is consistent with those principles. Then finally, on this slide, the consistency between transmission and sub-transmission. Again standards derive from economic considerations but expressed as deterministic promote consistency with DNSP sub-transmission standards and efficient joint planning and least cost joint development. We think that's a really important point.

The next slide just addresses the additional two criteria that Grid Australia put forward. **Robustness:** again economic or standards based on economic considerations but expressed as deterministic provide consistency or at least compatibility with what's done in other jurisdictions worldwide and, in terms of **effectiveness** again having those clearly understood standards that are expressed in deterministic form but nonetheless derived from economic considerations, will facilitate timely delivery of investment and minimise disputes.

Now, just a few comments on some of the other options that have been proposed. It seems to be that probably one of the key points of difference between model A and models B, C and D — although model B I think left it open as to whether standards were expressed in deterministic form or probabilistic but a key point of difference — is the form in which the standards are expressed.

We see some issues with the probabilistic expression of standards. We believe that it fails the tests of transparency, specificity, accountability and effectiveness that we've just gone through in the earlier slides.

The main reason for that is that the probabilistic expression of standards requires more complex modelling and results in standards in our view which are difficult to understand and measure and interpret. Certainly more difficult than if they are expressed in a deterministic sense. Also we see that this creates, as a result of that point, practical difficulties for revenue determination processes that the AER conducts as I noted earlier in establishing efficient levels of ex ante capex.

We believe that expressing standards as probabilistic also fails the test of robustness, does not maintain consistency between transmission and DNSP sub-transmission standards which as I said earlier is important to facilitate efficient joint planning and least cost development at the boundary of the networks. It would also establish a framework that is inconsistent with the form of standards adopted in most other jurisdictions worldwide.

We believe expressing standards in a probabilistic form also fails the test of effectiveness. It's more resource intensive. It makes the regulatory investment test more complex and open to disputes and it complicates joint planning with DNSPs. Grid Australia notes and agrees with an observation the panel makes in its draft report, just reading that from the screen, the panel noted that

*A shift to a different form of standard could involve significant changes in the resources required for transmission planning for example probabilistic standards may require greater modelling and analysis than deterministic standards and may not actually deliver any different level of reliability.*

Our view is that there's no question that significant additional resources would be required and the sort of resources we're talking about are not ones that you can readily come by. They are specialist and scarce resources and so if we are going to make such a radical shift in the form of standard with those types of consequences, we'd want to be pretty confident that there's significant additional value that we're adding to reliability outcomes for customers who incur that cost.

The last couple of slides I've got here just now make some comment on option E which was the option that the panel proposed as a straw man in its draft report. Our observation is that the proposed option E satisfies all of the principles and assessment criteria set out by the panel and by COAG. It seems to address the key requirement of market participants for transparency of process in setting reliability standards. It's consistent with accepted international practice in terms of the form of standard and how it's expressed. It also satisfies all of the criteria that Grid Australia had proposed for assessing the various options.

The key point of difference between option A and E that we can see is the concept that's been put forward of a national reference standard. Now, in our mind this concept may have some merit, but we believe it needs some further discussion to clarify the concept and clarify its potential value. In that process, we note that there are some practical implementation issues that we probably need to consider and take into account. I guess what we have to do is try and visualise what a national reference standard might look like, and that's I think where some more discussion is required.

If we were talking about a national reference standard being set on a detailed economic basis at a connection point level, then we'd be talking about some significant duplication of effort in setting those standards. If we are going to set a reference standard and avoid that duplication, then we would see that we'd be talking about a higher level of specification of that reference standard which might be, for example, that everyone everywhere — if we're talking deterministic standards or an expression of deterministic standards — gets N minus 1, CBD gets N minus 2.

Loads that are smaller can get a lower level reliability, but if you're actually setting that reference standard at a specific connection point and we're doing it on an economic basis, then you've got to do the detailed economic analysis at each point, which is going to have to be done anyway by the jurisdictional body setting the standard who has accountability for ensuring that those standards are appropriate.

The last point I had there was we also need to think about how a national reference standard can be reconciled and interact or would interact with the

jurisdictional distribution reliability standards and joint planning. The final comment we have in these few high-level comments on the panel's draft report is that if a national reference standard is to be pursued, then Grid Australia considers that the appropriate body to set that reference standard would be the AEMC on the recommendations of the Reliability Panel. That concludes the brief high-level comments that we have on the panel's draft report at this stage but we certainly look forward to engaging further and we'll certainly be making a submission on the draft report as well.

MR WOODWARD: Thank you very much, Rainer. I feel certain that once we've gone through all of the presentations that many of the participants will have some questions and comments for you. Now, we'll just get Jim Gallagher set up.

Just whilst that's being set up, there was one matter I neglected to mention in my opening but it is covered in the commentary in the panel's draft report. We have also commissioned some research relating to international practice in this area and we'll publish a research report on that we hope in the next few weeks. That will also be available for participants as they're considering responses to the recommendations. It will have fairly wide coverage of what is actually being done in other places around the world. Jim Gallagher, on behalf of the southern group of generators, welcome.

### **PRESENTATION 3: Mr Jim Gallaugher (Group of southern generators: LYMMCO, AGL, International Power, TRUenergy and Flinders Power)**

MR GALLAUGHER: Thanks chairman. I'm here to talk on behalf of five of the generators primarily located in Victoria and South Australia, and they are listed there on the bottom of the slide. The three things that I want to talk about today are, firstly, what does a nationally consistent framework mean? I don't think when the issues paper came out it recognised the fact that this would become a hot topic, and I think that's been one of the primary reasons for coming up with this draft report in the form it is. Secondly, what are suitable high-level principles and then finally what should the form of the standard be? Of course, what you'll find is, as happened with the National Transmission Planner, we have a slightly different perspective to that of Grid Australia.

Recently we had the 2020 summit in Canberra, where there were many hundreds of people and many thousands of ideas and enough hot air to generate a lot of power, but what came out of that were some abiding themes. One of the themes which came out of it, distilling down all of those ideas, was this one which is in relation to the development of the national economy. It seems to me that if business and government agree that that is in fact an abiding theme to 2020, then we ought to be taking it on board in what we're doing here today.

Now, from my perspective, seamless regulation is basically the extreme case of uniform national regulations and standards. Complete replacement of all jurisdictional instruments, legislation and whatever with national substitutes. At the other end of the extreme we have the option of doing minimal change to the current arrangements. Admittedly some of those changes are quite important and will certainly help the situation but they revolve around standardised procedures and an adoption of a set of national principles but still retaining jurisdictional-based standards.

There were five options listed by the panel in their draft report and option A, the TNSP preferred model, is somewhere down that end of the spectrum, pretty close to the end of the spectrum. I'm not going to go through and describe all these options. They're in the paper. But the other ones, the first B, C and D tend to be towards the other end because they involve more national setting of the standard and the codes and so on. Then option E is option A with some national flavour to it by the creation of this reference standard.

When we look at the submissions that came in, the TNSPs, the states that did respond, ESIPC and Energy Australia are all favouring that end of the spectrum. On the other hand we generators VENCORP and NGF were towards the other end of the spectrum and the AER put in a very short submission so it

was a bit hard to tell where they were.

I think one of the disappointing things about this whole process has been the fact that there were only nine submissions. We've put a lot of emphasis in the discussion so far today on transparency and yet this whole process has attracted very little interest, particularly from the consumer end of the market. The Reliability Panel opted for its option E which is, we would say, somewhere towards that end.

Now, if we are aiming for seamless regulation, it seems to me the option on the table is a fair way short of that. The usual arguments in favour of state-based standards and regulations and so on are listed here. We not only hear it in terms of the power industry, we hear it in terms of lots of other things as well. From our point of view I don't believe they're all that convincing and they're generally offered up by, in this particular case, people who have no real interest in operating outside their current state borders.

The generators, on the other hand, who want to set up national businesses need to deal with or interact with TNSPs across a number of different jurisdictions. They don't need and they don't want different standards, different procedures and different approaches being applied from one state to another and one TNSP to another. The Reliability Panel criticised, or had some concerns about, the jurisdictional standards; suggesting that they might entrench jurisdictional specific planning, and maintain the focus on inter-jurisdictional issues rather than cross-border issues. From our perspective, I don't think these are significant issues at all.

To the extent that the processes are well defined and the TNSPs are accountable for the way they plan, whether we have state or national standards shouldn't make a difference at all on either of those two points, I think they're fairly weak arguments. Our key issue is the fact that it does mean there will be differences in the economics of transmission versus generation across state borders.

So our main concerns are this lack of competitive neutrality. We think having multiple different standards is needless complexity and then if we go with option E we add yet another standard on top of the all jurisdictional ones. We think it's needless retention of jurisdictional discretion; we're not all that different. Not different enough to warrant having six or seven different standards.

Potential for undue influence or discretion by the TNSPs and the way the jurisdictional-based standards are set: I think there's been a history of that. Certainly the processes can be changed to reduce it but it will still be there. In our view deterministic standards are rather simplistic. The apparent transparency is in the fact that they can be easily expressed but they hide a lot

of assumptions and things under the surface which, because people don't understand them, they don't question them.

Looking at the high-level principles there, we have listed on the left-hand side what were called the consensus set of principles put forward in the panel's report. Then on the right-hand side I've got "other suggestions" which came through in the paper and from the various submissions. From our perspective we have no problem with all of those ones that are ticked, provided that governancy - we're only talking about the fact that the standards should be set independently of the TNSP. We're not talking about governance in terms of state versus national.

Secondly, fit for purpose: here we're talking about the fact that it is quite legitimate to have a different level of reliability for one type of customer in a particular topology of the grid versus another type of customer somewhere else. But we don't believe that there's any justification for having different standards for the same type of people and the same topology across state borders.

Looking at the other four that have been put forward, the effectiveness suggestion from the TNSPs is really about ensuring that decisions can be made and implemented to their particular timetable and the jurisdictions have recognised that the timetable is important. To the extent that it is an issue that must occur, that's fine, we have no problem with that. What we don't accept is the fact that that is an issue which differentiates much between our particular approach versus theirs.

Robustness: this was simply an argument - it wasn't about consistency between distribution and transmission standards as was suggested earlier. This was about being able to justify a standard on the basis that it's been used elsewhere so it would make investment decisions more readily defensible. Now, our view is that just because everybody uses standards and approaches which haven't really developed much for the last 25 years, that's not necessarily a reason why you should continue to do it; particularly when there are other options now available.

The fact that we have had so little interest from people beyond those who are directly connected to the grid in this whole exercise: it seems to me that to be defensible the standards have got to be applied in a way which is predictable in any given set of circumstances. Our view is that simplified deterministic standards where there's a lot of interpretation about the inputs into the assessment and simplification of those, that is more open to dispute than a properly applied probabilistic approach.

It's the generators, more than anybody else, who are most affected commercially by what the TNSPs do or don't do in terms of grid development.



We recognise the standards are all made around supply to consumers but, from a commercial perspective, it's the generators who are going to be impacted most by decisions to build or not to build or what to build.

Consistency between transmission, between distribution or sub-transmission standards: certainly there needs to be consistency, particularly where one is a potential substitute for the other at the interface between the two.

The argument that we can't go for probabilistic because all the sub-transmission is deterministic: all the sub-transmission standards are set by jurisdictions and there is no debate about them being moved to the national arena - in our view is a fairly short-sighted one. If there is a case, from an economic point of view, to change the system, then let's change the system.

Finally, no worse: this means that the performance of the grid shouldn't be any worse than it is - I'm not sure whether it's now or when - then - started.

But whatever it is our argument is that if the grid has been grossly overbuilt and there's subsequently very little spent on it – and a classic case of that to date has been Victoria– then why would you insist on maintaining that oversupply or over capacity in the grid simply on the basis of this principle? It's uneconomic use of the resource. Again, it's suggesting that the reliability standards can be so materially different that there will be a public reaction to the change in reliability caused by the change in standard.

The reality would be that the performance of distribution from a consumer perspective will swamp any plausible change in transmission reliability standards. We're not going to be adopting a standard which puts the grid at risk, regardless of which way we go about it. So in our view that is really a spurious argument. Looking at the form of the standard there are three possibilities and I've made it pretty clear already that we favour the probabilistic approach.

We think it's the only way to preserve competitive neutrality between the various competing alternatives. Deterministic standards even if they are economically based will be fine in a particular set of circumstances which were reflected in that economic analysis. But you won't need to change much for that economic analysis to no longer be valid. So to then define a set of circumstances where you come up with a deterministic standard and then try and apply it fairly broadly, in our view, it's really false economics.

If you do 50 or 100 different cases and come up with 100 different deterministic standards you might get close to the mark. So again it's a case of just oversimplification of the value proposition of transmission versus the non network alternatives. The only way to reflect that properly in any sort of analysis is to do a probabilistic approach. A probabilistic approach is also fully

compatible with the NEM objective in that we're looking for proper value-based investment.

In our view - I know the TNSPs disagree - but in our view, this option actually best meets all of the principles. The so-called deterministic standard is not deterministic at all. It has a lot of probabilistic-type inputs into it and, as VENCORP stated in their submission, it's really just a redundancy standard which may or may not give you the expected reliability outcome. Probabilistic-based inputs into it can be in the demand forecast which generally 90 per cent POE-type forecast is used.

Then there is a range of so-called typical patterns of generation dispatch based on a number of different future generation investment scenarios; and then there's a range of plausible or credible system contingencies which you have got to be able to meet.

The question is: How in defining the application of the standard do you deal with all of that uncertainty and remove a lot of discretion? It might sound as though it's an easy standard to apply but in fact there is a lot of detail behind it which, from our perspective, we want the approach that's applied in terms of applying any particular standard as the minimal amount of discretion and therefore the maximum amount of predictability and outcomes.

The Reliability Panel have suggested a set of deterministic standards based on economic considerations. We say in theory it sounds fine; in practice we think that is very difficult to do effectively, whereas we want a probabilistic standard applied with a well-defined uniform planning methodology so that it does give predictable outcomes. There could be possible use of economically-based deterministic surrogates. The default approach would be the use of probabilistic; but, in limited circumstances, we have no problem with the use of deterministic surrogates. But they have got to be applied in well-defined circumstances, clearly defined within the planning methodology; and in fact if you do that properly, there may well be quite a large number of them if you are going to have proper value-based standards.

So the whole point of this thing is we are dealing with what is a highly complex issue and people are trying to simplify it down and say that because we can state a deterministic standard quite simply that it becomes more transparent and more understandable and less argumentative. From our perspective, it does precisely the opposite because:

- it hides a lot of detail;
- it leaves in a lot of discretion; and
- for the people who are most affected commercially by the transmission company decisions on where they invest and where they don't invest — in fact it means there's potentially more basis for argument than if we used a proper planning methodology.

The theoretical correctness of the probabilistic approach, in our view, is inarguable; but people criticise it on these particular grounds, and rightly so, given the fact that it is new and hasn't been developed and is not well accepted yet. But when you look at these arguments, they are all about making life easier for the TNSPs; they are not about looking after the commercial interests of the stakeholders.

Clearly the TNSPs need to be able to work in a regulated environment where they can manage the regulatory risks; no argument with that. But our role is not to make life easy for them and I don't think we should overemphasise their particular interests and concerns versus those of stakeholders who are connected to the grid. The Reliability Panel argued against probabilistic standards with these various quotes in their document, "Few power systems in advanced economies are developed this way." Well, my argument is: So what?

Just because people have been doing it in a pretty simplistic way in a highly centralised, planned system which has been the norm for many decades and they haven't yet moved from that to doing it more correctly in a market environment is no argument I think for us to continue to do it the way we're doing it. "Adoption of such an approach across the NEM would present many challenges." Well, so? We've been through 15 years of reform of the industry and we faced a lot of challenges there. This is no different.

"It may be desirable for their to be a consistent relationship between transmission and sub-transmission." It may be desirable? Either we do want it or we don't want it. I believe we should have consistency but I think the transmission approach should prevail where they are being compared one to the other. "A very compelling case would have to be made to governments and regulators to switch to probabilistic standards." I would argue, given the position stated at the 2020 summit, a very compelling case needs to be made to stay where we are otherwise we ought to be moving to a proper economic-based seamless set of standards set nationally. Thank you.

## **Q&A plus OPEN DISCUSSION**

MR WOODWARD: Thanks very much, Jim, I appreciate that. Now, we'll go to questions, comments, issues from participants in the forum and also from panel members. Can I ask if people ask a question if they just identify themselves and which organisation they're with. Are there any questions or comments? Ben?

MR SKINNER: Ben Skinner, TRUenergy, a question for Rainer. Just in the proposal of option A you have nominated independent jurisdictional bodies to propose the various standards used in each jurisdiction. I was just wondering, maybe you did explain it in the submission and I'm sorry, I may have forgotten it. But can you, sort of, nominate who those bodies be just so that I can understand what we're talking about.

MR KORTE: Thank you. I don't think in our submission we did not nominate who the bodies were. I think all we specified was - and this is what we think is important, is that the bodies are clearly independent of the TNSPs making - using those standards to make investment decisions but we left it open who the bodies actually were. So we don't actually have a fixed view on that.

MR SKINNER: In South Australia would it be ESIPC, would it be the Planning Council? Would that be the obvious body to set the standard there.

MR KORTE: Currently in South Australia the Essential Service Commission sets the standards on the advice of the Planning Council.

MR SKINNER: Okay. You don't have any views just to the other jurisdictions, what they might end up being - I am just trying to understand the level of independence between the body the sets the standards and TNSPs that have to apply those standards.

MR KORTE: Yes, that's right. I mean, in our view I think, just to tease that out a little bit further - and I think we did make these type of comments in our submission that we see the national framework wouldn't be dissimilar in that regard to what the situation in South Australia is, that you have an independent body of that nature that is setting those standards. So it's someone who is obviously separate from the TNSP. The model in South Australia seems to work pretty well in that regard.

MR WOODWARD: Other questions or comments? Yes?

MR GILLETT: Ross Gillett from NEMMCO. Rainer and Jim, I think there's some confusion in what option A is actually proposed because I think, Rainer, in my reading of this, is that there will be a national framework or set of

principles for reliability. The form of the reliability standards set in the Electricity Law, and the rules and the actual setting of the values for the standards would still be left to a jurisdictional authority. Correct? Right. You're also saying that a plethora of different instruments would actually be consolidated into one standard in each jurisdiction. Is that right?

MR KORTE: We're really saying that at the national level, as we said, we would set out the form of the standards and who the bodies are that will actually set the levels of the standards. That's correct. So you have got all of that process - and the process for actually setting the standard, the principles that need to be taken account, the consultation processes that need to be followed, all of that detail would be part of the public domain exercise that's undertaken to actually set the standards in the first place.

So all of the issues that Jim raised about deterministic standards being simplistic, et cetera - I mean, we can have as much transparency there in the setting of the standards as we like. Some of the comments made there that there are probabilistic inputs involved in deterministic standards; well, that is correct but those probabilistic inputs are also involved. I'm not quite sure whether Jim was talking about those in the context of setting the standard or applying the standard.

But in terms of setting the standard, clearly you look at a range of scenarios and you look at — I noted that the group talks about a deterministic surrogate and support that concept in certain circumstances. Well, in my view, the model we're proposing where you establish standards on an economic basis and express them in a deterministic form is exactly that. You know, you're coming up with an economic surrogate and expressing a deterministic sense for simplicity in application. I do find it difficult to comprehend the observation that the deterministic expression is actually going to be more complicated and less predictable in its application than probabilistic expression of standard. I can't understand that concept at all.

MR WOODWARD: Can I just come in and make a clarifying point, because I think it's very important. Clearly, the issue of the actual form of the standard probabilistic deterministic or a hybrid is part of the analytical work in terms of the panel's work stream now. If it's not clear enough from the draft report, our apologies. There is no proposition that the panel has analysed so far that would allow a difference of form of standard state to state.

Absolutely a consensus position towards getting to a nationally consistent framework is that the form of standard would be universal across the NEM and across all jurisdictions. The real issue is what ought to be that form; and secondly, who and what processes are there to set the specific and explicit levels of that standard at different connection points taking into account customer and geographic issues. And that's where the debate is.

But looking at the analysis work and all of the positions that have been put, there is no proposition that says that the current arrangements of individual forms of standard and different levels one jurisdiction to the next is an appropriate future for the NEM. If that wasn't clear enough from the draft report, that is exactly the position that the panel and the analysis of the stakeholder positions put to us has said. Further questions or comments?

MS WHITFIELD: Anne Whitfield from NERA. I would be interested in hearing a little more from the panel on the concept of the reference standard for reliability; and in particular: what level you thought that standard might be expressed at in terms of the level of detail, and also the value of that standard. It sounds a little bit like the level of standard you have when you're not having a national level of standard.

MR WOODWARD: The panel has put this proposition out to consult on for a couple of reasons. The first is that at a for-information basis national reference standard may allow a better understanding of the levels of the standard set in each of the jurisdictions, against a common form, and second a better level of understanding and consistency about the way in which that is applied. So that a reference standard could be utilised to give examples of major connection points.

So it's really an information mechanism, the panel has put it there for the view that says if the form of the standard is to be consistent and applied consistently across the NEM, then something more than just – and the levels, for example, remained at the jurisdictional level – then the information base is going to need to be expanded. And progressively over time you would see some levels of consistency emerge.

MS WHITFIELD: Would one of the objectives be in providing points of contrast to try and bring about that consistency sooner rather than later?

MR WOODWARD: Information can have that effect.

MR HESSE: Greg Hesse from Powerlink. I thought it might be opportune just to make the observation on the question of the interface between TNSPs and DNSPs because there seems to be some suggestion in some of the submissions that it's a relatively minor or perhaps a side issue. Certainly if you look at the NEMMCO website on the TNSP consultations, a very significant number of those are joint TNSP/DNSP consultations.

We are talking relatively significant capital investment and just in the context of Powerlink. Some of the stuff we have done recently jointly with Energex and Ergon involved considerable joint planning of transmission and distribution networks. - In November last year, we were recommending jointly

between Powerlink and Energex \$140 million of capital investment in the North Brisbane area; in the Rockhampton area with Energex another \$70 million earlier last year. So that's repeated right across the NEM amongst all the jurisdictions between the TNSPs and DNSPs; so I don't see that it's a necessarily a side or minor issue in this whole debate. I just wanted to put that on the record.

MR WOODWARD: Any other questions or comments? Ben?

MR BEN SKINNER: Look, I just wanted to make comments - this is really additional to Jim's presentation. Okay, the first point regarding the claims from Grid Australia about the complexity of the probabilistic approach and I guess the fear of substantial resources being invested, a realisation has occurred when I was observing some of the VENCORP approaches that had been used for planning in Victoria and probabilistically, is that there may - the complexity of doing probabilistic planning may have received a bit of a bad name.

Because of the second leg of the regulatory test in the major investments associated with interconnectors and so forth, it is often a very complex modelling exercise where you have to bring in specialist power market modellers to do the assessments. They are already being done by all TNSPs from time to time and they will always have to be done in that manner. That is probably not what is at issue here, the issue here relates to the other assessments which tend to be done of a more narrow area which are presently done around the reliability standards in those areas.

Those sorts of investments are frequently done and proposed by VENCORP from time to time. And in fact VENCORP does not find them difficult. They're not complex, and I spoke to a transmission engineer who told me that in fact, in many ways, it's easier than when he used to do them in the SEC deterministically because he doesn't have to go through that exercise of defining what is in fact an acceptable, credible circumstance, what is in fact the demand that he has to use, has to select from a range - a whole spectrum of possible demands.

He can actually select a range of them, apply a weighting to them, make a quick assessment, and move on. Generally when you are looking at basically investments that are about shoring up reliability to a specific area they really are very straightforward to do probabilistically and I don't believe that there is a substantial extra burden with those. So that was the first comment. The second one — which I guess leads into a bit of a question — is just from the perspective of a generator having to interface with some of the investments that are made deterministically.

Some of the bigger ones that are very difficult for an investor to interpret are ones in which there are generators downstream of the particular constraint

being considered. In those ones, we get to areas of exactly what is considered a plausible or credible contingency and what should be considered in the base case. In some of the larger ones, I'm certainly aware that you can get very different deterministic answers if you consider in the base case a pattern of generation of a certain form versus another pattern of generation.

So, if we look at supplies into an area which has a large range of generators — mainly I think about Sydney, Newcastle, Wollongong where there are many downstream units — you have to make some sort of assumption as to what the pattern of generation is in your base case and then take a transmission item out of service. You are sometimes wondering, "Are we doing an N minus - or what is N really in these sorts of analyses?"

I am really fascinated to hear — I mean, it's a very positive sign that Grid Australia are proposing much more transparency and certainly in terms of these standards. I just wondered — because we have seen regulatory tests in the past — where those critical inputs are not clear from the public information. Are we now going to see them? Will there be this new standard that will apply in every jurisdiction? Will it make it very absolutely clear as to which generators are considered to be in service and out of service downstream constraint being built out and is that being proposed by Grid Australia?

MR WOODWARD: Thanks, Ben. Any other comments or questions? Mark?

MR MARK GRENNING: Thanks, Mr Chairman. Lots of people like talking about the NEM objective and I always like reminding them about the NEM objective being all about us users. So I am interested in both speakers' comments on two issues. One is does a deterministic or a probabilistic standard result in more or less investment in the transmission grid than the other approach and secondly, how do you propose to measure the benefits of reliability to end users so you can fulfil your economic efficiency and fit for purpose objectives?

MR WOODWARD: We might get comments from both Rainer and from Jim.

\*\* missing audio \*\*

MR KORTE: How do we value lost load? Well the beauty of this is that TNSPs don't value it. It's valued by - we decide that collectively and we can decide how that process is to be specified in the national framework and then apply it by the independent body that sets the standard. Now, there's varying degrees of information around on that topic, on the value of loss load. VENCORP have done a lot of work. There's been work that's done in South Australia by the Planning Council. That in itself is a subjective input quite often into the analysis whether it's probabilistic or in setting a probabilistic surrogate expressed as deterministic. So I think there's ongoing work there.



We as TNSPs who make investments have not been terribly involved in that effort to date. But certainly there's work going on by others in that area.

MR WOODWARD: Jim?

MR GALLAUGHER: Well, look, I don't pretend to be a transmission planner and I haven't done detailed analysis in lots of different circumstances but my expectation would be that a probabilistic standard could end up with  $N$  minus 2 or  $N$  minus 3 even in certain circumstances and it might end up with less than  $N$  minus 1 in others if you want to do a direct comparison between the way deterministic standards are expressed and probabilistic standards are expressed. But again, it depends on how the standards are set and at what level. It depends on the value of lost load. Sure it depends on how many surrogates you have to try and accurately reflect a particular set of values of loss load for different types of consumers.

If you try and do it with just a simple single deterministic standard, my feeling is that you will get it wrong — The probabilistic one will end up with widely different results under certain circumstances from the deterministic. But if you expressed the deterministic as a different standard for a whole different set of defined circumstances you probably end up with something more similar. It really depends on - the more you try and simplify the problem, the more approximate you make it and therefore the more variability you're going to get in outcomes.

MR WOODWARD: Thanks, Jim.

MR WOODWARD: Ben.

MR SKINNER: Yes. I might be able to help you with that one. VENCORP in 2001 did do a comparison of the deterministic and probabilistic standard on investments that they had in their annual planning review. You'll find that in their report which analysed these two things. It's I think about page 20 or something. They had about five different investments which were all of a relatively customer-based shoring-up sort of investment. They weren't very large investments.

They varied between if they had gone to a deterministic standard for each of those they would have brought forward the investment by between about two and four years in each case as opposed to the other one and that's simply because you were looking at providing redundancy to loads that were relatively I guess remote and it was difficult to justify from an economic perspective that investment.

MR WOODWARD: Thank you. Good.

MR JARDINE: I wouldn't mind just commenting on that. I think you've got to be careful when you try and extrapolate out of Victoria to the rest of the NEM in terms of differences in load growth and so on and differences in geography. When you do an analysis and say would you go deterministic planning versus probabilistic planning on a set of case studies in say a low load growth region like Victoria, you would get a different answer if you went to a high load growth region and did the same sort of analysis.

I think you've got to be just careful in the terms of your extrapolation and the same applies to the comments earlier about VENCORP don't find it a big impost to do the extra work involved with probabilistic planning. Well, if you're doing a low volume as a consequence of low load growth maybe you don't find it much of an impost but if you go to the other end of the scale where someone's doing a high volume of work because of high load growth, then it's likely they would find it an impost. So you've got to be careful with your extrapolations from low load growth, low level of activities through to the other end of the scale in the NEM, which is the high load growth, high level of activity analysis.

MR WOODWARD: Thank you.

MR OAKLEY: I just wanted to make a comment in response to Gordon. Roger Oakley from Loy Yang. If you have an area where you have a higher demand growth, you have a high level of investment both in generation and transmission. The dynamic efficiency gains in that area are going to be higher so therefore you can justify spending more time and more money in optimising both transmission and generation investment which will also lead on to efficient generation investment. So I don't think the comment on low demand or high demand is relevant with respect to the work that TNSP might have to undertake.

I understand you're going to do some modelling work. Is that modelling work going to calculate dynamic efficiency or improvements in dynamic efficiency based on the different levels or different ways of calculating standards because it seems to me the main objective here is driving economic efficiency. That's one of the high-level principles. The risk I see here is that the panel and participants have suggested a number of other, if you like, measures of establishing which is the best way to go. Some of those, if you like, are counter to the economic efficiency objective. In my view the economic efficiency objective should be the main driver and those other things secondary.

I would expect, in determining which way to go, the panel should undertake some modelling and work out just what the impact is on dynamic efficiency of having more accurate transmission standards. I think I'm reiterating probably

Jim's point but I think the costs of this - there is a lot of talk about what the cost of implementing or changing the regime is but very little talk about what the benefits are. So I think the benefits need to be calculated as well as the costs.

MR WOODWARD: Thanks, Roger. Ross.

MR ROSS FRASER: Thanks. Ross Fraser from Energy Response. Can I just change the direction a little bit. I'm very pleased to note that reliability standards should be technology neutral but I'd like to understand the extent of what the panel is thinking about there as far as technology neutral is concerned. As you probably know, my interest would be the existing capability of the end user to contribute significantly to reliability.

MR WOODWARD: As I understand it, all of the options that are currently under analysis by the panel would need to be tested against their specification that did not either favour a particular technology or created a barrier to it. Technology neutrality includes all non-network alternatives, including demand side responses. So the view the panel has had, at least in its first work on this, is that a technology neutral arrangement ought to be part of the nationally consistent framework.

But in fairness there has not been strong suggestions put to the panel in the submissions from the nine stakeholders that the planning standards themselves are creating technology barriers. There may be technology barriers as a result of other things but that proposition hasn't been put - but equally that a national system should not create new technology biases.

MR WOODWARD: Are there are other comments? No other questions for my colleagues on the panel?

MR RAINER KORTE: Just two comments from me, Ian. Just one conclusion, if you like, in my mind at least, to draw out of some of the earlier discussion was when we were answering Mark's question about whether probabilistic or deterministic gives you a higher standard or a lower standard. I mean, what I took away from some of the comments Jim made as well is that if the standards are set appropriately, then you don't necessarily have a significantly different outcome.

So if that's the case, which I agree with, then the comments made over here about what are the benefits, we've sort of said and we still believe, I think we stand by those comments, that there are some additional costs involved in shifting most of the jurisdictions from a deterministic expression to probabilistic, then it does become important that we establish what are the benefits associated with incurring those costs. If we set the standards appropriately, the outcomes are not materially different. So that's just one point.

The other thing I was just going to comment on was there was a comment made earlier about perhaps we're overplaying the impact of transmission standards on end consumers, that it's really distribution performance that matters more to the end-user consumer. Whilst that is clearly correct, I think the comment that there is little impact may apply in larger states where the transmission network is defined at a higher level but when you go to smaller states you will also have transmission that reaches down at lower levels and there will be a much more direct impact on the end-use consumer. So I just think we need to keep that in mind as well.

MR WOODWARD: Thank you. Now, are there any other comments?

MR GORDON JARDINE: Can I make an observation?

MR WOODWARD: Gordon.

MR JARDINE: Just one observation that follows on from something Rainer said. One of the really interesting things is that if you look at - we're talking here about input measures. If you actually look at the output measures that are in the NEM in terms of transmission reliability and look at some of the international benchmarking in that space, all of the Australian transmission networks benchmark internationally in a quadrant that corresponds to above-average reliability at below-average cost on an international basis.

So even though there are quite different input standards and people go about things in different ways, the actual outcomes that have been achieved in this market ever since it started are in the right quadrant in terms of comparing with other international transmission entities in developed countries. I think it's very difficult then, if you've got that as an output, to go and say to someone, "You've got to change this radically," because they're going to say, "Well, we're in that quadrant. Where are you going to take me to?"

MR WOODWARD: Okay. Thank you. Are there any other comments? Any further comments from my colleagues on the panel? If not, can I just, in drawing the discussion to a close - and people are going to be more than welcome to join for morning tea and perhaps continue the discussion - make a couple of comments that I think are germane.

The first is this is an important area for reform and it's been recognised as such through the COAG and ERIG process, through the references from the MCE and also the focus that the AEMC, in responding on the whole of the national transmission planning arena, has given and, in particular, the work program of the panel. Because of its importance, the panel has deliberately taken the view in its draft report of summarising the options as they appear to stand across stakeholders and also to put up an additional option, not necessarily a preferred

option but an additional option which had some other features in it to draw out responses.

So this morning's discussion has been extremely helpful in both clarifying views from stakeholders but, secondly, for getting another level of debate around a couple of crucial issues, because there actually seems to be a large amount of commonality of view amongst most stakeholders about certain things that are fundamental changes, particularly around issues of transparency, clarity, governance and a national flavour to this transmission planning standards arrangement.

So in the work of the panel over the next couple of months, looking at the specific form of standard and the analysis, both the costs and the benefits of the three types of standards themselves, deterministic, probabilistic and hybrid, is going to be part of our review. Secondly, the opportunity for all of the stakeholders to put forward further information into the analytical stream is there and - Tendai, what's the date?

MR TENDAI GREGAN: For the submissions?

MR WOODWARD: Yes.

MR GREGAN: Submissions are due on 3 June.

MR WOODWARD: 3 June, and the panel will keep working and, of course, then there will be a report to the MCE which will provide a further round of opportunity for engagement with stakeholders before the AMC makes recommendations to the MCE.

The last point I would make is that these set of changes need to also be executable and that's not the costs of execution. That is, something that is delivered beyond an interesting report about a theoretical framework of reforms.

Too often in the policy processes of reform there's not enough attention to thinking about actual time frames and implementation plans, and one of the issues here that the panel is very mindful of is that if the value of a nationally consistent framework, in whatever final form of both the standard and who sets the levels of those standards is taken, that this is something that ought to be executed, and encouragement to governments should be given to execute it more quickly, given the broad scale of support for moving to a national arrangement irrespective of the ultimate position of the individual state jurisdictions. So the opportunity is there for commentary.

Can I thank everyone for your participation. Can I particularly thank Jim Gallagher and Rainer Korte for their presentations and for illuminating

both matters that they raised in their initial submission and issues related to our draft, and thank you for the questions, and thank you to my colleagues on the panel. Please join us outside for morning tea. Thank you.

**ADJOURNED**