Hydro Tasmania
The power of natural thinking

30 November 2012

Phillip Weickhardt
Productivity Commission
530 Collins St
Melbourne Vic 3000

Dear Sir,

RE: Draft Report on Electricity Network Regulatory Frameworks

Hydro Tasmania welcomes the opportunity to provide comment on the Productivity Commission's Draft Report on Electricity Network Regulatory Frameworks.

Hydro Tasmania is the largest clean energy producer in Australia and operates a national electricity retailer, Momentum Energy. As a significant participant in the National Electricity Market (NEM) the future direction of transmission networks is of key importance for our business.

In particular, Hydro Tasmania would like to express its concern on the Commission's conditional endorsement of the draft Optional Firm Access (OFA) proposal, developed by the AEMC under the Transmission Framework Review. Hydro Tasmania's submission focuses on five main chapters in the Commissions Draft Report. They are as follows: conditional endorsement of the Optional Firm access Model (chapter 18), Transmission Reliability (chapter 15), the Role of Interconnectors (Chapter 17), Identifying Future Transmission Investment (chapter 19) and Governance (chapter 17).

We would like to make the following comments on the themes outlined in the Commissions draft report:

- We support the Commission's finding that existing interconnectors are "reasonably appropriate". We consider that the RIT-T is designed to only build economically efficient investments and this test has been in place for a while now. We see this finding as an endorsement of the outcomes from policy certainty in this area.
- As a participant in the NEM, we are aware of the problems with disorderly bidding and transmission congestion. Although these are not material issues in the scale of the NEM, we are concerned that the Draft Report does not fully reference the size of the problem which OFA claims to fix. Hydro Tasmania believes that the costs of implementing OFA will exceed the costs of these problems by several orders.
- We are also concerned with the Commission's theoretical framework within which the OFA has been considered. In our view, there are practical difficulties in implementing OFA which have not been adequately considered; this has also been voiced by many submissions to the AEMC.
- Hydro Tasmania does not support the endorsement of the draft OFA approach. We suggest that the Commission remove this endorsement and the review of nodal pricing, on the basis that the Commission's level of analysis of this issue does not warrant the recommendations the Commission is making.

- In addition, Hydro Tasmania has provided responses to selected transmission questions. Our responses propose clear accountability in the transmission planning area and to consequently leave this function with the TNSP's. In our view, there are sufficient processes in place to address a whole of NEM view. Generators seeking connections should only have to deal with a few parties. We see connection as an already fraught process and adding more complexity and less accountability is a retrogressive step.
- In relation to consumer advocacy, a specific understanding of distribution, transmission and generator regulations and rules and their impacts is unlikely to be able to be developed and maintained in a broad consumer advocacy office environment. These skills are available from specialist providers, and can be drawn upon through consulting assignments.
- An appropriate consulting budget, and a commensurately lower FTE count, will therefore better assist the function of representing the interests of all consumers which should be the primary objective of this body.

Hydro Tasmania welcomes the opportunity to provide the Commission with further information about the contents of this submission or any other issues.

Yours sincerely,

David Bowker
Manager Regulatory Affairs

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Hydro Tasmania's Response to the Productivity Commission Draft Report on Electricity Network Regulatory Frameworks

Date: November 2012

Contents

1. Overview

Hydro Tasmania welcomes the opportunity to provide comment on the Productivity Commission's Draft Report on Electricity Network Regulatory Frameworks. In particular, Hydro Tasmania would like to express its concern on the Commission's conditional endorsement of the draft Optional Firm Access (OFA) proposal, developed by the AEMC under the Transmission Framework Review.

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- We are also concerned with the Commission's theoretical framework within which the OFA has been considered. In our view, there are practical difficulties in implementing OFA; this concern has also been voiced by many submissions to the AEMC.
- Hydro Tasmania does not support the endorsement of the draft OFA approach. We suggest that the Commission should remove this endorsement and the review of nodal pricing from the final report. This should be done on the basis that the Commission's analysis of this issue is not sufficiently rigorous to warrant the recommendations the Commission is making.
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The following sections discuss these issues in more detail.

2. Optional Firm Access (OFA)

2.1 DRAFT RECOMMENDATION 18.1

> ***In the absence of any unintended consequences identified during current consultation processes, the Australian Energy Market Commission's 'optional firm access' package for generator access to the transmission network should be implemented.***
>
> - ***It should operate for a period of at least 10 years.***
> - ***It should be monitored by the Australian Energy Market Operator for its effects on network planning and performance and, in concert with the Australian Energy Regulator, changes in observed patterns of generator bidding behaviour. Monitoring results should be made public annually.***

Hydro Tasmania has major reservations in relation to OFA. The primary concern is the apparent lack of assessment as to the cost of the solution compared to the benefit it will generate. As markets evolve, market development focusses on smaller problems as the major problems are solved. The AEMC have stated that they want to develop a solution and then assess it benefits and costs. This assessment would then form the basis of deciding whether to recommend implementation of the solution.

The question in this approach is how far you go in detailed design and costing before you make a decision. Hydro Tasmania is of the view that the proposed solution has costs far in excess of the problems which it will solve. Consequently, we propose that the Commission should omit this recommendation from its final report.

Hydro Tasmania's submission addresses seven major concerns with the OFA proposal.

2.2 No material practical issue has been identified which OFA addresses.

Hydro Tasmania recognises that OFA is driven primarily by transmission congestion management and reducing dis-orderly bidding. However, we find that no material practical issues has been identified which OFA addresses.[1]

- *In the presence of congestion, the spot price tends to be high. Under current regulations, this encourages strategic behaviour by those generators constrained by line capacity.*
  - *Rather than making bids that reflect their true cost, they bid down to the (negative) market floor price to ensure dispatch, and are paid at the high spot price. Even an inefficient generator may supply power. This is termed 'disorderly bidding'*
- *Disorderly bidding can result in productive inefficiency as less efficient generators are dispatched to meet demand. It can also 'shut off' interconnectors through distorted price signals.*
  - *The long-term effects are greater, and include inefficient generator location and investment and interconnector planning.*

We acknowledge that the effects (mentioned above) can happen, however we question how material they are.

[1] *Electricity Network Regulatory Frameworks Draft Report*, Productivity Commission, chapter 18, page 599

In relation to congestion management, we have included the following graph published by AEMO which illustrates the cost of transmission congestion declining over time.

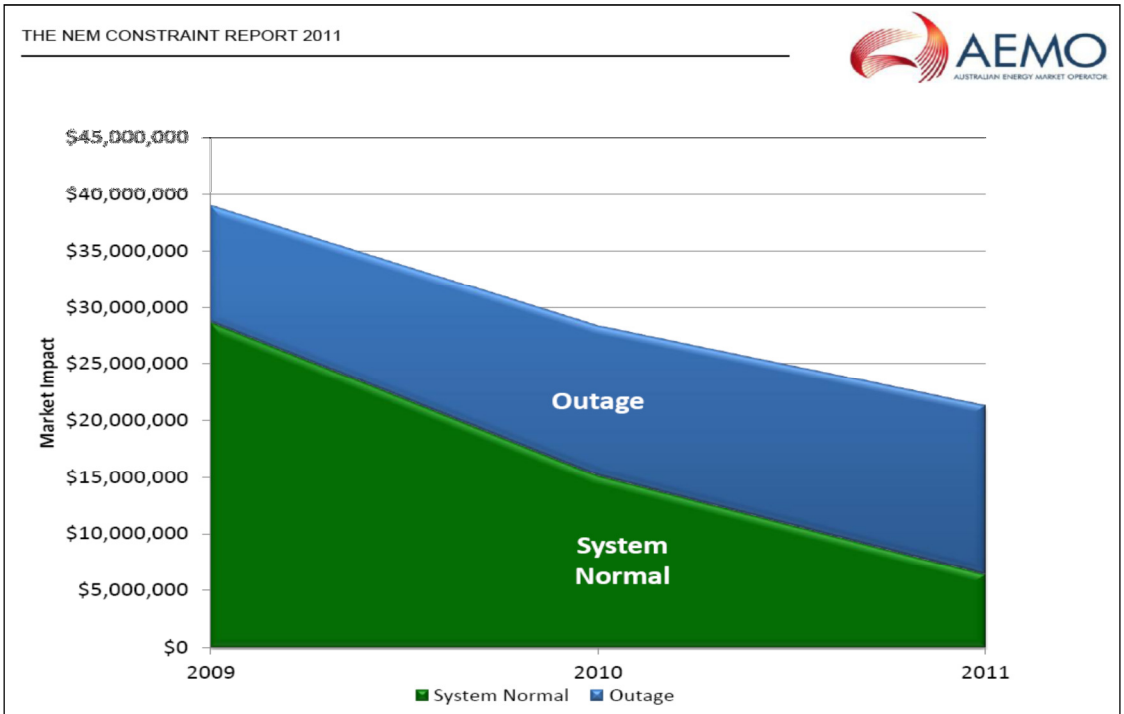


Figure 11: Market impact for system normal and outages

We would like to bring to your attention the significance of the cost of $22 million in 2011 as it is very small compared to the energy turnover of the NEM of $5,500m.

It is also apparent that system normal only accounts for a small proportion of the constraint value. Under OFA, a generator's "firm" capacity is reduced by the TNSP when lines are out of service. So the generator does not really have firm access at all.

2.3 OFA does not provide firm access

Hydro Tasmania recommends that the Commission take into account the feedback given by participants, in response to optional firm access, only 3 generators currently support it, (although generators have longed to remove this risk since the beginning of the market).

Generators have concluded that providing physical firm access would be costly and have found their own solution to manage their risks as a result of the outworkings of the NEM, although it has not been a priority for most of them. This is what markets are about – allowing participants to find ways to manage their risk. The most significant example in this area has been vertical integration which has been adopted by a majority of participants as a way of managing energy risk.

The Commission ought to consider why such a large number of generators oppose the proposal for firm access, especially when according to the Commission it provides generators with the choice to take up this option or not.

Hydro Tasmania sees the principal reasons for generators opposing firm access is that it will not be firm due to transmission outages, the conservative drivers on TNSP's and the possibility of being constrained by non-thermal constraints. As a result, those generators who choose to be "firm" will

need to manage their lack of firmness. This leads us to believe that it will not be optional as it will be required as soon as one competitor chooses to be firm.

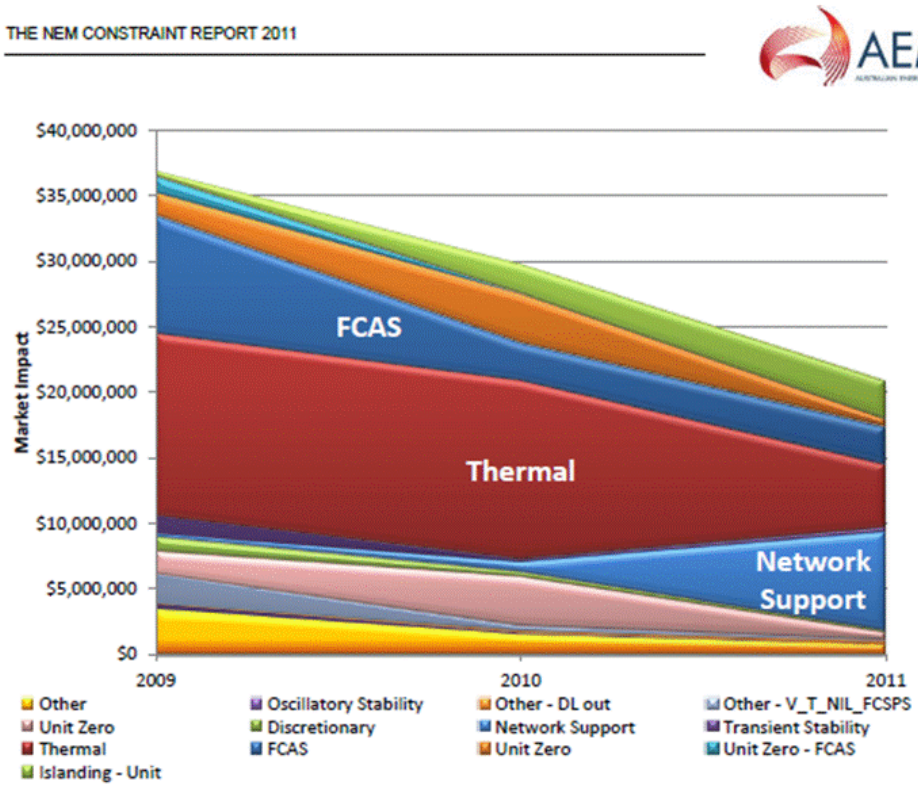


Figure 10: Market impact by constraint equation limit type

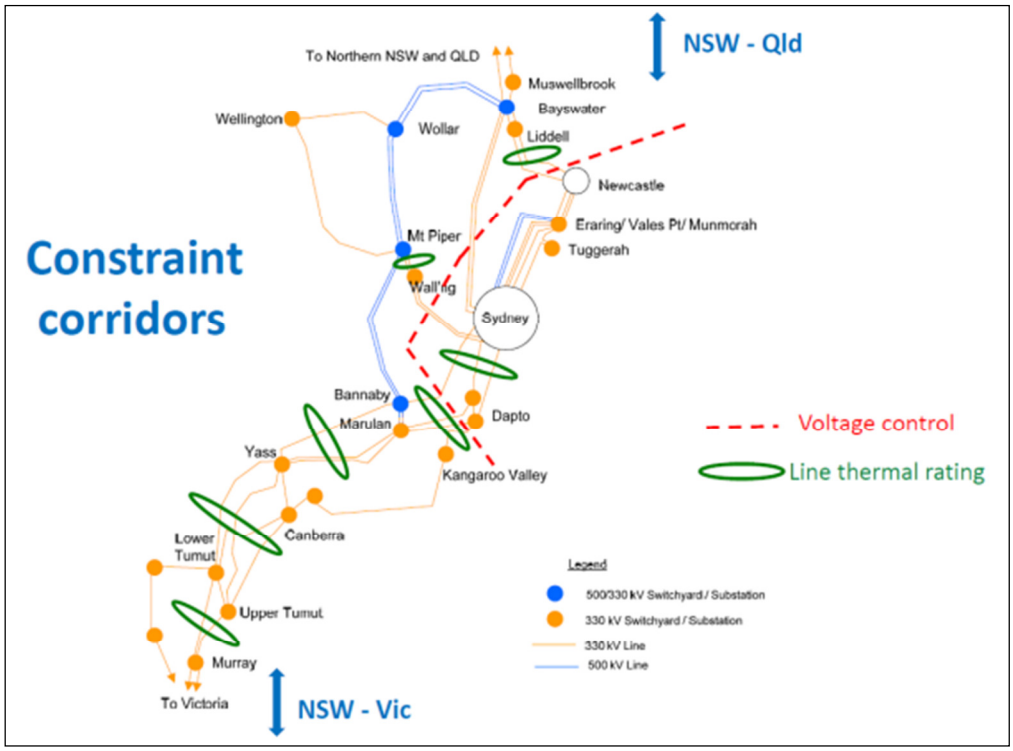
AEMO have also published the graph above which shows the contribution made by various types of constraint. Our understanding of OFA is that generators are only purchasing firmness against thermal constraints. If a generator is constrained off as a result of another type of constraint, they will not receive any compensation.

It is clear that thermal constraints only account for about $5m out of a total of $22m (22%) in the latest year.

OFA clearly does not provide anything like firm access when these two issues (transmission outages and non-thermal constraints) are taken into account.

2.4 OFA is extraordinarily complex

We believe that the Commission's discussion of OFA is theoretical. We consider that there are a number of significant operational issues in implementing OFA. The following diagram, illustrates one small part of the complexity of OFA.



The diagram shows how Upper Tumut might request firm access to the NSW RRP. There are at least 648 flowgates (constraints) from Upper Tumut to NSW RRP and any combination of transmission lines can constrain subjecting Upper Tumut to basis risk. From a Risk Management perspective Upper Tumut is forced to monitor in real time all 648 constraints. Basis risk will increase under OFA; consequently contract prices offered must be increased to compensate for the increased basis risk.

There are over 300 generation units in the NEM; this means these problems will be multiplied many times. This complexity is a significant barrier to entry for new entrants. This is a key issue for the ongoing success of the market, especially at this time of transition to a low carbon fleet.

A further, significant issue we would like to bring to your attention is the risks of not anticipating the incentives of various players. We believe this new regime is likely to drive a new range of incentives, many of which will not be foreseen. This increases the riskiness of the change and the complexity makes behaviour hard to predict.

If there is a major benefit from implementing OFA, this risk may be justified. However, when there is a major change proposed which has minimal (or negative) net benefit, this significant risk cannot be justified.

One of the other issues is OFA's impact by locking in access. This means that the system is much less flexible to change. Under the current arrangements, if generation patterns change, different generators can use the existing lines quite easily. There is no inertia to changing generation patterns. These major changes are quite common. In recent years we have seen significant wind development and the introduction of a carbon tax. Looking forward, we may have the repeal of the carbon tax. Under OFA, the arrangements are less flexible.

2.5 Impact of OFA on contract positions not considered sufficiently

Hydro Tasmania believes that there is insufficient recognition of the role which contracts play in the NEM. If we compare the physical market with the contract market, we conclude that the contract

market is made up of a variety of instruments and not subject to the same level of analytical theory and modelling as the physical market.

We propose that the Commission treat these two aspects of the market equally, notwithstanding their intrinsic differences, especially in attempting to assess future incentives for participants in the NEM.

Hydro Tasmania believes that there are impacts on the volume and price at which generators will be willing to contract. The reduced willingness of generators under OFA to contract, the additional complexity in the physical market and the increased basis risk will all drive more conservative (lower contract) positions for generators. With some contract liquidity concerns already surfacing, OFA will exacerbate the situation.

2.6 Generator Locational Signals

The Commission claim there is a longer term issue from the potential distortion of locational signals for new generators:

> *"Therefore, generators will have a greater incentive to locate new investments in (congested) areas of the transmission network where they can better control dispatch outcomes through disorderly bidding"*[2]

The above statement is based on a very theoretical view of the world but it will have no practical impact for two reasons.

1) The size of the effect is far too small to impact an investment decision. See the earlier quantification which shows the entire costs of congestion are $22m. The nature of congestion is very transitory. The NEM has a history of constraints where they exist for a year or two and then disappear. This is hardly the basis for a sound investment and

2) Investment decisions do not typically consider, or rely on these abnormal situations. No commercial business would choose a constrained location in the expectation of using disorderly bidding to contribute to their business case.

We do not believe the Commission has addressed the materiality of the issues in the section titled Size of the Problem? The section provides some specific instances and discusses some economic theory but fails to provide any quantification.

2.7 OFA leads to very centralised decision making

Hydro Tasmania believes that implementing OFA would see a profound shift in the nature of transmission planning. This was discussed in the Frontier report which was submitted by the NGF, which identified several advantages of the current RIT-T such as extensive public scrutiny of TNSP modelling and conducting assessments close to when the asset will be built so information is current

In contrast, under OFA, Frontier claim on page 17

> *By contrast, the pricing of firm access under the OFA proposal reflects the crystallisation of the TNSP's present views on patterns of generation investment well into the future. Once settled, firm access prices cannot be revised in light of new or changed information. This serves to effectively 'lock in' the implications of errors in the TNSP's assumptions. Further, there does not appear to be a significant role for stakeholders to comment on or influence*

[2] Electricity Network Regulation Draft Report, Productivity Commission, Chapter 18, page 607

the assumptions on which prices are based. This means that the price signals under the OFA proposal may not reflect the best information available to the marketplace.

Pricing under the OFA proposal also gives rise to incentives and opportunities for TNSPs to misprice firm access to enhance their own financial positions.

We would like to highlight that transmission lines take much longer than generation to build. This is a function of the planning and environmental approvals and the multiple stakeholders typically involved in such approvals for transmission lines. This effectively means that generators need to build close to existing or already planned transmission lines. It is unclear in this situation how a market led transmission planning regime can ever be created.

2.8 Interconnector firm capacity increased

Hydro Tasmania has taken note of the Commission comments in relation to firming inter-regional trade on page 633:

A more national hedging market would allow for improved risk pooling, enable an efficient spread of generation and load across the NEM and more competition in the generation and retail sectors. The best way to achieve this is to improve the effectiveness of IRSRs.

The AEMC's OFA package includes the option to purchase firm interregional transmission rights.

We believe OFA will not lead to significant benefits in firming inter-regional trade. Our reasoning is that, under the AEMC proposal, a transition arrangement has been proposed which effectively gives existing transmission access rights to generators. It is likely that very little volume will be left for interconnectors. The AEMC propose that this level of rights will be maintained for interconnectors after transition. This means that, a very small volume of firm access rights may be available for inter-connectors which will not contribute materially to any increased inter-regional trade.

3. Nodal Pricing

DRAFT RECOMMENDATION 18.2

> ***After the optional firm access package has been operational for 10 years, a cost-benefit analysis should be conducted, with particular regard to the structure of the National Electricity Market at the time, the views of consumers, and any remaining barriers to the introduction of nodal pricing.***
>
> ***If the analysis finds net benefits are likely, and no significant and insurmountable barriers or risks are identified, nodal pricing (including financial transmission rights) should be introduced with appropriate transitional arrangements and arrangements for disadvantaged consumers.***

In our view the OFA approach contains flaws and it is not a proportional response to the transmission problems of the NEM. We do not see OFA as a step forward and propose that the Commission remove recommendation 18.2 for a review of nodal pricing from its report.

We see no rationale for the recommendation of a nodal pricing review. These reviews are costly for industry and introduce significant uncertainty. A nodal pricing review could well last several years and take a couple of years to implement. It would also put many investments on hold throughout the review as there would be no certainty of its impacts on individual participants.

4. Transmission Issues

This section of our submission focuses on a selection of recommendations covering transmission reliability, the role of interconnectors, identifying future transmission investment and governance.

4.1 Transmission reliability

We are concerned with the implications the following recommendation will have on customers.

4.1.1 DRAFT RECOMMENDATION 15.1

> ***The Standing Council on Energy and Resources should, in consultation with the Australian Energy Market Operator and the Australian Energy Market Commission, develop a National Electricity Market-wide reliability framework in which reliability settings would be determined by customer preferences.***
>
> ***This framework should replace all jurisdiction-specific reliability settings.***

Hydro Tasmania believes the creation of a reliability framework based on customer preferences would be a desirable outcome. Our main concern in this area is that:

1) It will be difficult for customers to conceptualise the different reliability choices; and
2) The process will lead to much greater complexity.

We consider that any approach to reliability is by its nature, an averaging approach as the ability to discriminate customers for different reliability settings is very coarse.

We are concerned that it will be difficult to engage customers meaningfully and that there will be significant additional costs for very little reward. Hydro Tasmania encourages the Commission to establish further safeguards to ensure that customers do receive benefits in this area.

4.1.2 DRAFT RECOMMENDATION 15.2

> ***Drawing on the current Victorian experiences, the Australian Energy Market Operator should carry out transmission planning for all transmission networks in the National Electricity Market. The Operator should:***
>
> - ***use Values of Customer Reliability (as obtained through draft recommendation 14.1)***
> - ***use best practice probabilistic processes in its cost-benefit analysis of network and non- network options to address reliability issues and/or constraints***
> - ***describe its full cost-benefit analysis as part of its process for the Regulatory Investment Test for Transmission***
> - ***make public all methodologies, parameters, data and other inputs used in the analysis***
> - ***work closely with each of the transmission companies concerned to make sure that their experience and input is fully understood and where mutually agreed, appropriately incorporated into the analysis***

- ***use its best estimate of peak demand forecasts, having sought input from all relevant stakeholders***
- ***ensure that planning decisions are consistent with National Electricity Market-wide efficiency objectives***
- ***not carry out the 'procurer' role currently done in Victoria until it can be demonstrated that the benefits of such an approach exceed the costs in the Australian National Electricity Market environment.***

Hydro Tasmania has broken down this recommendation into various parts as this recommendation has several elements. The first element deals with the proposal to implement probabilistic planning, as is used in Victoria. We oppose this proposal as the network is operated on a deterministic basis and it is unclear how this fits with probabilistic planning. In our view, the Commission has reached the conclusion that transmission is appropriately sized, which tends to imply that the planning regime is working.

The two major interconnector studies currently being undertaken for Qld/NSW and SA/Vic imply that there are adequate processes in the assessment of inter-connector upgrades. The nature of the NEM is that it is several distinct load centres with long interconnectors between them. This means that the primary focus will always be state based. In Hydro Tasmania's view there are adequate processes for the assessment of inter-regional upgrades.

Our second concern is about the fragmentation of responsibility. In most states, one organisation is responsible for transmission planning, asset ownership and operations. This approach simplifies decision making, applications for connections and makes it clear who is responsible for any problems. In our view, we see no material problem that needs fixing.

4.1.3 DRAFT RECOMMENDATION 15.8

The Australian Energy Market Operator should act as the planner of last resort where it considers that underinvestment could expose the network to serious reliability problems, with the right to direct investment should the Australian Energy Market Operator believe that not to do so could seriously compromise the reliability of the National Electricity Market. The Australian Energy Regulator would act as an arbitrator in any disputes.

Hydro Tasmania considers that recommendation 15.8 is not necessary, as it concerns dividing and diluting responsibility. We believe that an underlying principle should be to have clear accountability and responsibility for each participant.

4.1.4 DRAFT RECOMMENDATION 15.10

Transmission businesses not already using this approach should transition to dynamic capacity ratings on all critical equipment.

Hydro Tasmania agrees with the Commission's draft recommendation 15.10. Transend has been using this approach for several years now and it may well have some merit in other states. We believe that this approach will result in less conservative line ratings and better utilisation of assets which will lead to lower costs over time. What is interesting about this recommendation is that it

highlights the lack of incentives for TNSP's. If there were some benefit in adopting this approach and if incentives were well aligned, TNSP's would already have adopted it.

4.2 The role of interconnectors

4.2.1 DRAFT FINDING 17.1

> ***The available evidence suggests that, given the existing network conditions, the current physical capacity of interconnectors is reasonably appropriate.***

Hydro Tasmania shares the same view as the Commission regarding this finding. The RIT-T has been specifically designed to only build economically efficient investments. RIT-T has now been in place for some time (in different forms but with the same principle). We see the Productivity Commission Draft Finding 17.1 as an endorsement of the outcomes from policy certainty in this area.

We have taken note that, while the physical capacity was right a few years ago, the declining demand, particularly due to the GFC, means that there is possibly some over capacity there now. Hydro Tasmania considers that the major challenge will be to build the transmission network needed for a lower carbon generation fleet, but at the same time maximising the value from existing sunk investments.

4.3 Identifying future transmission investment

4.3.1 DRAFT RECOMMENDATION 19.1

> ***The Regulatory Investment Test for Transmission should not be amended to include indirect effects of investment decisions.***

Hydro Tasmania supports this recommendation and the reasoning behind it. We have taken note that the RIT-T actually does implicitly recognise the costs of carbon as these are internalised in the generator fuel costs. Therefore, we see a solution with a lower carbon footprint will actually be preferred under an RIT-T test, other things being equal. Once some indirect effects are included, it will prove very difficult to draw a line and exclude others. Thus, the inclusion of indirect benefits has the potential to make the RIT-T unworkable.

4.4 Governance

4.4.1 DRAFT RECOMMENDATION 21. 1

> ***There should be an independent review of the resourcing and capacity of the Australian Energy Regulator to undertake all its functions, including whether there are impediments to its performance and options for improvement.***

Hydro Tasmania considers that this recommendation is redundant if the Draft Recommendation 21.2 is proposed.

4.4.2 DRAFT RECOMMENDATION 21.2

> ***The Australian Energy Regulator should have greater control over, and accountability for, the resourcing and management of its functions. It should:***
>
> - ***have its own separate budget sufficient to meets its role***
> - ***submit a separate annual report of its performance***
> - ***Publicly reveal its strategy for improving its performance***
> - ***have an independent capacity to negotiate resource sharing arrangements with a range of agencies, not just the Australian Competition and Consumer Commission***
> - ***ensure that it establishes and retains the necessary specialist expertise to competently carry out its role, in accordance with draft recommendation 8.6***
> - ***develop a program for regular ongoing communication and interaction with network businesses, their customers and other relevant stakeholders, with those interactions not just confined to periods of regulatory determinations.***

Hydro Tasmania supports this recommendation, as the AER is a key institution in the NEM. Whilst separation per se is a separate issue, it seems unlikely that these recommendations can be achieved whilst the AER is part of the ACCC.

4.4.3 DRAFT RECOMMENDATION 21.4

> ***The National Electricity Law should be amended to expedite the making of Rules arising from any appropriately conducted independent review relevant to the National Electricity Market and that are agreed by the Standing Council on Energy and Resources. This should be achieved by giving the:***
>
> - ***Australian Energy Market Commission the power to expedite Rule requests; and***
> - ***South Australian Minister a broader power to make Rules.***

Hydro Tasmania supports the ability of AEMC to expedite rule changes where there is a recognised review. The expedited rule change process has sufficient safeguards.

However, we do not support the Commission granting the SA Minister broader power to make rules. If the Commission goes ahead with this change it will exacerbate participants concerns about the level of Government intervention in the market.

In addition, we consider that the Draft paper makes a reasoned argument for the first part of the recommendation but provides no evidence for the need for the second part.

5. Information requests

5.1 Efficient use of interconnectors

> ***The Commission seeks participants' views about the extent to which flaws in a state-based hedging market distort the locational incentives of generators and large loads.***[3]

[3] Energy Network Regulatory Frameworks, Productivity Commission, Chapter 18

In our opinion, the distortion in the locational incentives for generators is caused by the long, 'stringy' nature of the physical NEM power system, it is not caused by flaws in the state-based hedging market as the Commission suggests.

We believe the primary locational signal for a generator is to locate where the fuel source is and there are signals which discourage generators from seeking to locate in congested areas. We have noticed that wind developers appear to be balancing transmission, environmental and energy price factors (level of expected constraint) in their locational decisions.