



Department of Primary Industries

Mr John Pierce
Chair
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

1 Spring Street
GPO Box 4440 Melbourne
Victoria 3001 Australia
Telephone: (03) 9658 4000
Facsimile: (03) 9658 4400
ABN 42 579 412 233
DX 210404

Our Ref:

Dear Mr Pierce

The Victorian Department of Primary Industries (DPI), as the portfolio agency responsible for energy market development in Victoria, is pleased to make this submission in response to the Australian Energy Market Commission's (AEMC) Directions Paper (published 14 April 2011) for its review of the frameworks governing electricity transmission services in the National Electricity Market.

Any queries in relation to this submission should be directed to Mark Feather, Director, National Energy Development by email at mark.feather@dpi.vic.gov.au or by phone on 03 9658 4793.

Yours sincerely

Peter Naughton
Executive Director
Energy Sector Development Division

28 / 6 / 2011



Department of Primary Industries



1. Name of the person or organization
2. Address
3. City
4. State
5. Zip

1. Name of the person or organization
2. Address
3. City
4. State
5. Zip

1. Name of the person or organization
2. Address
3. City
4. State
5. Zip

1. Name of the person or organization
2. Address
3. City
4. State
5. Zip

DPI SUBMISSION TO THE AEMC's TRANSMISSION FRAMEWORKS REVIEW DIRECTIONS PAPER

The Victorian Department of Primary Industries (DPI), as the portfolio agency responsible for energy policy in Victoria, welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC) Directions Paper for its review of the frameworks governing electricity transmission services in the National Electricity Market (NEM).

DPI considers that the Transmission Frameworks Review represents one of the most significant pieces of work on the AEMC's work program.

The requirement for new investment in generation to meet load growth and in response to climate change policies has the potential to lead to significant changes in the patterns of generation across the NEM. This is likely to drive the need for significant investment in transmission networks.

As such, the regulatory and commercial frameworks governing network planning, and investment in the long term, and network operation and management in the short term, need to be robust to meet these challenges.

In the long term it is critical that the transmission frameworks ensure that network investment is delivered in a timely manner and in the correct locations, in response to changes in the wholesale market. In the short term it is important that network congestion is managed efficiently.

Ultimately, if the framework does not deliver against these objectives there is a risk that generators will face the risk of being inefficiently constrained off the network and will be unable to access the NEM. This is likely to lead to increased contractual risk premia, and in the extreme, disincentives to invest. It will be consumers who bear the costs if efficient sources of generation cannot access the market.

DPI would also note that the experience in Great Britain provides important warning signs of the potential for increased transmission network congestion associated with major changes in the configuration of generation plant and the impacts it has on wholesale markets.

Summary of submission

This submission makes the following key points:

- The promotion of effective competition in the generation and retail sectors should be a key objective in the provision of transmission services.
- Whilst a framework based around transmission reliability standards for generation may increase "firmness" of access, there are risks it could lead to inefficient over-investment and undue discrimination against new entrant generators if these generators are required to pay for deep connection to support the maintenance of the standard.
- There is merit in considering more market based approaches including assessing the benefits and costs of a financial transmission rights regime as a

mechanism to inform planning processes and ration network capacity in the short term where congestion is present.

- If a financial transmission rights model proves to be too costly or complex, there is merit in adopting an alternative regulated approach to investment decisions under which AEMO assesses and compares the costs of augmentation with the broader market benefits, taking into account the wholesale market impacts of new generation entry and the relative competitiveness of new entrant and incumbent generators.
- The AEMC should give further consideration to the benefits of extending AEMO's independent planning role for transmission on a national basis. DPI's response also notes that as an independent and not for profit planner/procurer, AEMO's planning decisions are not likely to be distorted by the financial incentives which apply to private and publicly owned natural monopoly network businesses.
- AEMO is currently undertaking a program of works to improve the operation of the connections process in Victoria. The AEMC should await the outcomes of this project before deciding to commence a separate investigation or work-stream into the Victorian connection arrangements.
- DPI also seeks clarification from the AEMC regarding its statement that issues relating to the economic regulation of networks are outside of the scope of the review.

The remainder of this submission deals with each of these issues in turn:

1. Role of transmission
2. Nature of access
3. Network charging
4. Planning
5. Connections
6. Exclusion of economic regulation

1. Role of transmission

Objectives for the review

The AEMC has decided not to set any subsidiary objectives for the review at this stage, on the basis that these might limit the outcomes of the review. DPI considers that the setting of some key subsidiary objectives, such as those outlined in the DPI submission to the AEMC Issues Paper¹, would be helpful in further directing the review and a means with which to measure success.

The role of transmission

The AEMC's initial view of the role of transmission is:

"To provide services to competitive and regulated sectors of the electricity market in a manner that is in the long term interests of consumers of electricity".²

The AEMC notes that the role of transmission will be reassessed and potentially refined by the work undertaken in the review.

Whilst DPI does not disagree with the AEMC's initial view, DPI nevertheless considers that some additional clarification of the role of transmission would be helpful.

In particular, the AEMC should consider the Great Britain experience where objectives of transmission services are set out in the licences of National Grid (the main electricity transmission network owner/operator in Great Britain). In particular, National Grid is required under its electricity transmission licence to establish codes and methodologies which are required to achieve a series of objectives, including "promoting effective competition in the generation and supply of electricity"³.

These requirements apply with respect to the Connection and Use of System Code which sets out enforceable rules governing generator connection and access to the transmission system, as well as the Balancing and Settlement Code and National Grid's transmission charging methodology.

DPI considers that the 'competition' objective adopted by National Grid is relevant for the AEMC in considering a definition for the role of transmission in the NEM. A number of submissions to the AEMC Issues Paper would appear to support this.

¹ DPI response to AEMC Transmission Frameworks Review Issues Paper, p. 4

² AEMC Transmission Frameworks Review - Directions Paper, p.21

³ National Grid (UK), Electricity Transmission Licence: Standard Conditions – Consolidated to 11 August 2010 – see www.ofgem.gov.uk

2. Nature of access

Proposed reliability standard for generation

The Directions Paper states that the AEMC intends to give further consideration to the potential for a transmission reliability standard for generation to be introduced.

Whilst a generation reliability standard may result in generators receiving a “firmer” level of access, DPI considers that there are a number of risks associated with administered reliability standards being applied to generation. In the absence of market signals it is unclear how the level of reliability standard for generation would be determined and there is a risk that it could lead to inefficient over investment in the network. DPI notes the concerns on the setting of load related reliability standards, recently raised by the Independent Pricing and Regulatory Tribunal (IPART) of New South Wales (NSW) in its recent draft report on “*Changes in regulated electricity retail prices from 1 July 2011*”. This report notes that recent changes in deterministic reliability standards for load in New South Wales have driven significant network price increases and that it was (in IPART’s view) unclear as to whether the standards reflected what customers value and are willing to pay for.⁴

There are also risks that if new entrants are to be required to underpin extensive deep connection costs to support a standard this could be unduly discriminatory in nature. Indeed, if a new entrant generator is likely to be more efficient than an existing generator(s) at the same location, then constraining that new entrant generator off the network, or forcing the new generator to pay for an augmentation (e.g. through a deep connection charge) is likely to distort competition between generators. This is particularly the case if the opportunity costs of the new generator are higher than those of less efficient incumbent generators. If network capacity is congested then arguably it should be allocated to those parties that value it the most (on a non-discriminatory basis), rather than requiring new generators, as a class, to underpin augmentations.

A market based approach to transmission

As noted in DPI’s previous submission, there are merits in the AEMC considering the introduction of a tradeable access rights framework. Under this model, in the short term, an entry capacity rights framework would ensure that those generators that valued network capacity the highest would be able to gain access. This would promote competition between generators. Further, in the long term, market based signals would help to ensure that transmission network investment is targeted to those areas where it is needed, thereby reducing the risk of inefficient under or over investment.

DPI recognises that there are complexities associated with such a framework. These include the following:

⁴ Independent Pricing and Regulatory Tribunal, *Changes in regulated electricity retail prices from 1 July 2011, Electricity – Draft Report*, April 2011, p.85.

- **Fragmented responsibilities.** Given that network ownership is fragmented and the separation of responsibilities between AEMO and TNSPs, decisions would need to be made as to whether the capacity rights are sold and allocated by AEMO or individual TNSPs.
- **Service agreements.** If the rights are sold by AEMO (as a planner procurer), then AEMO would need to enter into service agreements with TNSPs for the delivery of investments and network capacity underpinned by the sale of these rights. Similarly, arrangements would need to be established enabling generators to obtain compensation where a TNSP is unable to deliver the physical network capacity against the rights that have been sold by AEMO.
- **Substitutability of capacity rights.** Under an entry rights framework, consideration needs to be given to defining the entry zones in which the rights are to be allocated. This will require AEMO and the TNSPs to determine the extent to which network capacity can be easily substituted (e.g. on a 1 for 1 equivalent basis) between generators within particular locations so that generators in these zones can compete to purchase the capacity (in the event of congestion). If capacity cannot be easily substituted across different locations in a zone then the complexity of the zonal model may be increased (and market power issues may arise). Similarly, the development of zones may also be difficult given the complex and meshed flows across the electricity network. The changing nature of flows across the network could change the degree of substitutability between entry points on a dynamic basis, making it difficult to define rigid zones.
- **Proportionality.** Ultimately, it will be necessary to consider whether the introduction of a tradeable network entry capacity rights framework is proportionate and necessary. For example, it is possible that, as the configuration of generation changes, new generators might seek to locate in substantially different locations to existing generators, thus reducing the risks of congestion. If the risks of congestion are low, this may reduce the requirement for financial transmission rights frameworks as a mechanism to ration network access. Conversely however, the experience in Great Britain does provide important warning signs of the potential for increased network congestion associated with major changes in the configuration of generation plant and increasing demand for network capacity in particular locations.

A cost benefit approach to augmentations and access

Whilst it is desirable that market mechanisms, such as financial transmission rights, are utilised to maximise efficiency, the complexities of these arrangements may necessitate consideration of more regulated approaches to planning and investment.

One option worthy of consideration is to give AEMO national responsibility for network planning and augmentation with respect to meeting the changing demands for transmission network capacity from generators.

Under this approach, AEMO would use cost-benefit modelling to determine whether network augmentation is necessary to deliver transmission network capacity to meet

the requirements of a new entrant generator. The modelling would take into account the benefits arising to competition in the wholesale market and the costs of the augmentation itself. Where there are risks of congestion, AEMO would build into its modelling the relative competitiveness of new entrant and incumbent generators to determine how much augmentation is efficient.

Where the new entrant is an efficient low cost substitute for an incumbent in the region, and if the incumbent's position is such that it is likely to exit the market (e.g. in response to carbon pricing), then augmentation may not be necessary (as any network capacity that is currently used is freed up in the future).

Consideration could be given, in this instance, to whether the more efficient new entrant receives compensation for being constrained off the system in anticipation of the incumbent participant exiting the market. However, in the absence of requiring the entrant to purchase a firm access right it may be difficult to determine the terms and conditions under which such compensation is payable.

Similarly, consideration could be given to whether incumbent generators are required to give some form of binding notice of their exit from the market so as to help inform AEMO's planning decision.

Conversely, if the new entrant is higher cost or has little cost advantage over incumbents, then AEMO may deem that network augmentation may be necessary to meet the additional network demand. In this case, the new entrant may be required to make a contribution to a proportion of the funding of the augmentation.

3. Network charging

Long term versus short term charging based on congestion

DPI supports the principle that generators should be exposed to some of the costs of providing additional network capacity to support their access to the NEM and delivery of their generation output. This helps to ensure that transmission costs are targeted to those that benefit most from use of and investments in those assets.

DPI considers that it would be helpful for the AEMC to differentiate its discussion of charging issues between charges that apply in the short term, when network capacity is largely fixed (subject to minor operational variations) and charges in the long term, when network capacity can be increased through augmentation. The AEMC's Directions Paper does not draw this distinction.

In the short term when network capacity is largely fixed, the most efficient way to allocate is arguably via a price auction which all generators, new and existing, can participate in (noting the limitations associated with the financial transmission rights models cited above). In the long term it is best to adopt charges that reflect the long run marginal forward looking costs of investment.

Charging incumbent generators for network access

DPI does not agree with the point made by some stakeholders in response to the AEMC Issues Paper that transmission charges should not be levied on incumbent generators. In particular, DPI considers that where network congestion is present, consideration should be given to a mechanism which provides for the rationing of capacity by a pricing mechanism such as an auction. Under such an approach, all parties, including existing and new generators, would be treated on a level playing field which maximises allocative efficiency. Such an approach would be likely to promote competition in the generation sector.

4. Planning

Extension of the independent planner model

In Victoria, AEMO is responsible for planning the transmission network and tendering for major augmentations, while SP Ausnet is the principal transmission asset owner. DPI supports the extension of the Victorian independent planning model on a national basis. As set out in DPI's previous response, given the changes facing the electricity sector, transmission planning is likely to be required on more of a national dimension than previously the case, with more inter-regional augmentations potentially becoming necessary to transport electricity from generators located long distances from load centres. Having a single national planner, as opposed to multiple regional planners, should bring efficiency benefits.

The extension of AEMO's role on a national basis was supported by the Energy Users Association of Australia (EUAA), the Major Energy Users group (MEU), Alinta and Infigen in submissions to the AEMC Issues Paper.

The EUAA submission to the AEMC issues paper states that:

"The outcomes in Victoria relative to the [transmission] outcomes delivered by TNSPs elsewhere in the NEM are favourable. As noted earlier, the regulated value of TNSP assets in Victoria has grown 40% while those in New South Wales has grown 160%, since the TNSPs in each state have been regulated by the ACCC and then the AER. This is despite significantly higher demand growth over the last decade in Victoria compared to NSW.

The Victorian approach of separating planning and major asset procurement from asset ownership is innovative and should be assessed in detail by this review. We suggest that a thorough comparative analysis of transmission outcomes in Victoria relative to those elsewhere in the NEM would be very valuable for this review. Lessons should be drawn out and should provide the basis for suggestions on improvements to transmission frameworks in the NEM."⁵

⁵ EUAA submission to AEMC Transmission Frameworks Review Issues Paper, p.8

DPI notes that there has been some criticism of the AEMO planner role by respondents to the AEMC's previous consultation. In the following discussion, DPI sets out some of the benefits of having an independent planner.

A key benefit is that AEMO, as a not-for-profit entity, is able to independently assess the need for and timing of transmission network investment unhindered by the incentives that distort the behaviour of profit-making monopoly network businesses. For example, privately owned TNSPs:

- have incentives to cut back on investment or to invest late in the regulatory period in order to maximise profits;
- have incentives to over-forecast capital expenditure requirements through pricing determination processes to secure larger revenue allowances; and
- have few incentives to make optimal trade-offs between network and non-network options, as investment-based augmentations are automatically rolled into the asset base.

Publicly owned TNSPs are also likely to favour investment-based augmentations given that they will be automatically rolled into network asset bases. It is noted that the April 2011 IPART report on NSW regulated electricity prices has raised concerns regarding the automatic inclusion of network capital expenditure in the asset base as potentially leading to inefficient investment with consequential price impacts⁶. Concerns have also been raised by Garnaut⁷ and the EUAA⁸ that generous rate of return allowances for publicly owned network businesses provide an incentive for government owned businesses to over-capitalise.

By contrast, as a not-for-profit system planner, AEMO's planning decisions will not be distorted by the financial incentives that have been outlined above. Indeed, the AEMO augmentation procurement model optimises investment at least cost by tendering out for major augmentations, thereby promoting the delivery of transmission augmentations at least cost. Further, by requesting the provision of transmission services, the AEMO model enables asset owners to innovate in the manner in which services can be provided (e.g. through investment or commercial solutions). The AEMO planning model is also supported by probabilistic planning arrangements which considers how best to deliver system security by considering all options and the economic costs and benefits of these options.

In view of these considerations, as well as the increasing need for planning to be undertaken on a national basis, DPI considers that the AEMC should give consideration to moving away from the current fragmented and regionalised planning structure to a national planner procurer model.

⁶ Independent Pricing and Regulatory Tribunal, *Changes in regulated electricity retail prices from 1 July 2011, Electricity – Draft Report*, April 2011, p.84.

⁷ Garnaut Climate Change Review Update 2011, *Transforming the electricity sector*, Update Paper 8, p.42.

⁸ Energy Users Association of Australia, *Australia's Rising and Declining Productivity: the contribution of its electricity distributors*, May 2011, p.49.

Terms of Reference and COAG principles

In its Directions paper the AEMC has specifically noted that it must have regard to certain COAG principles, namely that “accountability for jurisdictional transmission investment, operation and performance will remain with transmission network service providers”.⁹

Whilst DPI notes that the AEMC is required by the Terms of Reference to have regard to these principles, DPI does not consider that the Terms of Reference prevents or restricts the AEMC from considering a national planner/procurer model.

DPI would note that the Transmission Frameworks Review was intended as a major and holistic review of the transmission arrangements, in the light of the challenges facing the energy sector. In this respect, the MCE’s Terms of Reference leave it open to the AEMC to recommend fundamental changes if it concludes that these are essential.

Further, and consistent with section 32 of the National Electricity Law, the AEMC is required under its Terms of Reference to have regard to the National Electricity Objective in undertaking the review.

As such, DPI considers that it is well within the scope of the Transmission Frameworks Review for the AEMC to consider the efficiency benefits of a national planner/procurer approach within the framework of the National Electricity Objective. If the AEMC concludes that a national planner/procurer approach is beneficial then it should it would be open to the AEMC to provide advice to the MCE along these lines. It would then be open to the MCE to request that a series of revised principles for national transmission planning be developed.

DPI also considers that the potential extension of AEMO’s planning role in Victoria on a national basis would not represent a major departure from the “COAG principle” identified above. Indeed, the TNSPs which currently plan, own and operate the transmission networks in other jurisdictions would remain accountable for delivery of investments and the operation of transmission networks under an extended AEMO planning role.

On this basis, DPI proposes that the AEMC examine in this review the potential extension of AEMO’s role in planning Victoria’s transmission network on a national basis.

The Victorian probabilistic planning model

Under the transmission planning model in Victoria, transmission augmentation decisions are evaluated by AEMO using a probabilistic approach. Under this approach, all investment decisions must be justified on the basis of maximising net benefits to the market. In other jurisdictions, TNSPs use a deterministic planning approach whereby transmission augmentation decisions are made so as to meet pre-set redundancy standards.

⁹ MCE, Terms of Reference – AEMC Transmission Frameworks Review, p.2

DPI notes that some respondents have opposed the use of probabilistic planning. DPI however considers that there are significant benefits of the probabilistic planning approach in comparison to the deterministic approach employed in other jurisdictions, in terms of providing augmentations at the most suitable time and with the least cost to end consumers.

DPI also notes that concerns have recently been raised regarding the degree of transparency associated with the development of deterministic standards such as those which apply in Queensland and New South Wales. As noted above, in its April 2011 report IPART raised concerns regarding whether the reliability standards in New South Wales reflect the value placed on reliability by customers and the extent they are willing to pay for increased reliability. The IPART report recommends that the NSW Government should ensure that changes to the standards should be “subject to transparent and rigorous cost-benefit analysis”.¹⁰ The EUAA in its May 2011 report has noted that “apparently higher standards have not been subjected to any form of public economic assessment or critique”.¹¹

DPI contrasts this with the approach adopted by AEMO as Victorian transmission planner where augmentation proposals are considered within the framework of the Victorian Annual Planning Report. This represents a transparent process under which the costs of the augmentation options are measured against the benefits including the willingness of users to pay.

5. Connections

The Victorian transmission connections regime

Part of AEMO’s role is to negotiate with parties seeking connection to the transmission network, conduct tenders to construct shared connection facilities, and to co-ordinate tripartite agreements with the connecting party and SP Ausnet to construct the required assets (where not undertaken by a third party).

The AEMC Directions Paper identifies the Victorian connections regime as a particular issue for review, stating that:

“For stakeholders with interests in Victoria, the lack of negotiating power [between connecting proponents and TNSPs] is further compounded by the connection arrangements in that stage, namely the tripartite contractual arrangements that govern the proposition of connections services”¹²

DPI does recognise the issue raised by some generators that the presence of AEMO in the connection process has caused some confusion and concern amongst connecting parties. In recognition of this, AEMO is currently undertaking a broad project to improve transparency of the connection process by providing more accessible

¹⁰ Independent Pricing and Regulatory Tribunal, *Changes in regulated electricity retail prices from 1 July 2011, Electricity – Draft Report*, April 2011, page 85.

¹¹ Energy Users Association of Australia, *Australia’s Rising and Declining Productivity: the contribution of its electricity distributors*, May 2011, page 44.

¹² AEMC Transmission Frameworks Review - Directions Paper, p.85

information, reducing the number and complexity of contracts, and more clearly defining the roles of each of the parties in the connection process. DPI would suggest that the AEMC await the outcomes of the current AEMO project before deciding whether a specific work-stream or investigation on the connection arrangements in Victoria is necessary.

DPI would also note that a power imbalance exists for generators negotiating connections with monopoly TNSPs. In this respect, the presence of AEMO as an independent body presents a mechanism to correct this imbalance

Impact of Victorian cross ownership provisions on transmission connections

The AEMC Directions Paper makes reference to the legislative restriction on cross ownership of (shared) transmission and generation assets acting to reduce the ability of generators to independently construct transmission assets which then become part of the shared network. These legislative provisions were inserted following the privatisation of the Victorian energy industry to ensure that a separation was achieved between the competitive (retail and generation) and monopoly (transmission and distribution) sectors.

DPI released a discussion paper on the need for the cross-ownership regime in 2005. It concluded that these provisions should be removed in favour of generic reliance on the provisions of the *Trade Practices Act 1974* (now the *Competition and Consumer Act 1974*).

Victoria is currently looking into amendments to its cross ownership legislation as part of the transition to the National Energy Customer Framework (NECF).

It should also be noted that a COAG decision in February 2006 tasked the MCE with developing specific recommendations to "maintain such separation of generation and transmission activities in a form that complements the provisions of the Trade Practices Act". At the 4 December 2009 meeting, MCE "agreed to reaffirm its commitment to finalise the COAG decision to strengthen the structural separation of ownership arrangements for assets in the regulated and competitive sectors and agreed to task the MCE Standing Committee of Officials (SCO) with developing an agreed policy position ... for consideration at the next MCE meeting". This work program has been somewhat delayed, although a Regulation Impact Statement (RIS) assessing potential new measures to preserve the separation of generation and transmission ownership is currently being developed for consideration by SCO.

6. Exclusion of economic regulation

The AEMC Directions Paper seeks to exclude the issue of economic regulation of transmission networks from the review (aside from in relation to connections) on the basis that this would make the review unmanageable due to the complexity of the area¹³. DPI suggests that the AEMC provide some further clarification on the statement it has made with respect to economic regulation.

¹³ AEMC Transmission Frameworks Review - Directions Paper, p.11

In particular, if the AEMC are to consider a market based framework for the sale of entry capacity based financial transmission rights (either by AEMO or TNSPs), this brings directly into focus the question of whether and the extent to which TNSPs are liable for a proportion of the costs of any compensation that is paid to generators for the non-delivery of these rights (e.g through any service agreements it strikes with AEMO). This in turn raises implications for the economic regulation framework.

More broadly, DPI would also note that the Terms of Reference for the Transmission Frameworks Review requires the AEMC to consider the extent to which the regulatory framework provides appropriate financial incentives on transmission businesses to ensure efficient and timely service provision.¹⁴

¹⁴ Transmission Frameworks Review, Ministerial Council on Energy Terms of Reference, p 4.