TRUenergy Submission to AEMC Review of the Electricity Transmission Revenue and Pricing Rules: Transmission Pricing Issues Paper

Summary

TRUenergy has considered in detail the matters raised in the Transmission Pricing Issues Paper and has contributed to a submission by "The Group" of generators. We endorse that submission and wish to provide some additional comments. These comments relate primarily to the concerns and experience of a private participant with significant incumbent and project development generator interests.

TRUenergy believes the issues paper has under-estimated existing failures to achieve the market objective due to market inefficiencies regarding generator locational incentives and access risk. This under-estimate has resulted in the AEMC incorrectly concluding that

- the existing transmission pricing regime as it pertains to generators is adequate; and
- it is acceptable to deem some relevant matters as outside the review scope, being:
    - The regional pricing design of the NEM; and
    - The open-access concept.

The AEMC can seek to resolve the demonstrated NEM inefficiencies in generator locational efficiency and access certainty either by:

1. Transmission pricing rules that would be brokered by TNSP's, e.g. through concepts such as that anticipated in clause 5.5 of the rules;
2. NEM market access mechanisms that would be brokered by NEMMCO, such as an advanced CSC/CSP concept.

Throughout and before the life of the NEM, the issue has surfaced in reviews that addressed one environment only. But substantive progress requires consideration of both. It is common to banish questions of locational efficiency and access rights to the other environment.

"The Group" submission leans towards resolving these inefficiencies within the second environment. TRUenergy agrees with this in principle, however experience shows discussions of locational pricing and constraint management via the transparent operations of NEMMCO are highly controversial and tend to bog down. Thus we suggest the AEMC give genuine thought towards at least starting the process of resolving these matters within the first environment.

In any case, we believe the AEMC should recognise the seriousness of these issues and note them for a full exploration within a future review.

Current arrangements are unsatisfactory

The Issues Paper implies that three key NEM design features should lead to appropriate locational efficiency:

- The regional pricing model;
- The non-firm level of access provided to generators; and
- The design of the regulatory test.

We suggest these features cannot and are not achieving this end and their success cannot be assumed away in this review.

In the world of generator investment, the existing open-access regime combined with the regional pricing model creates inefficiency in two senses:

1. There is a dull intra-regional locational incentive for generators to either:
    a. locate at points of spare transmission capacity, or,
    b. include within their investment decision the costs of either increasing transmission capacity or interfering in another's access.

2. Once committed to a location, there is no certainty regarding the future level of deep transmission access for a generator. Future new-entrant generators may degrade the presumed level of access.

Examples of the first issue are numerous and several are outlined by "The Group". We would add the dearth of generation projects within the NEM's fastest growing load zone, i.e. South East Qld, and the commensurate necessity of the TNSP to embark on several major reinforcement projects.

The transportation of energy as gas incurs about one-half the capital cost of electricity, yet the NEM has broken an old rule of central planning by locating many of its new gas-fired generators away from load centres. This implies a locational inefficiency in the NEM's transmission pricing.

It is not only manifest in the siting decision of discrete gas-fired generators. There is genuine competitive tension between new coal and combined-cycle gas-fired generation, with only a few $/MWh LRMC enough to sway the investment decision. We suggest that if investors' decision had included the 1(b) costs above, this could have significantly altered the NEM's mix of new entrant plant in favour of strategically located gas.

Impacts of the second issue are felt by all generators in generation-rich locations, creating a risk premium for such projects. Ironically, the second issue can actually inefficiently *over*-discourage generators from locating in generation-rich locations, i.e. even where there is some spare transmission capacity exiting a generation-rich zone, an investor may avoid it for risk of losing that capacity in future.

Latrobe Valley generators have experienced significant declines in transmission access over the life of the NEM, caused by a range of new-entrants, plant upgrades and one funded-augmentation.

Regional Pricing Model delivers blunt locational signals

The Issues Paper[1] speaks positively of the locational efficiency signals of the NEM's regional pricing model and states "the British energy market does not have multiple pricing regions and therefore locational transmission prices play a more important role than in the NEM"[2] without noting that the NEM has regions larger than Britain!

The size of the NEM's regions means that the management of intra-regional capacity is critical to locational efficiency. Intra-regional congestion is not managed in a manner that would result in a generator whose locational decision had created the congestion to feel the full economic impact of its decision. There are several key features of the NEM's congestion management that the AEMC may be unaware of:

- All generators within a region are paid the regional price rather than a locational price, and congestion affects them only by way of a volume constraint.
- The dispatch engine will ration volume on the basis of offered price, however all generators respond to this by bidding at the market floor price when faced with a transmission constraint.
- Other things being equal, the volume constraint is then pro-rata shared by generators behind the constraint. Thus a new entrant will suffer only a share of the impact of its locational decision. It is perversely better to site at a location where there are more neighbouring generators rather than less.
- Where an interconnector and generator(s) are behind an intra-regional constraint, the regime leads to the generator(s) receiving preference.
- In some cases, technical inflexibilities result in some generators being constrained-off less than the pro-rata share, perversely rewarding inflexibility.

TRUenergy's critique of regional pricing should not be interpreted as an endorsement of nodal pricing, which (in the absence of transitional instruments) would create a massive business shock to existing generators and customers. We wish to point out that locational price signals are absent for new NEM entrants where it could have lead to genuinely large efficiency benefits.

Regulatory Test does not deliver efficient locational signals of itself

Appendix 1 appears to have misunderstood that the regulatory test does not plan competitive generation projects. Once the remote coal generator has been classified as a "*committed project*", the TNSP presumes its investment costs are now zero and the outcome of Figure 9 would in fact be the less efficient option. The remote coal generator is able to anticipate this outcome and will commit accordingly.

Our criticism is not with the regulatory test itself, which is adequate in achieving the goal to which it is tasked: efficiently planning discrete, incremental regulated network projects whilst taking the existing competitive investments as given. Resolution of the matter relies on the entrant facing the transmission costs of its decision rather than expecting the TNSP to assess the costs of competitive investments.

Recognising a degree of existing Access Rights is not impossible

[1] Section 6.1.1
[2] Page 53

We do not concur with the Issues Paper's decision to reject all forms of transmission property rights as technically and politically infeasible.

- The paper claims that PJM regime would very difficult in the more complex NEM[3]. Yet in fact the tree-structure of the NEM's transmission backbone, unlike the meshed PJM, allows a simpler deterministic calculation of access. In any case, by virtue of their need to create constraint equations, NEMMCO has already defined the full extent of feasible transport capacity in the NEM, and these can readily be converted to a level of generator access.

- VENCorp has recently implemented a form of allocated property rights for Victorian generators in relation to some non-energy based deep transmission services, i.e. fault levels and reactive power[4]. These are arguably more difficult to define than energy transfer services.

- The meshed nature of the Victorian Gas Market has technical similarities to a power network. It was therefore started with a fully regulated TNSP and open access regime along the lines of the NEM. This has subsequently been criticised for the same issues of access uncertainty that have been levelled against the NEM. As a result, that market is now undergoing a major redesign[5] to introduce firm transmission rights whilst leaving the TNSP fully regulated and external to the market.

Minimalist ways to recognise some access

Generators understand that the access they have received to date is affected by transmission plant failure, effectively a "non-firm system normal" level of access. This level of access could be defined and retained without any significantly changed role for TNSP's.

The capacity of the transmission system to transfer energy at demand peak and "system normal" is well known by TNSP's and NEMMCO. It would simple to publish the expected ability for the network to clear output from generators in these ideal conditions. This could then lead to a simple published schedule of generator access levels at the lower of the generator's capacity and the network's ability to carry output. Where there are multiple existing generators behind a system normal constraint, capacity would be pro-rata.

New entrants or plant upgrades would be added to the schedule as they connect, to the extent that spare system normal capacity existed at the location. Existing levels of access could not be eroded unless voluntarily transferred. This schedule would then form the basis of a future flow allocation system, either through a TNSP brokered mechanism, such as Clause 5.5, or by a NEMMCO congestion management approach, e.g. the CSC/CSP regime.

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[3] Pg 46
[4] *Victorian Electricity Transmission Network connection Augmentation Guidelines*, Aug 2005
[5] Victorian Gas Market Pricing & Balancing Review, Stage 2: Firm Transmission Rights

Incumbents and new-entrants will then be able to understand where they stand in respect of the existing and future capacity of the transmission system should congestion arise.

The CSC/CSP regime may provide the mechanism

The AEMC will be reviewing the CSC/CSP model in 2006, which has the potential to provide a sharper locational incentive through careful consideration of the timing of its application and the allocation of CSC contracts.

For example, if contracts were to simply be allocated real-time in the manner of the existing constraint management techniques, then the change would be futile.

Clearly allocation should attempt to give decisions that are not yet committed a full locational incentive, whilst minimising risk after committment. After investing in an efficient location, those entrants should then be able to rely upon that level of access.

The CRA CSC/CSP proposal recommended implementing these arrangements only *after* congestion is persistent in a location. But that is too late as it implies the new-entrant has already inefficiently located. The entrant would then demand an equal share of capacity and thus no new efficiency has been achieved.

This implies there should be some sort of priority schedule for all generators even *before* CSP is applied, that would guide future allocators of CSC's. Such a schedule could be proposed within this chapter 6 review.

Where to go with this review

Attachment 2 includes a timeline that will limit the AEMC's desire to consider the matters raised in this submission. Considering the incrementalist manner in which these matters have been reviewed previously, a deadline focus may be a false economy.

Whilst remaining within the deadline, the AEMC could still achieve some significant steps towards a more efficient investment climate for generators. It could:

- Mandate the "system normal access" definition process described above, even if it has no immediate dispatch application; and
- Provide a clear conclusion that the locational inefficiencies of the current regime need to be addressed and a recommendation that they are dealt with in a future review, presumably the implementation of CSC/CSP arrangements using the "system normal access" schedule as a basis for contractual allocation.

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