Delta electricity

13 April 2006

Dr. John Tamblyn
Chairman
Australian Energy Market Commission
Level 16, 1 Margaret Street
SYDNEY NSW 2000

Dear Dr. Tamblyn,

RESPONSE TO CONGESTION MANAGEMENT REVIEW

Congestion management in its broadest definition has been identified by policy makers and regulators as a major issue affecting the efficiency of market operations. Delta acknowledges that there are numerous issues associated with transmission congestion but does not believe there is a need for comprehensive change to the current congestion management arrangements.

Apart from the specific issues associated with the Snowy region, transmission congestion is not resulting in a significant reduction in system security or market efficiency. The majority of issues identified in the consultation paper can be adequately addressed by;

- enhancing the current option 4 fully co-optimised constraint formulation; and
- providing efficient locational signals for new generation.

There is no pressing need to implement a comprehensive congestion management scheme such as CSP/CSC, or new transmission access rights arrangements.

The NEM, which is based on a regional market with one common RRP, an open access transmission system and settlement residue auctions to support inter-regional contracting, is functioning well. In addition, the SOO and the ANTS provide market participants information on supply-demand balance, transmission

flow path and potential pinch points in the transmission network. There would be a significant market interruption if attempts are made to re-design the NEM to a nodal market.

In this submission Delta has detailed options and solutions to address concerns about congestion risk, pricing signals for new generation investment, counter-price flows and constrained on generation.

Constraint Formulation and Counter-price Flows

The two problems identified in the consultation paper associated with the fully optimised Option 4 constraint equation formulation are:

1. Remote intra-regional generators may be incentivised to bid below their true opportunity cost of supply; and

2. Counter-price flows occur that:
   - diminishes the value in the settlement residue that has been a key instrument in the NEM market design to support inter-regional competition in the contract market; and
   - requires intervention by NEMMCO to reduce the negative settlement residues but potentially result in a reduction in dispatch efficiency.

It is Delta's view that once the constraints in and around the Snowy region boundary are addressed, there are no other locations in the NEM that would be conducive to counter price flows.

Counter-price flows occur under two conditions:

- Loop flows (with a generator or reference node in the loop e.g. Snowy region); or
- Where the aggregated capacity of 'local remote generators' is larger than the transmission capacity to the RRN. An example is the Tarong constraint prior to the Blackwall to Brisbane and Millmerran to Middle Ridge upgrade. There are currently no other locations in the NEM under system normal condition with this situation.

Hence counter-price flows can be eliminated for most of the time under system normal condition by ensuring a region does not have a generator or a RRN in a loop.

Where necessary, for system security reasons, a modified option 4 constraint management targeted specifically to eliminate counter-price flows resulting from

generator behaviour and constrained on generators could be simply implemented. Delta's proposed solution is detailed in appendix 1.

Over time new generation investment is required to meet growing demand. It is important to provide potential investment with an efficient locational signal to discourage siting a generator in a congested part of network that would lead to the new and existing generators becoming 'remote intra-regional generators'.

It is Delta's view that timely and efficient network augmentation is fundamental to eliminating material congestion. Should new generation choose to locate in an inefficient location that causes congestion, the new generation should be exposed to deep connection charges as suggested later in this submission. This approach will ensure an open access for all market participants.

With an efficient transmission location price signal published in the NEM, it is difficult to imagine that there is a need to consider the implementation of a CSP/CSC scheme to manage the minimal occasions when dispatch efficiency is obviously reduced.

Constrained On Generation

The Option 4 formulations include a large number of constraint equations that may constrain on generators. This outcome perversely results in generators being compulsory required to produce without recourse to any compensation.

There is a major difference between 'constrained on' generators and 'constrained off' generators. Generators are constrained off because they contribute to the congestion whereas 'constrained on' generators are effectively providing network support without proper compensation.

Delta's proposed arrangement for option 4 implementation (Appendix 1) would not 'constrain on' generation to manage a binding constraint or counter-price flows.

Shortcomings of CSP/CSC

CRA, in its 2004 boundary review advocated the CSP/CSC scheme which applies nodal price discipline on generators whilst providing access rights to the regional price. This scheme was intended to apply whilst network augmentation or a boundary review is under consideration. Delta understood that CSP/CSC was never intended to be a permanent arrangement.

The development of the proposal by CRA was commendable however there are a number of problems with the CSP/CSC proposal that significantly diminish its effectiveness. They include:

- Competitive neutrality – CSP/CSC will deliver market power for local remote generators over inter-regional generators.
- Gaming – due to the competitive advantage held by local remote generators. An example is 'local remote generators' may behave differently depending on their settlement residue auction portfolio holding and inter-regional contract position.
- Barriers to new entrants - the incumbent local remote generators may be entrenched with CSCs which guarantees their access to RRN while any new generators on the other side of the constraint have no access to Region A.
- Barriers to a new region – for the same reason as above, the 'receipt' generator has no incentive for a new region that will remove its access and expose it to more competition.
- Institutional arrangements would be difficult to organise and agree – potentially a lot of time and effort to devise a mechanism that is used infrequently
- Allocation of any constraint support contracts would create uncertainty for participants – complicated when there are interconnectors and multiple generators.

There is no justification for implementing a CSP/CSC regime as the short term productive efficiency gains under this arrangement are likely to be far less than the longer term efficiency losses. Instead Delta proposes a more equitable congestion management arrangement that will provide:

- competition neutrality for both local-remote generators and inter-regional generators;
- no counter price flows;
- certainty of settlement residues to support inter-regional contracting; and
- mitigation of constrained on generation.

This proposal, which is detailed in appendix 1, requires changes to the current NEMDE dispatch process which may result in a short term efficiency trade-off. However, there is a long term gain in dynamic efficiency and restoration of competitive neutrality.

Location Investment Signals

The NEM is a regional market with open access and the regulatory test contains clear guidelines for transmission investments between regions and within a region. If generation investment is likely to result in congestion on an interconnector, the investment will be governed by the market benefits limb in the test. If, however, generation investment is likely to result in congestion within a region, there is no clear guidance on mitigating transmission network investment.

With the exception of Victoria, if the congestion is detrimental to customer's reliability stipulated by Jurisdictions, TNSPs will undertake the least cost network investment to relieve the congestion as required by their licenses.

If generation investment only causes congestion among competing generators without adverse impact on customers' reliability, TNSPs do not have an obligation to mitigate the congestion. Also, the new generation investment may even 'constrain off' existing generators resulting in higher congestion costs, as measured by the ANTS process.

Alternatively the new generator can enter into a commercial arrangement with the TNSP to augment the network and relieve congestion but this may give future generation projects a 'free ride' on the network augmentation.

At the very least TNSPs should publish the following information to support the efficient location of new generation investment:

- Maximum power injection at major busbars (or 'regions' as defined in ANTS) without causing congestion in a region or on the national transmission flow paths.
- Deep connection charges at major busbars (or 'regions' as defined in ANTS) above the maximum power injection based on a per MW basis up to 250MW, 500MW and 1000MW.

However, market efficiency could be improved if generators were exposed to the cost of relieving network congestion at the proposed connection point. One option would be for new generation to be exposed to the full deep connection costs in return for transmission access rights. Such a scheme would require complicated governance arrangements and would present both generators and TNSP's with long term risks associated with maintaining access levels as the network grows and changes.

Alternatively generators could be exposed to the net cost of relieving congestion based on the regulatory test with obligations on the TNSP to coordinate the network augmentation such that access rights are not required and the 'free rider' concern is addressed.

The table below provides a comparison of the three basic approaches to location price signals for new generators:

Option	Characteristics	Pros	Cons
Current Arrangements	• shallow connection charges • generators can pay TNSP to augment network • No access rights	• avoided cost of implementing new arrangements	• congestion risks difficult to manage. • generation/network investment not coordinated – reduced investment efficiency • free rider risk
Deep Congestion/ Access Rights	• new generators pay deep connection charges regardless of investment efficiency • generator provided access rights	• stronger locational signals	• need to establish and maintain access rights regime • free rider risk as network naturally grows • minimal obligation on TNSPs
Congestion charge regime	• Generators obliged to contribute to inefficient network augmentation • TNSP's obliged to address network congestion resulting from new generation	• stronger locational signals • better coordination of new generation/ network augmentation • Uses existing regulatory test.	• TNSP revenue review arrangements require update.

It is essential that the regulatory framework provides effective arrangements for new generators wanting to avoid congestion to the node. Delta believes the congestion charge regime, detailed in the table above and in appendix 2, is worthy of consideration by the AEMC as it would address congestion issues associated with new generation investment without the need for a comprehensive access rights scheme.

Summary

Delta believes that congestion related problems in the NEM are largely overstated and that the implementation of a comprehensive congestion pricing/access rights scheme would fail under a cost benefit based assessment. Appropriate application of the regulatory test by the TNSPs should ensure that emerging congestion is economically addressed as it develops. Whilst TNSPs have obligations to customers under the reliability leg of the regulatory test they have no obligations to generators. Where network augmentation is impractical a regional boundary change should be considered.

A recurring theme in the consultation paper and in related consultations is the need for transmission access or property rights for existing and new generation. A clear policy decision is required. Should the NEM structure include transmission access rights arrangements or should existing regulation be enhanced to achieve the outcomes sought by generator investors? This decision cannot be made without considering the roles and obligations of TNSPs.

An access rights regime comes with an additional layer of operational complexity and practical implementation problems, and is in contradiction to the open access network (refer comment on CSCs). On the other hand the congestion charge regime suggested by Delta puts obligations on new generators and TNSPs to address congestion such that access rights are not required. The proposal aligns the incentives on TNSPs with both customer and generator needs.

The CSP/CSC proposal has a number of significant short comings that outweigh the potential for dispatch efficiency gains. Observation of the Snowy trial does not support the intention of CSP/CSC to incentivise local remote generators to behave competitively. In addition to issues related to the allocation of CSC, the arrangement entrenches incumbent claims on the transmission capacity and is a barrier to new entrants. Hence the scheme does not provide certainty for future investment.

An alternate congestion management approach is proposed by Delta (refer appendix 1) that trades off short term dispatch efficiency whilst restoring competition neutrality, transparent process and certainty in inter-regional trading.

If you require further clarification of Delta's views on this matter please do not hesitate to contact me on (02) 9285 2715.

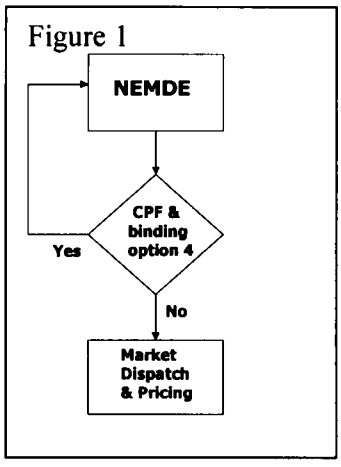
Yours faithfully,

Tim Baker
General Manager/Marketing

Appendix 1 - Proposed new arrangement for option 4 implementation

The proposed arrangement works on a look-ahead principle as shown in Figure 1.

Figure 1



The arrangement will be activated by:

- Binding constraint equation; or
- Counter Price Flow

If either condition is true, NEMDE will be re-run with the following fixed allocation

1. Generator terms with –ve coefficients in the binding constraint equation with be dispatched at its original loading
2. The transmission capacity will be recalculated from the binding constraint equation.
3. Generator terms with +ve coefficients and the interconnector term will be pro-rata based on its capacity for the balance of transmission capacity

This arrangement will:

- Restore competition neutrality for generators in the importing region and inter-regional generators because the arrangement will mitigate the non-competitive behaviour by local-remote generators;
- Eliminate counter price flow as the interconnector will be allocated a share flowing toward the RRN;
- Provide certainty in SR because the arrangement will eliminate gaming by local remote generators;
- Mitigate risk for constrained generators because the arrangement would not make their situation worse off;
- Provide a more transparent process for the utilisation of transmission capacity; and
- Certainty for both incumbent generators and new entrants in transmission access because the process is transparent and governed by electrical characteristic of the network.

Appendix 2 - Congestion Charge Regime

Activity	Detail	Rationale
Publish connection cost information	TNSPs to annually publish deep connection charges at major busbars (as detailed above)	Provides location pricing signals
Determine costs/benefits of network augmentation	At the time of connection inquiry, the TNSP would undertake reg test to determine the economic and reliability net benefit for a network augmentation that just relieves forecast congestion.	Reg test provides best benchmark for assessing network investment efficiency.
Allocation of cost	*Reg test passed:* Investment deemed efficient – no cost to new generator as is currently the case.	Consistent with existing arrangements – customers pay for reliability standards.
	Reg test failed: Net cost to be allocated to generator	Generators exposed to cost of investment inefficiency
Augmenting the network	Once the new generation is committed and the connection charges paid, the TNSP would be obliged to proceed with the augmentation (coordinated with connection applicant).	Removes congestion with cost appropriately allocated to customers/generators and provides certainty for investors and incumbent generation.

This approach is similar to VENCorp's arrangements for a connection applicant to bring forward a network augmentation to relieve congestion. The fundamental difference with the proposed regime is the obligations on both the connection applicant and the TNSP to proceed with the augmentation. Economies of scales may dictate an augmentation larger than necessary, but it is envisaged that the new generator would only be exposed to the net cost of the minimum augmentation.