



RESPONSE TO

CRA's Paper on "NEM-Transmission Region Boundary Structure"

November 2004

Following please find Powerlink's response to Ministerial Council on Energy (MCE) request for comments on Region Boundary Changes within the National Electricity Market (NEM). These comments respond directly to the recommendations raised in the CRA information paper¹.

CRA'S Recommendation 1:

1. *On the basis that no change to the current economic objective of the five minute spot market dispatch process is made, NEMMCO should apply the Direct Physical Representation (DPR, or "fully optimised") form of constraints (Option 4/5) to all network constraints. The Code should be amended to confirm this.*

Powerlink Comments:

The report from NEMMCO² states that the dispatch results afforded by Option 4 and Option 5 are equivalent. While NEMMCO's report does state that option 4 presents some Counter Price Flow (CPF) dispatch they are prepared to deal with it either by utilising Option 1 or arranging for a negative settlements residue system handled by the market. Powerlink supports the application of the "fully Optimised" form of constraints representation referred to as Option 4.

CRA'S Recommendation 2:

2. *Following resolution of the form of constraint equation NEMMCO should review if it believes a full network model is necessary in order to meet its obligations for system security.*

Powerlink Comments:

The report from NEMMCO² states that Option 4 meets all security obligations and no extra benefits were derived from Option 5 a full network model. While Powerlink does not have a strong position on this matter, we do not see that it is necessarily linked to region boundary reviews, and therefore think it should be discussed separately.

CRA'S Recommendation 3:

3. *Concerns about inappropriate bidding behaviour should be referred to the relevant authorities. If it is deemed necessary:*

¹ NEM – Transmission region Boundary Structure, Prepared by: Charles River Associates, Sept 2004

² "Formulation of intra-regional constraints" ver.2 Jan 2002, Prepared by: NEMMCO.

- 3.1. *NEMMCO should, after due account is taken of the impact on efficiency in the short and long term, when the existing derogation to the Code expires in December 2004, be instructed to continue to impose a simple constraint on network transfers as a function of settlement residues in the short term in preference to altering the form of network constraint; and*
- 3.2. *If and when new network elements that will create major network loops emerge are planned a mechanism external to the operation of the dispatch process should be investigated – intra-regional pricing and contracting mechanisms provide a ready mechanism for this.*

Powerlink Comments:

Powerlink supports a continuation of the simple constraint on network transfers (current derogation) with a more robust and transparent process. Rather than a change to the CSP/CSC model proposed by this report.

CRA'S Recommendation 4:

4. *Within the regulatory framework for transmission established for the NEM, on balance, an evolutionary region structure, reviewed at relatively lengthy intervals in parallel with a flexible congestion contracting / pricing regime is recommended.*

Powerlink Comments:

Powerlink agrees that an evolutionary approach to boundaries is necessary and that a stable boundary approach would be best. Powerlink does not agree however, that an evolutionary approach to region structure change and the CSP/CSC pricing regime go hand in hand, that is that you cannot have one without the other.

CRA'S Recommendation 5:

5. *At each review a transmission connection point should become part of region where it can be demonstrated that compared to the next best alternative there is expected to be:*
 - *An increase in economic efficiency of dispatch (including as a result of the treatment of inter-regional loss factors) within the NEM determined in accordance with an endorsed methodology, less demonstrable costs, exceeding \$1 Million pa; or*
 - *A change in locational price indicators sustained over the review cycle in excess of levels to be published annually that would provide indicative investments in generation plant an increase in annual review of 25% of reasonable new entrant cost for each*

Provided that:

- *No region shall have a maximum demand of less than 200MW; and*
- *A separate region shall not be created where in the reasonable opinion of the relevant authority there is little prospect of market based investment within the review period.*

Powerlink Comments:

The clear message coming from the CRA paper is that the regional boundary change mechanism should be based on the following objectives:

- Stability - Boundary change should occur infrequently
- Materiality - Boundary change should occur only where constraints are persistent and material
- Efficiency - Boundary change should only occur where, after meeting the above objectives the benefits of change outweigh costs.

The “stability criteria” is discussed later as part of the Recommendation 6 discussion.

Powerlink is less than convinced that Recommendation 5 addresses the above materiality objective satisfactorily.

Firstly, the “change option” based on \$1 Million cost saving resulting from a boundary change is of concern. Powerlink notes that CRA have difficulty defining the quantum of “Costs” associated with boundary change.

However, market players consistently flag that costs ensuing from boundary change is significant. Powerlink’s concern is that a reasonable portion of the costs may be overlooked in a boundary review, either because they are not easily identified or because some aspects may be dismissed as wealth transfers.

In view of the envisaged difficulty identifying market costs associated with boundary changes, Powerlink urges that the materiality threshold be increased to \$5 - \$10 M pa. This will help ensure boundary change is implemented only on a well justified basis.

Interestingly, such a benefit (\$5 - \$10 Million pa) is likely to be in the same order of magnitude as a likely intra-regional network augmentation cost. Hence, adaptation of this more realistic materiality threshold is also likely to reasonably compete with a network alternative.

Such an approach would ensure network options, which would obviate the need for boundary change would be given every opportunity to proceed.

The second concern Powerlink has relates to CRA’s elective criteria, viz either a demonstratable cost benefit or a change to locational price.

In order to deliver on meeting the objectives of both materiality and efficiency, Powerlink suggests the criteria be changed to an “and” test, rather than an “or” test.

A further concern held by Powerlink is that the “persisting” aspect of the materiality objective has not been adequately addressed.

In meeting this Powerlink suggests that the 50 hour pa rule (as per the current NEC) remain included in the test. Current concerns about the 50 hour rule is that in isolation, it does not necessarily address all boundary change objectives. However, Powerlink holds the view that in conjunction with other criteria, the 50 hour criteria can strengthen the test to ensure that change will only occur when stable, material and efficient objectives have been attained.

In summary, Powerlink suggests Recommendation 5 be modified as follows:

Suggested Change to Recommendation 5;

At each review a transmission connection point should become part of region where it can be demonstrated that compared to the next best alternative there is expected to be:

- *An increase in economic efficiency of dispatch (including as a result of the treatment of inter-regional loss factors) within the NEM determined in accordance with an endorsed methodology, less demonstrable costs, exceeding \$5 Million pa; and*
- *A change in locational price indicators sustained over the review cycle in excess of levels to be published annually that would provide indicative investments in generation plant an increase in annual review of 25% of reasonable new entrant cost for each; and*
- *The current region is expected to constrain for more than 50 hours each year in the review period taking account of forecast loadings, generator entry and reliability network upgrades over the period.*

Provided that:

- *No region shall have a maximum demand of less than 200MW; and*
- *A separate region shall not be created where in the reasonable opinion of the relevant authority there is little prospect of market based investment within the review period.*

CRA'S Recommendation 6:

6. *NEM boundaries should be established for a 5 year period commencing no earlier than 3 years after the date of the final determination.*

Powerlink's Comments:

The clear message coming from the CRA paper is that the regional boundary change mechanism should be based on the following objectives;

- Stability - Boundary change should occur infrequently
- Materialability - Boundary change should occur only where constraints are persistent and material
- Efficiency - Boundary change should only occur where, after meeting the above objectives the benefits of change outweigh costs.

Powerlink supports CRA's Recommendation 6 because it represents a significant step forward from the current NEC annual review process in terms of providing a stable framework for regional boundary change.

CRA'S Recommendation 7:**7. Improved information available for potential investors concerning:**

- 7.1. The likely evolution of congestion as part of information available to intending participants;*
- 7.2. Broad indications of possible network augmentations that would pass the regulatory test or that will be required to meet reliability or security standards; and*
- 7.3. Routine reporting of shadow prices at relevant nodes to inform the market of emerging constraints.*

Powerlink's Comments:

It is Powerlink's view that information relating to Recommendations 7.1 and 7.2 is already being adequately addressed as part of the MCE's ANTS implementation. Consequently, no further action is required in this regard.

Powerlink believes that shadow price watching should be undertaken as part of the boundary change criteria at the time of assessing a boundary change.

CRA'S Recommendation 8:**8. To ensure consistency between the application of the regulatory test and NEM boundary reviews, these processes should be augmented as follows:**

- 8.1. In assessing the benefits of network investment, the regulatory test should consider whether boundary change or specific contracting / pricing of congestion would bring benefits either to dispatch or to alleviation of congestion; and similarly*
- 8.2. At each review of region boundaries the potential for new network not already declared, as part of the planning process should be explored as part of consultation on a proposed boundary change.*

Powerlink's Comments:

The current regulatory test allows for a range of options to be explored and evaluated as part of the test. Powerlink agrees that an assessment of boundary change could be a useful item to include in the test but would not agree with it being a mandatory part of the test. Powerlink do not support the CSP/CSC regime proposed and therefore cannot agree with it being part of the regulatory test regime at this point in time.

Powerlink agrees with the principle that network options should be explored as part of the consultation on boundary changes. However Powerlink do not think that a non-declared option would exist at that stage because forward looking augmentation options for major National transmission flow paths are developed as part of the ANTS process. Therefore inclusion of CRA recommendation 8.2 is unnecessary and is therefore not recommended by Powerlink.

Recommendation 9

9. *Subject to a development of details for implementation within the market, inter-regional pricing/contracting should be adopted as part of the package for a Stable Boundary approach.*

Powerlink's Comments:

Powerlink do not agree that the CSP/CSC model developed in this report has shown any benefit to a TNSP with respect to correct price signals to manage constraints and therefore do not agree with recommendation 9.

Recommendation 10

10. *The MCE should request market authorities to develop proposals for implementation of intra-regional contracting/pricing mechanisms. The broad design of CSP/CSC regime presented in this report should be used as the basis for this development.*

Powerlink's Comments:

In response to recommendation 10, while Powerlink is not supportive of the CSP/CSC model explored in this report Powerlink feels that it could be indifferent to the regime provided that it does not add any extra costs or risks on to TNSP businesses.

Conclusion

Powerlink agree with the principles of the CRA report with respect to Stability of region boundaries and the benefits that this principle gives to the market and its participants. Furthermore Powerlink agrees with the timeframe proposed in the report for region boundary changes of 5 year periods but do not think that the figures used as triggers for the boundary change reflect the costs incurred by region changes. Powerlink have made some suggestion as a modified recommendation 5 which give more appropriate triggers for boundary change these include a larger market benefit figure of \$5M.

Powerlink are not convinced about the content of the report that the CSP/CSC regime proposed will provide the right signals into the market from a TNSPs point of view to allow network augmentations to proceed to relieve constraints. Powerlink therefore do not consider the CSP/CSC regime is appropriate to implement without more time and study done by the market to assess that it will provide the benefits of relieving constraints in the market.