

## POWERLINK QUEENSLAND

RESPONSE TO: AEMC Issues Paper

Congestion Management Review

13 April 2006

---

Powerlink welcomes the opportunity to contribute to the Australian Energy Market Commission (AEMC) congestion management review and offers the following comments in response to the Issues Paper published as part of their congestion management review.

Rather than responding to all the points raised by the AEMC, the submission is split into the themes of the review that most directly impact Powerlink as a Transmission Network Service Provider (TNSP).

### **The Importance of a Staged Approach and Investment**

As a general principle, Powerlink believes that the AEMC review should proceed in a manner consistent with the stated objective of the Ministerial Council on Energy (MCE), the designated policy setting body. Consequently, Powerlink believes that certain aspects of the review are predicated in the terms of reference provided by the MCE for the review.

In particular, paragraph 3.2 of the terms of reference states that:

*“The AEMC review should take account of, and clearly articulate, the relationship between a constraint management regime; constraint formulation; regional boundary review criteria and review triggers; the ANTS flow paths; the Last Resort Planning Power; the Regulatory Test and TNSP incentive arrangements. The AEMC should develop a constraint management regime that applies as a mechanism for managing material constraint issues, until it is addressed through investment or regional boundary change.”*

The AEMC are clearly directed to develop a congestion management regime that manages constraints until the constraint is addressed through investment, e.g. in network or generation assets, or regional boundary change.

Powerlink believes that the staged approach to alleviating constraints is a stated policy and therefore a necessary assumption for any future congestion management regime.

In summary, the staged approach could be expressed as:

1. manage the constraint on an interim basis
2. relieve the constraint if economic to do so
3. manage the constraint on an enduring basis by a region boundary change

Typically, the second stage may be addressed by market driven investment in new generation assets or investment in new network assets, subject to a regulatory test instigated by either a TNSP or the AEMC using its last resort planning power. The region boundary change would then only be considered after the economic feasibility of all investment options has been explored.

In response to the recent proposed rule change from the MCE relating to reform of regional boundaries, Powerlink proposed to the AEMC that the rule include the necessary pre-conditions for any region boundary change application. We stated that<sup>1</sup>:

*“the codification of such criteria, or pre-conditions, would clarify the interaction between the region boundary change mechanism and the mechanisms designed to promote efficient transmission network investment to develop an economic national grid, such as the regulatory test and the last resort planning power.”*

We proposed that the pre-conditions should be consistent with the requirements that the MCE had envisaged for a region boundary change, specifically that:

- the constraint has been identified in the ANTS;
- it is shown to be material and enduring; and
- there are no regulatory test assessments outstanding.

In this way, the rules will support the necessary investment in generation and network that deliver a robust wholesale market via a truly national transmission grid. We would note that as the ANTS involves a 10 year forward look at the major national flow paths, and identifies emerging constraints anyway, it is a logical starting place, and does not involve additional administrative costs.

### **Network Support Agreements and Network Control Ancillary Services**

A Network Support Agreement (NSA) is a contractual arrangement facilitating a non-network alternative to a network augmentation required to meet mandated reliability obligations. A NSA may be entered into with any party who is capable, and prepared, to provide network support in lieu of a physical augmentation to the network. This may be in the form of additional generation or a change in the pattern of operation of existing generation, demand side management or services from a Market Network Service Provider. Importantly, the party providing the non-network alternative should be exposed to the same penalties for non-performance as the TNSP is exposed to for a network augmentation.

It is a requirement of the regulatory test that both network and non-network alternatives are considered without bias. Consequently, any proposed non-network alternative, which would require a NSA, undergoes the regulatory test along with any feasible network augmentations, thereby ensuring that an agreement is only entered into where it is shown to be both a viable technical solution and more cost effective.

In Queensland, this process has satisfactorily delivered the necessary augmentations and network support agreements to meet mandated reliability standards, and in the case of North Queensland to manage congestion on the major flow path between Central and North Queensland. This has been achieved in an environment of sustained high load growth at the least cost to customers. Consequently, Powerlink stresses that any proposals for change to the current regime must be carefully considered.

---

<sup>1</sup> Powerlink Queensland Response to AEMC Proposed Rule Changes, February 2006



Typically, a NSA is used for managing transfer limits in a critical circuit by controlling the power flows on the network by instructing a generator to operate when it would not normally be economic to do so due to the prevailing market price. However, there is also the potential for such agreements to be used to procure reactive support, particularly where such a service could delay or negate the need for a network augmentation.

In the recent Final Report issued by Powerlink in relation to the proposed augmentation to South Eastern Queensland, it was noted that the power transfer capability into the region was dependent upon the reactive support provided by local generators. Such reactive support is currently contracted by NEMMCO as Network Control Ancillary Services (NCAS) until mid-2007. It was assumed in the analysis, and confirmed through the consultation process, that the existing levels of reactive support could continue to be provided by local generators beyond the expiry of the current non-market ancillary services arrangements with NEMMCO. However, the commercial arrangements required to contract this necessary reactive support, either by NSA or NCAS contract, is yet to be finalised.

In summary, Powerlink's experience to date has been that NSAs can and have been used as alternatives to network augmentation under both the reliability and the market benefit limbs of the Regulatory Test. Conducting the economic analysis within the framework provided by the Regulatory Test is essential to avoid distorting the investment process within the NEM.

It is important to note that NEMMCO currently has an obligation to use the Ancillary Services contracts to "improve the value of spot market trading". This process is based on the current offer prices of generators, at the time of dispatch, and may not reflect the true input costs to the electricity supply system. As such, the economic analysis for improving spot market trading is fundamentally different to that used for the Regulatory Test. For this reason it would be inappropriate for TNSPs to be required to use NSAs as a tool for improving the value of spot market trading, as it is inconsistent with the network investment framework.

It should also be noted that NEMMCO has an outstanding obligation to review the provision of NCAS as stipulated in clause 3.1.4(a1)(4) of the National Electricity Rules. It will be necessary that any Rules changes proposed from either of the AEMC review or the NEMMCO review be co-ordinated.

### **Constraint Formulation**

Paragraph 1.1 of the terms of reference for the AEMC congestion management review state that:

*"The MCE also endorses the consistent formulation of constraints using a form of constraint equation that allows the National Electricity Market Management Company (NEMMCO) to control all variables (i.e. fully co-optimised direct physical representation)."*

As stated above, Powerlink believes that the AEMC review should proceed in a manner consistent with the stated objective of the MCE, the designated policy setting body. Consequently, Powerlink considers that any review of the constraint formulation approach be guided by the need to retain a form of constraint equation consistent with the policy intent of the MCE, i.e. a fully co-optimised direct physical representation. The 'option 4' constraint formulation meets this requirement.



### **The CSP/CSC Mechanism**

Powerlink believes that detailed design and operation of any congestion management tool, whether based upon constraint support pricing and constraint support contracts or an alternative principle, is an issue for all affected market participants to consider.

We would note that many constraint equations have characteristics which can affect the design of a CSP/CSC arrangement. In the NEM interconnected system, the transfer capabilities are often limited by stability factors, which, in turn, can be influenced by, inter alia, the output of certain generators. Thus, constraint equations typically contain terms relating to the output of certain generators, and for some grid sections the output of certain generators can be quite influential on the transfer capability. It would therefore appear challenging for the design of a robust constraint payments regime if the likely major beneficiary of such payments was a generator whose output had a significant influence on the transfer capability of the particular grid section / flow path.

