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**MINISTERIAL COUNCIL ON ENERGY  
STANDING COMMITTEE OF OFFICIALS**

**NATIONAL ELECTRICITY MARKET:  
REGIONAL STRUCTURE REVIEW**

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**CONSULTATION PAPER**

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**OCTOBER 2004**

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# NATIONAL ELECTRICITY MARKET: REGIONAL STRUCTURE REVIEW

## FOREWORD

### **Introduction**

The future framework for transmission is a significant and pressing issue for the National Electricity Market (NEM), requiring an appropriate balance between system security, reliability, efficient investment and dispatch, while allowing retail price outcomes and financial risks to be effectively managed.

On 11 December 2003, the Ministerial Council on Energy (MCE) in its report to the Council of Australian Governments recognised the need for reform in transmission policy and agreed to a package of recommendations, including a review of the criteria and process for setting regional boundaries while agreeing that jurisdictional boundaries should be maintained for retail customer pricing. In its report, the MCE stated:

*“...a new and more transparent process is required to enable assessment of regional boundary changes for the wholesale market to facilitate investment and more efficient operation of the NEM...”*

To progress this issue, the MCE agreed to commission a consultant to carry out an independent economic study to develop the criteria and process for boundary changes. The boundary change process would include sufficient lead time to address commercial and economic considerations, and maintain jurisdictional boundaries for retail customer pricing.

In early 2004, the Standing Committee of Officials (SCO) engaged Charles River Associates (CRA) in conjunction with Network Economics Consulting Group and Copower to address the requirements detailed in the NEM Regional Structure Terms of Reference<sup>1</sup>. CRA have provided a Regional Structure Report (Report) presenting the results of their review and recommendations aimed at addressing issues related to the management of network congestion and the region boundary change process.

### **Regional Structure Report**

The SCO is seeking comment from participants and interested parties on the Report and its recommendations, prior to the development of a final policy position on the issues raised.

While comment on all aspects of the Report is sought, the following identifies a number of areas where the SCO is requesting specific input from interested parties.

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<sup>1</sup> The National Electricity Market – Regional Structure Terms of Reference can be found at the MCE website [www.mce.gov.au](http://www.mce.gov.au)

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### ***Constraint Formulation and System Security***

The SCO recognises the significant work that has been undertaken since the commencement of the NEM in developing a form of constraint that promotes both efficient dispatch and pricing while enabling the management of system security.

SCO broadly supports the Report's recommendation<sup>2</sup> that all constraints should be developed in a consistent form. This is viewed as a logical step to providing NEMMCO with certainty in constraint development and allowing the market to better manage the risk of network congestion.

CRA have recommended consistent use of fully optimised constraint equations (known as Option 4 in previous consultations), whereby the NEM Dispatch Engine fully optimises all relevant dispatch variables. Some market participants consider that fully optimised constraint equations provide optimal dispatch and pricing for a given set of bids, but under some circumstances when these constraints are binding, they may produce perverse bidding incentives.

Comment is sought on the CRA constraint formulation recommendation, in conjunction with the proposed congestion management regime for dealing with non-competitive bidding<sup>3</sup> and/or the accumulation of negative settlement residues.

### ***Region Boundary Change Process***

The SCO is broadly supportive of the recommendation<sup>4</sup> for a stable regional structure. Compared to the dynamic approach envisaged in the current Code provisions, a stable regional structure would provide market participants with a higher level of certainty and would allow participants and intending participants to better manage commercial risk.

No material efficiency benefits would be gained from a nodal (more granulated) pricing approach at this stage of market development.

CRA have recommended<sup>5</sup> boundary change criteria based on the economic net benefit of an adjustment to regional boundaries. This is a fundamental shift from the current approach which is based on backward looking technical characteristics of the network — the number of hours a constraint binds — without considering the market impact of that constraint.

Comment is sought on the proposed regional boundary change criteria and the likelihood that the criteria will provide boundary changes when and where needed. Comment is also sought on thresholds proposed to trigger a boundary change and the implications of establishing multiple wholesale pricing regions within fixed jurisdictional retail pricing regions.

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<sup>2</sup> Recommendation 1, Section 6.4 of the CRA Region Boundary Structure Report, p.22.

<sup>3</sup> Recommendation 3, Section 6.4 of the CRA Region Boundary Structure Report, p.22

<sup>4</sup> Recommendation 4, Section 8.3 of the CRA Region Boundary Structure Report, p.36.

<sup>5</sup> Recommendation 5, Section 10.1 of the CRA Region Boundary Structure Report, p.49.

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## *Congestion Management*

CRA proposes that locational pricing signals can be delivered through a congestion management regime thereby avoiding the increased level of complexity and risk that would accompany a more granulated approach to pricing.

CRA have recommended<sup>6</sup> that the MCE request market authorities to develop a mechanism to price intra-regional congestion, referred to by CRA as Constraint Support Pricing (CSP) and Constraint Support Contracts (CSC). The purpose of such a mechanism is to create stronger incentives for market participants to participate in a manner reflecting economic drivers and thereby manage the impact of network constraints.

CRA have proposed the introduction of a CSP/CSC regime as a mechanism to manage network congestion from when it first becomes material to when the level or materiality of the congestion is reduced through either:

- the creation of a new regional boundary;
- investment in transmission or generation; or
- demand side response.

The CSP/CSC regime could take many forms, each impacting on market participants in different ways and to varying degrees. CRA recommend that the further development of the regime should involve a high level of industry input.

The SCO recognises that the concept requires further development following consultation on the merits of implementing such a mechanism. The SCO is seeking comment regarding the merits of a formal study into the design, operation, and impact of a CSP/CSC regime, including the circumstances in which a CSP/CSC regime may provide market-wide benefits.

## *Other recommendations*

CRA make a range of other recommendations throughout chapters 6, 8 and 10. Comments are also sought on these.

## **Submissions and Public Forums**

Submissions should be lodged by **Friday, 12 November 2004**. Submissions should be made in writing and in electronic form, forwarded to:

Manager – Energy Market Reform Team  
National Energy Market Branch  
Department of Industry, Tourism and Resources  
GPO Box 9839  
CANBERRA ACT 2601  
MCEMarketReform@industry.gov.au

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<sup>6</sup> Recommendations 9 & 10 of the CRA Region Boundary Structure Report, p.52.

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The SCO has also arranged for public forums on the Report to occur during the consultation period. Further detail on the structure of these forums and the process for nomination to participate will be provided via an Energy Market Reform Bulletin in the coming weeks. The dates, times and venues for the forums are as follows:

Brisbane	Tuesday, 19th October 2004	10:00am – 1:00pm	Surveyor's Room Conrad Treasury Brisbane 130 William St
Melbourne	Wednesday, 20th October 2004	10:00am – 1:00pm	Hilton Melbourne Airport Melbourne

The SCO will consider all Submissions received as part of the development of a suite of recommendations for consideration by MCE in early 2005.

**MCE Standing Committee of Officials  
October 2004**