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Dear John

RULE CHANGE PROPOSAL TO ESTABLISH NEW SNOWY REGIONS

On 21 February 2007, Macquarie Generation wrote to the Australian Energy Market Commission requesting that the Commission consider a modification to an existing Rule change proposal supporting the establishment of new NEM regions in Northern Victoria and South-West New South Wales. The original Macquarie Generation Rule change proposal was submitted to the AEMC on 3 February 2006.

Macquarie Generation considers that the proposal known as the Split Region Option examined in the Commission's draft determination of the Snowy Hydro proposal to abolish the Snowy Region (19 January 2007) largely captures the benefits of the Macquarie Generation Rule change proposal. Macquarie Generation's letter to the AEMC of 21 February 2007 outlined some of the reasons for supporting a simpler regional boundary structure involving separate regions for Tumut and Murray generation.

In order to remove any uncertainty about the standing of the Macquarie Generation Rule change proposal, Macquarie Generation requests that the Commission discontinue the process for considering the Northern Victorian/South-West NSW proposal submitted on 3 February 2006.

Macquarie Generation has prepared a new Rule change proposal formally supporting the Split Region Option (attached). Macquarie Generation requests that the Commission commence a new process to consider this proposal.

The basic problem in the Snowy Region is caused by congestion in the transmission system that can arise between Tumut and Murray generation. During periods of high demand in Victoria and/or New South Wales, intra-regional congestion in and around the Snowy Region can create incentives for Snowy Hydro to bid its generation into the market below cost, resulting in inefficient dispatch and reduced levels of inter-regional trade. This can also lead to counter-price flows between regions and calls for short-term measures to manage negative settlement residues.

Snowy Hydro owns substantial generation assets in a key part of the NEM and its operations have a major impact on the level of transmission flows between the southern and northern regions. The Macquarie Generation proposal and the Snowy Hydro proposal are both proposed as options to improve the dispatch signals faced by Tumut and Murray generation during periods of binding transmission constraints. Both proposals recognise that transmission congestion is likely to be an enduring and persistent problem in the Snowy area and that the current regional boundary structure requires a long term solution not an ongoing series of temporary and partial fixes.

The AEMC's draft determination of the Snowy Hydro proposal included detailed analysis and modelling of the Split Region Option. Macquarie Generation's Rule change references key parts of the AEMC's draft determination, noting the advantages of the Split Region Option and those areas where further analysis may be needed to determine which approach delivers the greatest net benefit.

The AEMC's draft determination reported that the Split Region Option offered marginally greater dispatch efficiency benefits and potentially larger reductions in wholesale prices relative to the business-as-usual base case and the Snowy Hydro proposal. The inter-regional trading risk modelling showed significantly lower risks under the Split Region Option. The AEMC qualified these results by observing that other costs and risks must also be examined when considering an increase in the number of regions. The attached Rule change proposal discusses the likely impact of the proposed regional structure in facilitating inter-regional trade and hedging.

Macquarie Generation has provided a proposed draft rule detailing the allocation of transmission connection points related to the proposed regional boundary structure (attached). Macquarie Generation notes that further development of transitional and implementation issues would be necessary.

Yours sincerely

RUSSELL SKELTON MANAGER, MARKETING & TRADING

5 March 2007

Rule change request to establish a new Murray Region and a new Tumut Region – the Split Region Option

Background

Intra-regional transmission congestion in the Snowy Region is the cause of the most significant dispatch inefficiencies in the NEM. This situation has existed for many years and there are no current plans for transmission investment to relieve the problem.

The MCE has lodged a Rule change proposal with the AEMC relating to the process and criteria for determining NEM regional boundaries. The Rule change request requires the AEMC to:

- develop regional boundary change criteria that are forward looking and economically based; and
- establish processes and triggers for initiating a boundary change review.

The MCE's request observes that the purpose of the Rules relating to the regional structure of the NEM is to "allow market prices to reflect the effect of significant 'pinch points' that lead to congestion in the transmission network. Congestion arises when parts of the network become fully loaded. Regional boundaries facilitate the price rationing of transmission resources where generation and demand patterns require more capacity than is available from the transmission system."

When conducting a boundary review, the MCE considers it important that the AEMC "explore all boundary change options and variations to determine the configuration which best delivers the market objective, including the net economic benefits required under the regional boundary change criteria".

Macquarie Generation is hopeful that the AEMC will establish a stable and workable set of Rules for initiating and reviewing regional boundary changes in the NEM. In the interim, however, it will take some time for the AEMC to complete the various stages of the rule-making process and to formalise the new boundary change criteria and threshold tests.

Under the MCE's proposed Rule change, an AEMC review of regional boundaries in the NEM could take up to 12 months from the time a participant lodges an application for a boundary change to the finalisation of the AEMC determination. The AEMC must then provide market participants a three-year notice period before the boundary change could take effect.

Snowy Hydro has recognised that the current regional boundary structure in the Snowy Region creates inefficient dispatch signals justifying a separate process for resolving this issue ahead of the finalisation of the AEMC's work on the broader MCE regional boundary Rule change.

The AEMC's draft determination of the Snowy Hydro proposal (p. 9) made the following observations about the impact of congestion in the Snowy Region:

- There is a constraint within the existing Snowy Region that appears to be material and growing in its frequency and duration.
- Regional boundaries were intended to reflect major 'pinch points' of transmission congestion, in order to promote efficiency in dispatch, trading and investment.
- The constraints between Murray and Tumut power stations, which are both owned and operated by Snowy Hydro, presently provide it with incentives to behave in certain ways that can be inconsistent with the NEM objective.
- This raises the question of whether and how regional boundaries should be structured in and around the Snowy Region in order to minimise distortions to generator bidding and dispatch and participant contracting behaviour.

The AEMC's draft determination of the Snowy Hydro proposal concluded that problems created by the current regional boundary configuration are material and that a change to the Snowy Region boundary structure is warranted at this time.

The following Rule change proposal outlines an alternative regional boundary structure for the Snowy Region – the Split Region Option. Macquarie Generation believes that this proposal would deliver greater efficiency benefits by appropriately pricing likely areas of congestion both within and north and south of the Snowy Region. Macquarie Generation recognises that this may require some additional modelling work and consideration of inter-regional trading risk issues. However, a large proportion of the analysis and dispatch modelling reported in the AEMC's draft determination could be used in the assessment of the proposed Split Region model.

Statement of issues concerning the existing Rules

The Snowy Region provides a crucial transmission link in the middle of the NEM and Snowy Hydro is the major provider of peaking generation during periods of high Victorian and NSW demand.

The Murray Power Station is the connection point for the Victorian to Snowy interconnector and Upper and Lower Tumut are the connection points for the Snowy to NSW interconnector.

Unlike all other intra-regional constraints in the NEM, flow across this network regularly occurs in both directions on a daily basis. Approximately 70% of interconnector flows, or 90% of Snowy Hydro generation, must pass through this intra-regional constraint. Snowy Hydro's generation capacity either side of the intra-regional constraint exceeds the rating of the intra-regional constraint in both directions.

The 1,350 MW nominal limit on the Murray to Upper and Lower Tumut transmission elements is a permanent feature of the NEM. There are no plans and little prospect of upgrading the transmission infrastructure in the Kosciusko National Park.

The Murray-Tumut constraint has bound for the following hours over recent calendar years:

- 2002 100 hours
- 2003 111 hours
- 2004 35 hours
- 2005 103 hours (27 hours January to September; 76 hours October to December – the trial of the CSC/CSP regime commenced on 1 October 2005)
- 2006 85 hours
- 2007 50 hours (to 28 February 2007)

The presence of intra-regional congestion in any region can give rise to perverse dispatch and pricing outcomes. In the case of the Snowy Region, the point of intraregional congestion exists between the two generation centres and when these transmission constraints are binding the potential exists for a mismatch between the Snowy Region price at the Murray regional reference node and the incentives for dispatch at the Tumut nodes.

In the absence of interim arrangements, the business-as-usual base case can create circumstances where Snowy Hydro faces incentives that may result inefficient dispatch and price outcomes:

- In the case of southerly transmission flows and binding intra-regional constraints between the Tumut and Murray nodes, Tumut generation receives the higher Snowy Region price. As a consequence, Snowy Hydro has an incentive to bid Tumut generation below cost to maximise generation as it is guaranteed the higher Snowy Region price. This misalignment of pricing outcomes and actual costs can lead to pressures for counter-price flows from Snowy to NSW. NEMMCO as system operator must then use alternative measures to minimise negative settlement residues.
- Under the northerly flow scenario and binding intra-regional congestion, Tumut generation receives the Snowy Region price at the Murray node. In most circumstances, it would make sense for Tumut generation to compete with NSW and Queensland generation and be dispatched on the basis of its opportunity cost of production against the higher NSW price. This could lead to higher Tumut generation and benefits for NSW customers.

Figure 1 shows the points of significant transmission congestion in and around the Snowy Region. In addition to the intra-regional limit on flows within the Snowy Region, the diagram shows the limits on transmission flows north and south of the existing Snowy Region. Depending on the level of Snowy Hydro generation, these limits can constrain the volume of transmission flows between Victoria and NSW, particularly during periods of high demand in either region.



Figure 1: Points of significant transmission congestion

In advice provided to the AEMC on possible augmentations to the transmission network between Melbourne and Sydney, TranGrid (26/10/06) noted the following:

- With regard to remedial works on the transmission lines linking Murray, Upper Tumut and Lower Tumut, TransGrid has now completed a detailed aerial laser survey (ALS) of those lines and is finalising the analysis of the data.
- Initial assessments of the ALS results confirm that this remedial work is unlikely to result in any material increase in the capability of these lines. Any substantial increase of this capability would require a major reconstruction of these lines that are of course almost wholly within the Kosciusko National Park. That would be subject to passing the Regulatory Test and extensive Environmental Approval processes.
- Various parts of the overall transmission system between NSW and Victoria are subjected to binding constraints mainly dependent upon variations with generation dispatch outcomes. Uprating the lines linking Murray, Lower Tumut and Upper Tumut, may not substantially change the occurrence of binding constraints in other parts of the NSW to Victoria link.

The NEMMCO Annual National Transmission Statement (ANTS) 2006 examined potential development opportunities on major national transmission flow paths. The ANTS included verification studies on a range of possible augmentations – Victoria to Snowy, Snowy to NSW, Victoria to Snowy combined with Snowy to NSW and Snowy to Victoria. The Victoria to Snowy and Snowy to Victoria augmentations were shown to have marginal to insufficient benefits and would not pass the Regulatory Test at this stage. All other augmentations had negative net present values. The AEMC's draft determination on the Snowy Hydro proposal (p. 26) concluded that building out the congestion across the Murray-Tumut cut-set does not appear to be a viable alternative to a boundary change in the next three to five years, based on current assessments under the reliability limb of the Regulatory Test.

"If congestion in this cut-set (and other cut-sets between Melbourne and Sydney) continues to contribute to dispatch inefficiencies and reduce the effectiveness of regional hedging instruments, a regional boundary change may be the best means of promoting the NEM objective in the long term, should a congestion relieving upgrade not prove economic".

How the proposed Rule change would address the issue

The Split Region Option is based on a proposal that Eraring Energy made informally to the AEMC in response to the proposed Rule changes. The AEMC modified the proposal by placing the Murray node at Dederang to reduce the risk of counter-price flows that may arise as result of congestion and loop flows in this part of the network.

This Rule change proposal recommends the adoption of the following regional boundary structure in the Snowy area:

- a regional boundary between Tumut generation and Murray generation;
- retention of the existing Snowy Region boundary between Tumut generation and the existing NSW Region and the retention of the existing Snowy Region boundary between Murray generation and the existing Victorian Region;
- a Murray Region regional reference node at Dederang and a Tumut Region regional reference node at Lower Tumut;
- creation of three interconnectors between Victoria and Murray, between Murray and Tumut and between Tumut and NSW.

The Split Region Option accurately reflects the likely and enduring points of transmission congestion between the major load centres of Melbourne and Sydney. More specifically, the Split Region Option would deliver the following key benefits:

- Places a new interconnector between Murray and Tumut thereby removing the incentives for inefficient dispatch that can arise during periods of intraregional congestion within the existing Snowy Region and the operation of Option 4 constraints (the so-called co-optimised constraint equations);
- Retains existing interconnectors south of Murray and the Melbourne load and north of Tumut and the Sydney load. In the absence of these interconnectors, Snowy Hydro would have an incentive to bid below cost during periods of high demand in either region that coincided with periods of binding intraregional congestion;
- By improving dispatch efficiency signals, the Split Region Option minimises the scope for counter-price flows between regions, including during those periods where there are network outages north and south of the Tumut and Murray Regions;

- A closer alignment of costs, bidding incentives and settlement prices would improve the effectiveness of inter-regional settlement residues (IRSRs) as a risk management tool. More effective IRSRs would encourage greater inter-regional competition in the hedging market;
- The proposed regional structure would have little impact on existing contract positions and would not cause any significant market disruption if implemented in the short term;
- The Split Region Option would enable NEMMCO to more accurately calculate loss factors that reflect tidal flows in this part of the NEM.

How the proposed Rule change would contribute to the NEM objective

The AEMC's draft determination on the Snowy Hydro proposal included detailed modelling of the likely impacts of the Split Region Option on production costs, wholesale prices and inter-regional trading risks.

The modelling exercise included information on transmission loss factors, constraint equations, demand levels, new generation investment, generator costs, amongst many other variables, much of which is not available in the public domain.

The main strength of the Frontier modelling work is that it applies a game-theoretic analysis with the capability to assess strategic bidding behaviour in the wholesale market. Macquarie Generation considers that a forward looking analysis that examines the influence of altered incentives is the only robust way of testing the impact of different boundary structures.

References in the following sections to the Frontier modelling work were reported in Appendix A of the AEMC's draft determination on the Snowy Hydro proposal.

Improved dispatch efficiency

The Frontier modelling showed production cost savings under the Split Region Option relative to the business-as-usual case. The reason given for this was the increased level of competition in the NEM due to increased interconnector flows caused in part by the altered incentives created for Snowy Hydro and other market participants under the new structure.

Under the Split Region Option, the annual production cost saving over the three years to 2010 varied from \$1.8 million to \$3.5 million under the high contracting scenario and \$2.2 million to \$3.1 million under the low contracting scenario.

Modelling of the Snowy Hydro proposal showed similar, although marginally lower, annual savings – \$1.9 million to \$2.2 million under the high contracting scenario and \$1.8 million to \$3.3 million under the low contracting scenario.

The majority of the production cost saving occurs under demand point 29 (relatively high demand in Victoria and South Australia) for both the Split Region Option and the Snowy Hydro proposal. Under the base case, Snowy Hydro has an incentive to initially bid Tumut generation in a way that would induce southward clamping on the

Snowy-NSW interconnector. Snowy Hydro then has an incentive to withdraw capacity to ensure that the Snowy to Victoria interconnector does not bind. In this scenario Snowy Hydro benefits from the higher Victorian price on all of its output.

Modelling of the Split Region Option (p. 115) showed that there are some equilibria where Snowy Hydro does not benefit from a withdrawal strategy. "In these cases, a large proportion of Tumut generation is offered to the market. This may even lead to a reversal of southward flows on the NSW to Tumut interconnector. This promotes lower cost and more competitive outcomes in NSW."

Impact on wholesale prices

The Split Region Option delivers significantly lower wholesale prices in New South Wales relative to the Snowy Hydro proposal and the business-as-usual base case. Smaller price reductions were evident in Victoria compared to the base case modelling.

Relative to the dispatch efficiency benefits, the price impacts are substantial. For example, in New South Wales under the contracted low and high scenarios prices fall by an average of around \$6-\$7 MWh relative to the base case and by about \$4-\$5 MWh relative to the Snowy Hydro proposal over the three-year period to 2010.

The modelling analysis (p. 122) concluded that:

"In NSW, the Split Region Option results in lower prices than the Snowy Hydro proposal. A significant factor in this is that the South Morang constraint is alleviated almost entirely by the Split Region Option resulting in price reductions beyond those realised under the Snowy Hydro proposal. In Victoria, lower magnitude price reductions are observed. This is driven by the greater amounts of peaking capacity in Victoria – Basslink, Laverton – which serve to cap high price events and mitigate the price effects of a boundary change".

Inter-regional trading and risk management

Macquarie Generation recognises that the key difference between the Split Region Option and the Snowy Hydro proposal relates to the impact of each option on the risks of inter-regional trade. The Split Region Option introduces a new interconnector across the Murray-Tumut cut set. The Snowy Hydro proposal removes two existing interconnectors between Victoria and Snowy and Snowy and NSW and introduces a single inteconnector between Murray and Tumut.

The ability for participants to trade inter-regionally using hedging products has important implications for the degree and depth of competition in the financial derivatives market. Inter-regional hedging provides a competitive discipline for market participants in each region. The greater the level of competition, the more likely it is that end-use customer prices will reflect efficient costs.

The question of whether the Split Region Option delivers a net improvement in efficiency must take account of the costs, risks and incentives that participants would

face under a revised regional boundary structure. A judgement on the most appropriate boundary configuration requires an assessment of two competing factors:

- 1. the effectiveness of IRSRs under both the Split Region Option and Snowy Hydro proposal in enabling participants to manage inter-regional positions;
- 2. the impact of additional costs and risks resulting from multiple pricing regions on participants' willingness to enter into inter-regional contracts.

Macquarie Generation considers that the strength of the Split Region Option is that it reduces the incentive for Snowy Hydro to bid in ways that does not reflect its underlying opportunity cost of production relative to both the business-as-usual base case and the Snowy Hydro proposal.

The AEMC's draft determination of the Snowy Hydro proposal (p. 136) included modelling results that reported significantly lower inter-regional risks under the Split Region Option. According to the modelling, the portfolio analysis assumes a generator in a given region has a fixed inter-regional position and determines a minimal risk associated with that same position under the various boundary structures. The lower risk outcome for the Split Region Option, and to a lesser extent the Snowy Hydro proposal, were the result of the "general pro-competitive effects of both change options, which … tended to lead to lower and less volatile wholesale prices and insubstantial incidences of transmission constraints causing counter-price flows". (p. 60)

The AEMC (p. 61-62) qualified the modelling results by noting some of the factors not considered in the modelling approach:

"While the modelling results showed some reduction in risk from the Split Region Option scenario compared to the Snowy Hydro proposal, the Commission recognises that this may not be borne out in reality. In practice, trading across a large number of regional boundaries may be more difficult than trading across a smaller number of boundaries, other things being equal. This could be partly attributable to a larger number of regions leading to increased complexity in pricing risk and reduced liquidity in trading across region, as well as to higher transaction costs and execution risk of multiple sets of IRSR units across multiple interconnectors."

The question of whether the improved effectiveness of IRSRs under the Split Region Option outweighs any additional costs and risks from trading across multiple regions is a matter that the AEMC should test empirically (to the extent that this is possible). The modelling would need to account for the likely incentives faced by participants during periods of peak demand.

Macquarie Generation offers the following observations on the risks of inter-regional trading under the Split Region Option:

• The reason for purchasing IRSRs is to protect the IRSR holder from a significant price separation event between regions. A reduction in the effectiveness of IRSRs increases the number of IRSR units needed to cover the same level of inter-regional exposure. The more effective the IRSR, the

more the market will value each unit and the greater the likely level of interregional trade.

- Under the Split Region Option, participants wanting to trade Victoria to NSW and NSW to Victoria would need to buy three sets of IRSRs Victoria to Tumut, Tumut to Murray and Murray to NSW. The settlement residue auction process currently allows participants to make linked bids for multiple interconnectors. Participants are able to purchase IRSR units simultaneously rather than having to make sequential purchases.
- Under the Split Region Option, participants bidding for IRSR units would need to account for Snowy Hydro's likely interest in IRSRs on individual interconnectors. All other participants would only be interested in purchasing a 'strip' of three IRSRs to support trading between NSW and Victoria. Pricing would be more complex if the new regions contained significant customer load and multiple generation and retail participants.
- Modern portfolio theory states that the addition of risky assets will reduce the risk of a portfolio as long as the covariance of these assets is not perfectly correlated. Under the Split Region Option, the likelihood of the three IRSR products being perfectly positively correlated is low. An examination of the variance-covariance matrix would assist in understanding the possible risk reduction under the Split Region approach.
- The transaction costs of purchasing IRSRs are low. Settlement residue auction fees are based on the cost of operating the auction and are pro-rated across interconnectors in line with the value of each IRSR product. Operating expenses include the cost of producing the SRA information memorandum and NEMMCO's costs of running the auction process. Auction fees are currently about \$100,000 per quarter, with proceeds from recent auctions averaging about \$25 million. Auction fees as a percentage of auction proceeds were less than 0.5% and would not increase substantially with the addition of one interconnector.

Implementation and timing

The Split Region Option would not have a material effect on existing customer contracts in the NEM as its impacts are confined to the existing Snowy Region which does not contain significant load.

The Split Region Option should minimise any concerns that the MCE Ministers may have with a change to the regional boundary structure. Residential and small business customers in the existing Snowy Region would remain eligible for standard form contracts determined by the NSW Independent Pricing and Regulatory Tribunal.

Macquarie Generation notes that the AEMC (14 December 2006) has published a draft determination on the extension of the expiry date for the Tumut constraint support pricing and constraint support contracting trial and the Southern Generators' Rule giving NEMMCO power to manage negative settlement residues by extending the expiry date of the participant derogation in Part 8 of Chapter 8A of the Rules. The

Commission is proposing to extend the derogation from 31 July 2007 to the earlier of such time as there is a boundary change to the Snowy Region or 30 June 2008.

Macquarie Generation considers that 1 July 2008 starting date for the Split Region would provide sufficient notice to the market and allow NEMMCO and participants adequate time to make necessary changes to the dispatch mechanism, information systems and settlement arrangements. These one-off system costs would be comparable to the likely costs of abolishing the Snowy Region. The 1 July 2008 starting date would also align the timing of the boundary change with the start of the IRSR quarterly cycle.

Further modelling

Macquarie Generation supports the Frontier Economic's modelling approach and methodology used in the work carried out for the AEMC on the Snowy Hydro proposal. Macquarie Generation believes that are two further plausible scenarios that could alter the balance of benefits in each of the boundary change models for both the dispatch efficiency modelling and intra-regional risk modelling – discussed below.

As a general observation, Macquarie Generation is of the view that the peak hours of customer demand are the most crucial when assessing the likely impact of any boundary change proposal. The highest 20 to 30 hours of demand in winter and summer in both Victoria and New South Wales would tend to give rise to the highest price events in the NEM. These are times when it is most important to align bidding incentives with dispatch outcomes. Macquarie Generation would like to see greater focus on these hours in any further modelling of the Split Region Option and, more importantly, as part of any further analysis of the impacts of each option on the risks of inter-regional trade.

Strategic bidding of Victorian gas plant

Peaking plant plays a key role in setting price during high demand periods in the NEM. The Frontier modelling assumed that generators would bid peaking plant into the NEM at five times their marginal cost.

Much of the production cost saving under both the Snowy Hydro proposal and the Split Region Option is attributable to demand point 29 (p. 112). Macquarie Generation would be interested in understanding the impact of strategic bidding by gas plant in Victoria (Snowy's Laverton and Valley Power units and Truenergy's Jeeralang units) on the reported results at this demand point under both options. The modelling should consider the effect of this plant being bid in closer to the value of lost load at times of high Victorian demand.

If the strategic bidding were successful, it may result in higher Murray generation and reduced interconnector flows under the Snowy Region proposal. The modelling would provide an indication of possible impacts on production costs and regional prices at these times.

Snowy Hydro contracting levels

The Frontier modelling assumes two contracting levels for Snowy Hydro -50% and 60%. The results are reported on the basis of a 50:50 split between New South Wales and Victoria and assumes that Snowy Hydro offers all cap contracts in the market.

Macquarie Generation is interested in examining the case of Snowy Hydro contracting at levels greater than its physical capacity. This could be a profitable strategy for Snowy Hydro under its proposal if it could lock in contract prices and manage its derivative position by controlling spot price outcomes in either region.

For example, under the Snowy Hydro proposal, Snowy Hydro could benefit from high Victorian demand and high Victorian prices by maximising its output at Murray whilst bidding its Victorian gas plant at high prices and at the same time increase its Tumut generation to reduce the NSW price thereby avoiding cap payments on its NSW contracts. Such a strategy would significantly reduce interconnector flows and limit the ability of participants to manage inter-regional positions.

Further analysis

Macquarie Generation is currently undertaking further analysis of some of the key issues raised in this proposal. Macquarie Generation will provide further information in support of its proposal as part of the AEMC's consideration of the alternative Snowy Region boundary models.

Attachment A: New Rule clause 3.5.5

NEM Regions in Northern Victoria and South-west NSW

Chapter 3

A new clause 3.5.5 is to be added to Chapter 3 of the National Electricity Rules as follows:

- a) Despite any other provision in clause 3.5, for all purposes under the Rules including without limitation, *central dispatch* under clause 3.8, the determination of *spot prices* under clause 3.9 and settlement of *spot market transactions* under clause 3.15, the regions recommended by NEMMCO and approved by the AEMC in accordance with clause 3.5.1 must:
 - i include a region entitled "Murray" and a regional reference node for such a region;
 - ii include a region entitled "Tumut" and a regional reference node for such a region;
 - iii not include a region entitled "Snowy" or a regional reference node for such a region.
- b) NEMMCO must amend the document entitled "List of Regional Boundaries and Marginal Loss Factors":
 - i. to assign the following transmission connection nodes (TNI codes) to the Murray Region: NKHN, NGJP, NGUT and NMUR. The Regional Reference Node for the Murray Region is the transmission connection node at Dederang.
 - ii to assign the following transmission connection nodes (TNI codes) to the Tumut Region: NLTS and NUTS. The Regional Reference Node for the Tumut Region is the transmission connection node at Lower Tumut.
 - iii to remove reference to the existence of a region entitled Snowy and the Snowy regional reference node;
 - iv to make all necessary amendments arising from the reassignment of the market connection points in subclauses (i), (ii) and (iii) above, including without limitation, amendments to *regions*, *inter-regional loss factors*, *intra-regional loss factors*, *metering points*, *network constraints*, *interconnector limits* and *regional reference nodes*.
- c) This clause 3.5.5 comes into effect on 1 July 2008.