

## C Submission summary

This Appendix has two parts. Part 1 presents a summary of the submissions received on the Abolition proposal draft Rule determination and first round submissions on the Split Snowy Region and Southern Generators' Congestion Pricing proposals. Part 2 presents a summary of submissions received during the Commission's first round consultation on the Abolition proposal. All submissions are available on the Commission's website.

The views presented in the submissions, and summarised in this Appendix, is an important input to the analysis of these three Rule change proposals presented in Appendix A.

### Part 1 – Submissions on Abolition proposal draft Rule determination

#### C.1 Introduction

This Part summarises the submissions on the Abolition of Snowy Region draft Rule determination (the Abolition proposal), the Split Snowy Region proposal and Congestion Pricing and Negative Residue Management Arrangements for the Snowy Region proposal (Southern Generators' Congestion Pricing proposal). Submissions on these proposals closed on 30 April 2007.

A total of 17 organisations made submissions on the consultations on the Abolition proposal, the Split Snowy Region proposal and the Southern Generators' Congestion Pricing proposal in 27 separate submissions. The table below shows the organisations that submitted submissions, the Rule change to which the submission related and whether multiple submissions were made.

**Table C.1: Submissions reviewed**

Organisation	Nature of Submission	Rule changes commented on in submission		
		Abolition proposal (s.99)	Split Snowy Region proposal (s.95)	SG Congestion Pricing proposal (s.95)
Country Energy	Single submission on 1 Rule change	✓	✗	✗
Delta Electricity	Single submission on 1 Rule change	✓	✗	✗
Electricity Supply Industry Planning Council (ESIPC)	Single submission on 1 Rule change	✓	✗	✗

Organisation	Nature of Submission	Rule changes commented on in submission		
		Abolition proposal (s.99)	Split Snowy Region proposal (s.95)	SG Congestion Pricing proposal (s.95)
EnergyAustralia	Single submission on 3 Rule changes	✓	✓	✓
Eraring Energy	Single submission on 3 Rule changes	✓	✓	✓
ERM Power	Single submission on 1 Rule change	✓	✗	✗
Hydro Tasmania	Separate submissions on 2 Rule changes	✓	✓	✗
International Power Australia	Single submission on 1 Rule change	✓	✗	✗
Macquarie Generation	Single submission on 3 Rule changes	✓	✓	✓
NEMMCO	Separate submissions on 3 Rule changes	✓	✓	✓
Origin Energy	Two submissions on 1 Rule change	✓	✗	✗
Snowy Hydro	Single submission(s) on 3 Rule changes	✓	✓	✓
South Australian Minister for Energy	Single submission on 1 Rule change	✓	✗	✗
Southern Generators <sup>154</sup>	Separate submission(s) on 2 Rule changes	✓	✗	✓
TransGrid	Single submission on 3 Rule changes	✓	✓	✓
VENCorp	Single submission on 2 Rule changes	✓	✓	✗
Westpac	Single submission on 2 Rule changes	✓	✗	✓

---

<sup>154</sup> The Southern Generators were: Loy Yang Marketing Management Company, AGL Hydro, International Power, TRUenergy, Flinders Power and Hydro Tasmania.

This Section summarises the submissions primarily according to the assessment criteria used in the draft Rule determination, i.e.:

- economic efficiency of dispatch;
- pricing outcomes and participant responses;
- inter-regional trading and risk management;
- power system security, supply reliability, and technical issues;
- good regulatory practice;
- long term implications and consistency with public policy settings; and
- implementation.

Given the overlapping nature of the submissions on the Abolition proposal, the Split Snowy Region proposal and the Southern Generators' Congestion Pricing proposal, the summary below includes comments on all of these consultations against the Commission's assessment criteria. The discussion begins with comments from submissions on the Commission's approach and a separate section has been included to record specific comments on the modelling analysis.

## **C.2 The Commission's approach**

A number of submissions were critical of the Commission's approach to the review.

Hydro Tasmania was not convinced that the Commission had adequately developed a range of alternative NEM regional structures. Rather, Hydro Tasmania suggested that the Commission responded to a series of ad hoc proposals, which was not the best way to respond.<sup>155</sup>

The Southern Generators suggested that the Commission had adopted a poor approach by creating and examining alternative options rather than considering the main arguments made by the proponent for the Rule change proposal. The Southern Generators' contended that the Commission failed to consider the current arrangements (including the CSP/CSC Trial and Southern Generators Rule change) in its assessment of the alternatives, was inconsistent in its approach throughout the Rule change process and examined a base case that was extremely unlikely to occur (the business as usual case).<sup>156</sup>

---

<sup>155</sup> Hydro Tasmania, s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition), p.2.

<sup>156</sup> Southern Generators, s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition); s.95 submission, Congestion Pricing and Negative Residue Management Arrangements for the Snowy Region (Southern Generators' Congestion Pricing), pp.5-12, 18.

ESIPC suggested that the Commission's analysis was between two flawed options.<sup>157</sup> They indicated that they were interested in seeing an effective boundary and constraint management regime emerge from the broader work program of the Commission.<sup>158</sup>

Views were mixed as to the appropriateness of the alternatives considered by the Commission.

Origin Energy contended that the key alternatives to the Abolition proposal - the Split Snowy Region proposal and Southern Generators' Congestion Pricing proposal - were dismissed by the Commission for sound economic and legal reasons. Origin was of the view that re-examining these options would involve unnecessary duplication and inappropriate use of the regulatory process.<sup>159</sup>

Other participants suggested that the Commission's analysis should be expanded to include an assessment of the current CSP/CSC arrangements together with the Southern Generators' Congestion Pricing proposal as an alternative. The Southern Generators' contended that the Commission's failure to consider the current arrangements as an alternative was a major oversight in the analysis.<sup>160</sup> The ESIPC recommended that the Commission's analysis of the appropriate solution to address the problems in the Snowy region should consider the alternative of retaining the current CSP/CSC arrangements.<sup>161</sup>

Origin Energy noted that CSP/CSC arrangements could be a useful way to impose price signals while maintaining competitive neutrality. However, Origin Energy also suggested that CSP/CSCs are at an early stage of their development and are therefore not presently a viable alternative.<sup>162</sup>

Similarly, EnergyAustralia stated that the CSP/CSC arrangements require further assessment and development. EnergyAustralia noted difficulties with the CSP/CSC Trial to date, including reduced market liquidity at the NSW node and ongoing uncertainty in relation to SRA payouts.<sup>163</sup> Eraring Energy and Macquarie Generation noted that CSPs and CSCs were only intended to be developed as interim arrangements.<sup>164</sup> Snowy Hydro opposed the extension of the Southern Generators

---

<sup>157</sup> Electricity Supply Industry Planning Council (ESIPC), s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition) p.2.

<sup>158</sup> ESIPC, s.99 Abolition submission, p.2.

<sup>159</sup> Origin Energy, s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition), p.1.

<sup>160</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, pp.8-12.

<sup>161</sup> ESIPC, s.99 Abolition submission, pp.2-3.

<sup>162</sup> Origin Energy, s.99 Abolition submission, p.2.

<sup>163</sup> EnergyAustralia, s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition), p.3.

<sup>164</sup> Eraring Energy, joint s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition); s.95 submission, Congestion Pricing and Negative Residue Management Arrangements for the Snowy Region (Southern Generators' Congestion Pricing); and s.95 submission, Split Snowy Region, p.1; Macquarie Generation, joint s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition); s.95 submission, Congestion Pricing and Negative Residue Management

Rule, and stated that it is resulting in serious mis-pricing for the La Trobe Valley, which is likely to require additional management over the summer.<sup>165</sup> Snowy Hydro supported the Commission's adoption of the business as usual case as an alternative, assuming the expiry of the partial CSP/CSC Trial.<sup>166</sup>

Hydro Tasmania preferred the maintenance of the existing market arrangements, but offered a variation on the Split Snowy Region as its second-preferred option. This variation involved Murray power station being used as the regional reference node (RRN) for the new Murray region and Dederang remaining in Victoria.<sup>167</sup> Hydro Tasmania suggested that negative settlement residues arising under this variation could be managed with a mechanism Southern Generator Rule. Meanwhile, Snowy Hydro contended that this would represent an additional patch.<sup>168</sup>

The Commission considers that in undertaking its assessment of these three Rule change proposals it has followed appropriate processes, to the extent its information and resources permitted. The Commission's timing was consistent with the unanimous agreement at the October 2006 Senior Industry Leaders Forum that the Snowy region was unique and required immediate attention prior to finalising the CMR and MCE Region boundary decisions. The Commission's approach to assessing these three Rule change proposals is discussed in more detail in Appendix A.

### **C.3 Economic efficiency of dispatch**

Many submissions commended the extent of the Commission's analysis on the economic efficiency of dispatch in the Draft Rule Determination.<sup>169</sup> However, opinion was divided as to whether the Commission had reached the appropriate conclusions on the basis of that analysis in light of the other options available.

#### **C.3.1 Efficiency of dispatch under abolition of Snowy region**

Several participants were supportive of the Commission's analysis and the conclusion that abolition of the Snowy region was likely to improve the economic efficiency of dispatch compared to the base case (of status quo regional boundaries and NEMMCO intervention to manage counter-price flows). Country Energy, EnergyAustralia, Origin Energy and Snowy Hydro all supported the Commission's

---

Arrangements for the Snowy Region (Southern Generators' Congestion Pricing); and s.95 submission, Split Snowy Region, p.8.

<sup>165</sup> Snowy Hydro, letter to AEMC chairman, 15 March 2007, p.2.

<sup>166</sup> Snowy Hydro, joint s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition); s.95 submission, Congestion Pricing and Negative Residue Management Arrangements for the Snowy Region (Southern Generators' Congestion Pricing); and s.95 submission, Split Snowy Region; 30 April 2007, pp.17-19.

<sup>167</sup> Hydro Tasmania, s.99 Abolition submission, pp.2-3.

<sup>168</sup> Hydro Tasmania, *ibid*, p.3; Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.21.

<sup>169</sup> See for example Delta Electricity, s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition), p.2.

conclusions that the Abolition proposal would promote greater competition and improve the efficiency of dispatch, as well as improve the efficiency of pricing and inter-regional trading.<sup>170</sup> Origin argued that the Abolition proposal would strengthen the incentives for Snowy Hydro to maximise its dispatch at the going price in each region, thereby improving dispatch efficiency.<sup>171</sup>

Some submissions expressed concerns over the likely efficiency of dispatch under the Abolition proposal. Most notably, Macquarie Generation suggested that because the Abolition proposal treats congestion between Tumut and the NSW RRN and between Murray and the Victorian RRN as intra-regional constraints, Snowy Hydro would face incentives to maximise generation during periods of binding intra-regional congestion, displacing lower cost generation.<sup>172</sup>

Three submissions commented on the Commission's concern that Snowy Hydro faced incentives to maintain "headroom" on the Snowy to NSW interconnector, reducing dispatch efficiency. Eraring Energy suggested that the Commission had given more weight to the maintaining headroom issue than the bidding-below-cost issue, without demonstrating a more detrimental impact for economic efficiency.<sup>173</sup> Similarly, Macquarie Generation did not consider that an incentive to keep 20-30MW of capacity of headroom during periods of high NSW and Queensland prices would significantly influence the degree of competition in NSW or the overall efficiency of dispatch.<sup>174</sup> The Southern Generators expressed scepticism about the potential impact of maintaining headroom on the Snowy to NSW interconnector.<sup>175</sup>

Snowy Hydro and Origin Energy noted that there was limited difference in terms of efficiency of dispatch between the alternatives considered, but stated that the Abolition proposal would have the greatest (positive) impact on the contract market.<sup>176</sup>

### **C.3.2 Efficiency of dispatch under the Split Snowy Region proposal**

Some participants drew on the Commission's modelling and analysis to conclude that the Split Snowy Region proposal was likely to result in greater efficiency improvements than abolition of the Snowy region. Delta Electricity, Eraring Energy

---

<sup>170</sup> Country Energy, s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition), p.2; EnergyAustralia, s.99 Abolition submission, p.1; Origin Energy, s.99 Abolition submission, p.1; Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.24.

<sup>171</sup> Origin Energy, s.99 Abolition submission, p.4.

<sup>172</sup> Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.2.

<sup>173</sup> Eraring Energy, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, pp.1-2.

<sup>174</sup> Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.6.

<sup>175</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.27.

<sup>176</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.1; Origin Energy, s.99 Abolition submission, p.1.

and Macquarie Generation contended that by avoiding the creation of a remote intra-regional generator in both NSW and Victoria, the Split Snowy Region proposal would minimise the scope for generators to take advantage of intra-regional constraints. This would improve the efficiency of dispatch while avoiding counter price flows and a resulting reduction in IRSR firmness.<sup>177</sup> These participants referred to the modelling analysis in the draft Rule determination indicating that the Split Snowy Region proposal could deliver greater production cost savings than the Abolition proposal.

The Southern Generators referred to the Commission's and their own modelling analysis to show that dispatch efficiency was likely to be highest under the Split Snowy Region proposal. They noted that the modelling approach used meant that the increase in dispatch efficiency associated with the use of dynamic inter-regional loss factors rather than static loss factors was unlikely to be observable in the results, meaning the efficiency gains of the Snowy Split Region proposal found in the modelling were likely to be understated.<sup>178</sup>

Hydro Tasmania noted that by using Dederang as the RRN for the proposed new Murray region in the Split Snowy Region proposal, the option would lead to a dispatch outcome that was less optimal than under the current arrangements (with existing regional boundaries, a CSP/CSC regime at Tumut and the Southern Generators Rule in place).<sup>179</sup>

### **C.3.3 Efficiency of dispatch under the Southern Generators' Congestion Pricing proposal**

The Southern Generators submitted<sup>180</sup> modelling analysis by ROAM Consulting to demonstrate that the current arrangements (with existing regional boundaries, a CSP/CSC regime at Tumut and the Southern Generators Rule in place) would result in an improvement in dispatch efficiency compared to the business as usual case, and that the Abolition proposal would decrease rather than improve dispatch efficiency compared to the current arrangements.<sup>181</sup> The ROAM report ranked the current arrangements as the least-cost dispatch option under Snowy Hydro strategic bidding assumptions but as the second-most expensive option under 'typical' Snowy Hydro bidding assumptions.<sup>182</sup>

---

<sup>177</sup> Delta Electricity, s.99 Abolition submission, p.1-3; Eraring Energy, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.1-2; Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.3.

<sup>178</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.15.

<sup>179</sup> Hydro Tasmania, s.95 Split Snowy Region submission, p.3.

<sup>180</sup> See Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing; submission p.15.

<sup>181</sup> ROAM Consulting, *Analysis of the AEMC Draft Rule Determination to Abolish Snowy Region – Appendix A Modelling, Report to Southern Generators' Coalition*, 3 April 2007 (ROAM report).

<sup>182</sup> ROAM report, pp.I-II and pp.13-18.

On the other hand, Snowy Hydro expressed serious concerns about the economic efficiency of dispatch under the Southern Generators' Congestion Pricing proposal. Snowy Hydro suggested that the (presently implemented) Southern Generators Rule was leading to inefficient pricing in Victoria, reduced flows across the (Victoria to Snowy) interconnector, negative settlement residues and increased uncertainty, with detrimental implications for the contract market.<sup>183</sup> In particular, Snowy Hydro stated that under the current arrangements, when the Murray-Tumut constraint binds, the offers of generators in Victoria, South Australia and Tasmania do not directly influence the Victorian price.<sup>184</sup> Rather, the Victorian price is set by a combination of the NSW RRP and the offers of Murray generation. This provides generators in the southern part of the NEM with incentives to maximise volume against the Victorian price, worsening the South Morang constraint.<sup>185</sup> In its submission, Snowy Hydro made specific reference to the events of 12<sup>th</sup> and 30<sup>th</sup> January 2007 as providing examples of the types of outcomes it described.<sup>186</sup>

In response, the Southern Generators contended that the market outcomes of 12 January 2007 were not the result of the implementation of the Southern Generators Rule. Rather, these outcomes were the result of a constraint at South Morang substation binding.<sup>187</sup> The Southern Generators stated that although constraints between Murray-Tumut also bound at this time, the outcomes described by Snowy Hydro would have occurred even if constraints between Murray and Tumut had not bound.<sup>188</sup> Further, the Southern Generators suggested that committed augmentation works would relieve constraints at South Morang over the next 12-18 months.<sup>189</sup>

## **C.4 Inter-regional trading and risk management**

### **C.4.1 Inter-regional trade and risk management under the Abolition proposal**

Snowy Hydro suggested that under its Abolition proposal, the NSW-Victorian interconnector would be the firmest interconnector in the NEM. It would provide 'full SRA access' for Victorian generators wishing to contract in NSW and 'reasonable access' for NSW generators wishing to contract in Victoria.<sup>190</sup> Country Energy agreed, noting that the Abolition proposal would impose the least disruption to

---

<sup>183</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, pp.14-15.

<sup>184</sup> Snowy Hydro, s.99 supplementary submission, 26 March 2007, p.2 and Attachment A, pp.7-12.

<sup>185</sup> Ibid.

<sup>186</sup> Ibid, pp.1-2 and Attachment A, p.7, 9, 10 and 14.

<sup>187</sup> Southern Generators letter to the AEMC, 8 March 2007, pp.1-3; Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.16.

<sup>188</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.16.

<sup>189</sup> Ibid.

<sup>190</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, pp.40-41.



financial risk management and future investment, while enhancing inter-regional contracting.<sup>191</sup>

Several participants expressed concern regarding the potential for Snowy Hydro to exercise 'market power' over the new Victoria to NSW interconnector in the event of the abolition of the Snowy region. Delta Electricity noted that Snowy Hydro's Victorian gas turbine capacity together with its Murray plant could provide Snowy Hydro with market power on the new NSW-Victoria interconnector in both directions.<sup>192</sup> ERM Power contended that the draft Rule determination would institutionalise Snowy Hydro's market power, by legitimising its capability to constrain generation flows between the two regions. This would reduce the effective hedging products available in Victoria and NSW.<sup>193</sup>

Three participants supported the Commission's view that the Split Snowy Region proposal was likely to result in an increase in transaction costs and complexity detrimental to inter-regional trade compared to the Abolition proposal:

- Origin Energy stated that the Abolition proposal would reduce Snowy Hydro's incentives to influence settlement residue auctions (SRAs), thus lowering consequential inter-regional risks for participants.<sup>194</sup> Origin believed that the absence of basis risk for Snowy Hydro would encourage it to lower prices for its contracts, with flow-on benefits for the liquidity of the contract market, inter-regional trade and competition.<sup>195</sup> Origin Energy suggested that under the Split Snowy Region proposal, Snowy Hydro would have very strong incentives to purchase SRAs on these constrained links, which could in turn increase the complexity and associated risks of pricing inter-regional contracts;<sup>196</sup>
- EnergyAustralia was similarly concerned about an increase in risk and complexity of trading between Victoria and NSW under the Split Snowy Region proposal.<sup>197</sup> It noted that its implementation costs under a Split Snowy Region arrangement were likely to be \$15,000, compared to \$5,000 for the abolition of the Snowy Region;<sup>198</sup>
- Snowy Hydro commissioned consultants, Firecone Ventures (Firecone), to assess the impact of changes to the Snowy region on the contract market.<sup>199</sup> The Firecone report concluded that inter-regional trading risk is high and that the

---

<sup>191</sup> Country Energy, s.99 Abolition submission, p.2.

<sup>192</sup> Delta Electricity, s.99 Abolition submission, p.4.

<sup>193</sup> ERM Power, s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition), p.2.

<sup>194</sup> Origin Energy, s.99 Abolition submission, p.4.

<sup>195</sup> Ibid.

<sup>196</sup> Ibid, pp.2-3.

<sup>197</sup> EnergyAustralia, s.99 Abolition submission, p.3.

<sup>198</sup> Ibid, pp.2-3.

<sup>199</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.2.

instruments available to hedge it are weak.<sup>200</sup> The report discussed how the abolition of the Snowy Region would facilitate an increase in contract market competition.<sup>201</sup> Snowy Hydro suggested that the Commission's risk modelling underestimated the difficulty of trading under the Split Region option.<sup>202</sup> Snowy Hydro contended that both the Split Snowy Region proposal and the Southern Generators' Congestion Pricing proposal would substantially increase the complexity of assessing, pricing and managing inter-regional risk for Snowy Hydro.<sup>203</sup> Snowy Hydro concluded that the more granular pricing, either through more regions or a CSP/CSC arrangement, would reduce contract volume and liquidity and drive up contract prices.<sup>204</sup>

Westpac contended that the abolition of the Snowy region would result in significant mis-pricing in the spot and forward markets.<sup>205</sup> Westpac presented analysis to demonstrate that as the number of regions decrease, the ability to arbitrage the price differential between the remaining regions is reduced (rather than improved as assumed by the Commission) and transactions costs may increase.<sup>206</sup> Westpac concluded that the abolition of the Snowy region would materially degrade the ability to hedge inter-regionally.<sup>207</sup>

#### **C.4.2 Inter-regional trade and risk management under the Split Snowy Region proposal**

Several participants disagreed with the Commission's conclusions on the likely effect of the Split Region Option on inter-regional trading and risk management compared with the likely effect of the abolition of the Snowy region. These participants suggested that the additional risk and complexity associated with the Split Snowy Region proposal was unlikely to be material.

Hydro Tasmania noted that if there was no need for a region boundary at the existing boundaries to the Snowy region, any increase in inter-regional trading risk under the Split Snowy Region proposal was likely to be minimal.<sup>208</sup> The Southern Generators, Delta Electricity, Eraring Energy, Macquarie Generation and Hydro Tasmania referred to the current linked-bid facility in SRAs, and suggested that it would enable basis risk to be managed under the Split Snowy Region proposal

---

<sup>200</sup> Firecone Ventures, Impacts of changes to the Snowy Region on the Contract Market, April 2007 (Firecone report), p.ii and p.24. See also Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.2.

<sup>201</sup> Firecone report, pp.25-26. See also Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.2.

<sup>202</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, pp.25-26.

<sup>203</sup> Ibid, pp.26 and 28.

<sup>204</sup> Ibid, p.39.

<sup>205</sup> Westpac Institutional Bank (Westpac), s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition), p.1.

<sup>206</sup> Ibid, p.2.

<sup>207</sup> Ibid, p.3.

<sup>208</sup> Hydro Tasmania, s.95 Split Snowy Region submission, p.3.

without greater difficulty than under the abolition of the Snowy region.<sup>209</sup> Macquarie Generation suggested that IRSRs would actually be made firmer, since Snowy Hydro would not have incentives to maximise output in a way that artificially limited inter-regional flows.<sup>210</sup> The Southern Generators suggested that the basis risk of trading between Victoria and NSW would decrease, because the number of material intra-regional constraints would be reduced.<sup>211</sup> They also considered that the Commission was conservative in interpreting the modelling results, given the material increase in risk under the Abolition proposal compared to the Split Snowy Region proposal.<sup>212</sup>

Eraring contended that the increased data and transparency of the Split Snowy Region proposal would lead to better pricing and risk management for inter-regional trading between the NSW and Victorian nodes.<sup>213</sup> Delta Electricity proposed arrangements for the holders of SRA units to be given the right to exchange their current holdings and acquire additional rights on new interconnectors under the Split Snowy Region proposal.<sup>214</sup>

Three submissions commented on the current restrictions on Snowy Hydro's participation in SRAs. Eraring Energy agreed with the Commission's view that the existing restrictions on Snowy Hydro would need to continue if the Abolition proposal were implemented.<sup>215</sup> By contrast, Snowy Hydro stated that the restriction on it purchasing inward IRSRs should be abolished with the Snowy region.<sup>216</sup> Snowy Hydro suggested that such restrictions would no longer be required since its generation would no longer be located in a region with no load.<sup>217</sup> NEMMCO stated that the Snowy restricted bidder clause (cl 3.18.2(h) of the Rules) needed to be either deleted or amended to reflect the new interconnectors.<sup>218</sup>

---

<sup>209</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.30; Delta Electricity, s.99 Abolition submission, p.5; Eraring Energy, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.2; Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.4; Hydro Tasmania s.95 submission, Split Snowy Region, p.3.

<sup>210</sup> Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.4.

<sup>211</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.30

<sup>212</sup> Ibid, p.29.

<sup>213</sup> Eraring Energy, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.5.

<sup>214</sup> Delta Electricity, s.99 Abolition submission, p.5.

<sup>215</sup> Eraring Energy, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.5.

<sup>216</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.35.

<sup>217</sup> Ibid.

<sup>218</sup> NEMMCO, s.99 Abolition submission, p.4.

### **C.4.3 Inter-regional trade and risk management under the Southern Generators' Congestion Pricing proposal**

Snowy Hydro contended that the current arrangements (based on the existing regional boundaries, the Tumut CSP/CSC and the Southern Generators Rule) were resulting in significant disruption and uncertainty. This implied that the Southern Generators' Congestion Pricing proposal was similarly likely to increase transaction costs in the contract market and reduce inter-regional trade.<sup>219</sup>

On the other hand, the Southern Generators stated that risks under their Congestion Pricing proposal would be lower than the business as usual, since:

- The Tumut CSP/CSC Trial arrangements have the effect of “firming up” residues on the Snowy-NSW interconnectors; and
- The Southern Generators Rule means NEMMCO does not need to clamp the Victoria-Snowy interconnector, increasing the firmness of residues on that interconnector.<sup>220</sup>

## **C.5 Pricing outcomes and participant responses**

### **C.5.1 Pricing outcomes and participant responses under the Snowy proposal**

Origin Energy and EnergyAustralia supported the Commission's findings that the Abolition proposal could have a beneficial effect on pricing outcomes and participant responses. EnergyAustralia believed that the Abolition proposal would require generators in adjacent regions to adopt a more competitive contracting and bidding strategy, resulting in more competitive spot, contract and retail prices.<sup>221</sup> Origin Energy suggested that greater competition around each RRN in Victoria and NSW would reduce Snowy Hydro's ability and incentives to influence the market price.<sup>222</sup> Origin also suggested that the Abolition proposal would lead to a more competitive contract market, encouraging generators to increase their level of contract cover and, as a result, bid more competitively into the spot market.<sup>223</sup>

In general, participants did not comment on the longer-term implications of the Abolition proposal for investment in the NEM. ESIPC suggested that the productivity gains from a region boundary change were likely to be modest, with the most material benefits – including improved price discovery and efficient pricing and investment drivers – emerging in the longer term.<sup>224</sup> ESIPC expressed concern

---

<sup>219</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.24.

<sup>220</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.17.

<sup>221</sup> EnergyAustralia, s.99 Abolition submission, p.2.

<sup>222</sup> Origin Energy, s.99 Abolition submission, p.3.

<sup>223</sup> Ibid, pp.3-4.

<sup>224</sup> ESIPC, s.99 Abolition submission, p.2.

that using boundary change as an interim solution may result in perverse investment incentives.<sup>225</sup>

### **C.5.2 Pricing outcomes and participant responses under the Split Snowy Region proposal**

Submissions were divided on the likely effect of the Split Snowy Region proposal on pricing outcomes and participant responses. The Southern Generators referred to the modelling in the draft Rule determination, which found that the Split Region Option was likely to lead to substantially lower prices in NSW than the Abolition proposal.<sup>226</sup> In contrast, EnergyAustralia stated that the Split Snowy Region proposal would increase price volatility and reduce competition in the NEM.<sup>227</sup>

Snowy Hydro contended that the Split Snowy Region proposal would impose nodal pricing on Snowy Hydro generation while preserving regional prices for other generators.<sup>228</sup> Origin Energy agreed that applying nodal prices to some generators and not others without an appropriate hedging mechanism would be inconsistent with market design and competitive neutrality.<sup>229</sup>

Snowy Hydro claimed that the support, from some generators, for the Split Snowy Region proposal (as well as the Southern Generators' Congestion Pricing proposal) was to limit competition in those generators' respective "home" region spot and contract markets.<sup>230</sup> Snowy Hydro stated that the Split Snowy Region proposal did not remove incentives for Tumut and Murray to withhold generation, meaning that it would have the effect of reducing competition and driving up contract prices.<sup>231</sup>

As with the Abolition proposal, submissions tended not to comment on the longer term implications for investment in the NEM.

### **C.5.3 Pricing outcomes and participant responses under the Southern Generators' Congestion Pricing proposal**

Snowy Hydro contended that the presently-implemented Southern Generators Rule encouraged generators to bid in a way that did not reflect their costs, resulting in a less competitive and efficient price.<sup>232</sup> As with the Split Snowy Region proposal, Snowy Hydro suggested that the Southern Generators' Congestion Pricing proposal

---

<sup>225</sup> Ibid.

<sup>226</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.28.

<sup>227</sup> EnergyAustralia, s.99 Abolition submission, p.3.

<sup>228</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.21.

<sup>229</sup> Origin Energy, s.99 Abolition submission, p.2.

<sup>230</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.3 and pp20-22.

<sup>231</sup> Ibid, p.25.

<sup>232</sup> Ibid, p.22.

did not remove incentives for Tumut and Murray to withhold generation, reducing competition and driving up contract prices.<sup>233</sup> Further, Snowy Hydro again claimed the Southern Generators' Congestion Pricing proposal would impose nodal pricing on Snowy Hydro generation while preserving regional prices for other generators.<sup>234</sup>

The Southern Generators drew on their commissioned modelling analysis to conclude that the proposed changes would not have any significant implications for allocative efficiency.<sup>235</sup>

## **C.6 Power system security, supply reliability and technical issues**

Many submissions did not comment on power system security and supply reliability issues. A number of technical issues were raised in submissions from NEMMCO, VENCORP and TransGrid and are discussed below in Section C.9 (Implementation).

Snowy Hydro supported the Commission's assessment that the Abolition proposal did not impede power system security.<sup>236</sup> Snowy Hydro also concluded that the Split Region option was unlikely to impede power system security.<sup>237</sup>

Hydro Tasmania expressed concern that diverting NEMMCO resources to make changes to constraint equations required to support region boundary change meant that those resources would not be available to deal with operational changes.<sup>238</sup>

The Southern Generators stated that any region change creates some risk to system security from unforeseen behavioural outcomes, implementation errors or manual operator errors.<sup>239</sup>

VENCORP noted the importance of securing reactive and reliability support for the Snowy region. It suggested that the ability to procure dispatch and reactive reserve should be assessed, and if necessary, made a condition of acceptance.<sup>240</sup> VENCORP also noted that activities associated with transmission planning and the Victorian Jurisdictional System Security Coordinator, such as matters associated with the additional length of line and Murray switching station, would require interaction with TransGrid.<sup>241</sup>

---

<sup>233</sup> Ibid, p.27.

<sup>234</sup> Ibid, p.21.

<sup>235</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.17.

<sup>236</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.24.

<sup>237</sup> Ibid, p.26.

<sup>238</sup> Hydro Tasmania, s.99 Abolition submission, p.3.

<sup>239</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.18.

<sup>240</sup> VENCORP, joint s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition); and s.95 submission, Split Snowy Region, p.2.

<sup>241</sup> Ibid, p.3.

TransGrid does not expect the technical limits applicable to flows through critical sets of transmission lines internal to NSW to require any changes to account for the region boundary change.<sup>242</sup> Further, TransGrid did not expect NSW system security constraints to be affected.<sup>243</sup>

Snowy Hydro raised concerns in relation to ramping capability under the Southern Generators' Congestion Pricing proposal, given the incentive for participants to bid low and potentially lock ramp rates.<sup>244</sup> Snowy Hydro recommended NEMMCO reviewed any system security issues that arose in this regard.<sup>245</sup>

## **C.7 Good regulatory practice**

A number of submissions commented on good regulatory practice in the context of the requirement for future Rule changes and the Commission's assessment of the overall net benefit of the change. Macquarie Generation noted its agreement with the good regulatory practice criterion developed by the Commission.<sup>246</sup>

### **C.7.1 Requirement for future Rule changes**

There was a range of views on the likely requirement for future Rule changes following the implementation of the Abolition proposal.

Snowy Hydro contended that maintaining the current arrangements (based on present regional boundaries, the Tumut CSP/CSC Trial and the Southern Generators Rule) would promote uncertainty and would be inconsistent with good regulatory practice.<sup>247</sup> Snowy Hydro submitted that the Abolition proposal would address legacy issues while providing a long term solution by creating an evolutionary platform for the Congestion Management Review (CMR).<sup>248</sup> Snowy Hydro suggested that, from a good regulatory practice perspective, the Tumut CSP/CSC trial was always treated as a temporary arrangement.<sup>249</sup>

---

<sup>242</sup> TransGrid, joint s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition); s.95 submission, Congestion Pricing and Negative Residue Management Arrangements for the Snowy Region (Southern Generators' Congestion Pricing); s.95 submission, Split Snowy Region, p.3.

<sup>243</sup> Ibid, p.3.

<sup>244</sup> Snowy Hydro, Supplementary submission, 26 March 2007, p.13.

<sup>245</sup> Ibid.

<sup>246</sup> Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.5.

<sup>247</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, pp.24-25.

<sup>248</sup> Snowy Hydro, letter to AEMC, 15 March 2007, p.2.

<sup>249</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.2.

The Southern Generators submitted that maintenance of the current arrangements would not pre-empt or prejudice any future decisions about long-term solutions to Snowy congestion.<sup>250</sup>

Eraring Energy noted that there is no guarantee that constraints would not arise in the future at the current regional boundaries, meaning that there is a possibility those regional boundaries would need to be reintroduced, creating unnecessary market disruption.<sup>251</sup>

On the other hand, Origin suggested that the modelling analysis showed that these constraints were expected to bind infrequently.<sup>252</sup> In the longer term, if and when these constraints started to bind, they could be addressed using the mechanisms developed in the CMR.<sup>253</sup>

Macquarie Generation submitted that the Split Snowy Region proposal has the benefit of maintaining existing interconnectors and creating a new interconnector so that there is a region boundary across all potential areas of congestion.<sup>254</sup> By contrast, Snowy Hydro contended that the Split Snowy Region proposal is unnecessary, since historical data and the Commission's modelling analysis indicated few constraints. Therefore, the option would pre-empt potential network upgrades.<sup>255</sup>

### **C.7.2 Assessment of net benefits**

Three submissions expressed concern at the Commission's failure to quantify the costs of implementing the Abolition proposal. ESIPC submitted that the draft Rule determination did not make the case that the proposed Rule change would deliver benefits in excess of the costs.<sup>256</sup> Hydro Tasmania expressed concern that there was no proper assessment of the implementation costs associated with the proposed Snowy region boundary change.<sup>257</sup> The extent and cost of NEMMCO work needed to be known before participants could properly assess the cost-benefit ratio.<sup>258</sup> The

---

<sup>250</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.19.

<sup>251</sup> Eraring Energy, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.5.

<sup>252</sup> Origin Energy, s.99 Abolition submission, p.3.

<sup>253</sup> Ibid, pp.3-4.

<sup>254</sup> Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.6.

<sup>255</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.20.

<sup>256</sup> ESIPC, s.99 Abolition submission, p.3.

<sup>257</sup> Hydro Tasmania, s.99 Abolition submission, p.3; Hydro Tasmania, s.95 Split Snowy Region submission, pp.4-5.

<sup>258</sup> Hydro Tasmania, s.99 Abolition submission, p.3.



Southern Generators suggested that the Commission was remiss in not attempting to quantify the costs of the Abolition proposal in its draft Rule determination.<sup>259</sup>

Other submissions made comments on the likely cost-benefit ratio based on their own assessment of costs, reaching a range of conclusions:

- The South Australian Minister for Energy noted that abolition of the Snowy region was likely to result in significant financial and implementation costs for NEMMCO and participants, and may not be the most efficient long-term solution;<sup>260</sup>
- EnergyAustralia submitted that the benefits from more competitive contract prices under the Abolition proposal would far outweigh overall implementation costs.<sup>261</sup> It estimated its own costs associated with the implementation of the proposal at \$5,000;<sup>262</sup>
- Snowy Hydro submitted that the overall costs for the Abolition proposal would be relatively small and immaterial in comparison to the benefits estimated by the Commission.<sup>263</sup> It estimated its implementation costs for both Snowy Hydro Generator and Red Energy Retailer as likely to be less than \$10,000.<sup>264</sup> Snowy Hydro notes that the costs, complexity and required system changes for both the Southern Generators Rule and the Tumut CSP/CSC trial were greater for participants than the proposed Snowy Hydro boundary change;<sup>265</sup>
- Westpac indicated that the Southern Generators' Congestion Pricing proposal was preferable because it would require minimal change to NEMMCO and participant systems;<sup>266</sup>
- Macquarie Generation did not consider that the additional costs and risks of the Split Snowy Region proposal would outweigh the benefits of more robust dispatch signals, particularly during outage conditions;<sup>267</sup> and
- The Southern Generators stated that the implementation costs of their Congestion Pricing proposal were sunk, while the costs of implementing region change were

---

<sup>259</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.19.

<sup>260</sup> South Australian Minister for Energy (SA Minister for Energy, s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition), p.1.

<sup>261</sup> EnergyAustralia, s.99 Abolition submission, p.2.

<sup>262</sup> Ibid.

<sup>263</sup> Snowy Hydro, Supplementary submission, 26 March 2007, p.4.

<sup>264</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, pp.44-45.

<sup>265</sup> Snowy Hydro, Supplementary submission, 26 March 2007, p.4.

<sup>266</sup> Westpac, s.99 Abolition submission, p.3.

<sup>267</sup> Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.5.

likely to be many millions of dollars.<sup>268</sup> They concluded that the Split Snowy Region proposal would be simpler to implement than the Abolition proposal.<sup>269</sup>

### **C.7.3 Ongoing intervention**

Snowy Hydro submitted that the Southern Generators' Congestion Pricing proposal would result in a requirement for continued NEMMCO intervention to manage negative residues on the South Australia to Victoria interconnector.<sup>270</sup>

The Southern Generators contended that the Abolition proposal represents an operational intervention by the Commission, since it:

- Would apply only to specific connection points in the NEM rather than to the NEM as a whole; and
- Specifies an implementation date,

rather than defining regions through operational processes consistent with the approach to date.<sup>271</sup> They submitted that the Commission confused regulatory stability with operational stability by adopting this approach.<sup>272</sup>

## **C.8 Long term implications and consistency with public policy settings**

### **C.8.1 Imminent Rule change versus longer term processes**

Submissions were divided on the Commission's view that it was appropriate to deal with Snowy legacy issues in advance of related reviews and Rule changes.

Snowy Hydro supported the Commission's congestion management work program, with the final determination on the Abolition proposal in August 2007 in coordination with the release of determinations on related Rule changes and reviews.<sup>273</sup> It submitted that the use of the Rule change process to change the Snowy region boundary was consistent with MCE policy to address material and enduring constraints.<sup>274</sup> Macquarie Generation agreed that the Snowy region represents a

---

<sup>268</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.19.

<sup>269</sup> Ibid, p.35.

<sup>270</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.28.

<sup>271</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.24.

<sup>272</sup> Ibid, pp.25-26.

<sup>273</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.9.

<sup>274</sup> Ibid, pp.16-17.

unique problem that demands a tailored solution through a restructure of the regional boundaries.<sup>275</sup>

However, a number of submissions considered that the Commission should not make a boundary change in advance of the MCE's Rule change and the CMR:

- The Southern Generators believed that the longer term solution to Snowy region congestion would be identified as part of the congestion management regime and consideration of the MCE's Rule change.<sup>276</sup> They submitted that the draft Rule determination was inconsistent with MCE policy.<sup>277</sup> They also considered that the Commission did not satisfactorily explain its decision to consider the Abolition proposal in terms of long term solutions, and that it was inconsistent in adopting a short term focus in its draft Rule determination;<sup>278</sup>
- The South Australian Minister for Energy stated that the outcomes of the MCE region boundary Rule change and CMR should not be pre-empted by ad hoc Rule change proposals;<sup>279</sup>
- ESIPC considered that the MCE's Rule change proposal on the reform of regional boundaries and the CMR were the appropriate processes to assess long term solutions to the problems in the Snowy region;<sup>280</sup>
- ERM Power similarly suggested that it would be inappropriate for the Commission to make a one-off boundary change prior to developing a sound boundary review framework, particularly given that the options being considered by the Commission were inconsistent with this framework;<sup>281</sup>
- International Power expressed the strong view that region boundary change should not be contemplated until the completion of these related processes.<sup>282</sup> They contended that the ad hoc approach adopted by the Commission was alarming, created regulatory uncertainty and had the potential to harm current assets and the future investment climate;<sup>283</sup> and
- Hydro Tasmania submitted that there is no need to make a change to the NEM regional structure while higher level processes are underway, because there is a working mechanism in place.<sup>284</sup> Hydro Tasmania considered that responding to

---

<sup>275</sup> Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.8.

<sup>276</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.4.

<sup>277</sup> Ibid, pp.22-23.

<sup>278</sup> Ibid, pp.4-6.

<sup>279</sup> SA Minister for Energy, s.99 Abolition submission, p.1.

<sup>280</sup> ESIPC, s.99 Abolition submission, p.1.

<sup>281</sup> ERM Power, s.99 Abolition submission, p.1.

<sup>282</sup> International Power Australia, s.99 submission, Abolition of Snowy Region, Draft Rule Determination (Abolition), p.2.

<sup>283</sup> Ibid.

<sup>284</sup> Hydro Tasmania, s.99 Abolition submission, pp.1-2.

ad hoc region change proposals is not the best approach and suggested seeking clarification from the MCE as to the conflict between the three year delay proposed in the MCE boundary Rule change proposal and the perception that there is a current need for change to address Snowy region congestion.<sup>285</sup>

By contrast, a number of submissions commented on the effect of the current uncertainty over the Snowy region boundary on market outcomes, urging the Commission to resolve the uncertainty by making an urgent decision:

- EnergyAustralia and Origin Energy submitted that the current uncertainty of the Snowy region boundary is negatively impacting the competitiveness and quantity of contracts in the NEM, and urged the Commission to quickly resolve the issue rather than waiting for the outcome of the MCE Rule proposal and the CMR;<sup>286</sup>
- Snowy Hydro indicated that it has been withholding significant volumes of contracts in the forward hedging market as a result of the uncertainty over the region boundary, with the effect of reducing liquidity and competition in the contract market.<sup>287</sup> Snowy Hydro suggested that other participants were unreasonably delaying the process by submitting revised or new proposals;<sup>288</sup>
- NEMMCO stated that participants had raised concerns with NEMMCO over the suspension of SRA units involving the Snowy region boundary due to the impact of suspension on the financial contract market.<sup>289</sup> International Power supported this view, noting that the suspension of the SRAs pending the outcome of the Rule change process had increased inter-regional trading risk and potentially harmed interstate trade.<sup>290</sup>

Snowy Hydro submitted that the Split Snowy Region proposal could not be implemented because:

- The proposed RRN would be at a point that had no material load or generation, which would be at odds with the NEM market design; and
- The proposed regional boundaries cross locations with neither material nor enduring constraints in direct contradiction of MCE policy.<sup>291</sup>

---

<sup>285</sup> Hydro Tasmania, s.99 Abolition submission, p.2; Hydro Tasmania, s.95 Split Snowy Region submission, p.2.

<sup>286</sup> See for example, EnergyAustralia, s.99 Abolition submission, p.2 and Origin Energy, s.99 Abolition submission, p.1.

<sup>287</sup> Snowy Hydro, letter to the AEMC chairman, 15 March 2007, p.3.

<sup>288</sup> Ibid, p.1.

<sup>289</sup> NEMMCO, s.95 Southern Generators' Congestion Pricing submission, p.1.

<sup>290</sup> International Power Australia, s.99 Abolition submission, p.2.

<sup>291</sup> Snowy Hydro, Supplementary submission, 26 March 2007, pp.3-4.

## **C.8.2 Considerations for Congestion Management Review and MCE Rule change**

A number of submissions raised issues for consideration in the CMR and MCE boundary Rule change process.

Westpac submitted that the real issue in the Snowy region, and other areas in the NEM, is that option 4 constraints were introduced without an effective hedging mechanism.<sup>292</sup> Westpac considered that the constraint-based residue (CBR) scheme proposed by Dr Daryl Biggar looked promising, and suggested a working group be formed with stakeholders from the Commission, NEMMCO, generators, retailers and the financial market with the aim of developing the CBR (and/or competing proposals) into a package to be implemented in the NEM.<sup>293</sup>

VENCorp noted the AER's work on developing incentives within the regulatory regime and highlighted the importance of ensuring consistency with the Commission's review of congestion management in the NEM.<sup>294</sup>

NEMMCO noted and supported the Commission's consideration of constraint formulation and the management of settlement residues in the CMR.<sup>295</sup> It suggested clauses (a), (b) and (c) of the derogation in Part 8 of Chapter 8A of the Rules should be changed to have continued operation until otherwise determined by the Commission - pending the outcomes of the Commission's determinations - rather than expiring on 31 July 2007.<sup>296 297</sup>

## **C.9 Implementation**

### **C.9.1 Technical matters**

Both NEMMCO and TransGrid noted that they did not see any issues in terms of practical implementation.

#### **C.9.1.1 Location of Jindabyne pumps and Guthega Power Station**

Snowy Hydro submitted that the Jindabyne Pumps ought to be located in Victoria, since they are hydraulically coupled to Murray generation, while Guthega Power

---

<sup>292</sup> Westpac, s.99 Abolition submission, p.3.

<sup>293</sup> Ibid.

<sup>294</sup> VENCorp, joint s.99 Abolition; and s.95 Split Snowy Region submission, p.2.

<sup>295</sup> NEMMCO, s.95 Southern Generators' Congestion Pricing submission, p.1.

<sup>296</sup> Ibid, pp.1-2.

<sup>297</sup> On 3 May 2007, the Commission determined to extend the derogation in Part 8 of Chapter 8A of the Rules to 31 October 2008 with the option to expire the whole derogation, the Tumut CSP/CSC Trial and/or Southern Generators Rule on a date other than 31 October 2008 or a specified event.

Station can only effectively supply NSW load and should therefore be located in Victoria.<sup>298</sup>

Three other submissions commented on the location of the Jindabyne Pumps and Guthega Power Station, agreeing that they should be in the Victorian region, rather than split between Victoria and NSW as proposed by Snowy Hydro. Delta Electricity suggested that there was some confusion over the physical nature of the system that could be resolved by asking TransGrid to provide independent expert advice.<sup>299</sup> TransGrid noted that the suggested location would leave Guthega on the Victorian side of an open breaker – isolated from its region. TransGrid would need to monitor whether there would be any threat to transmission equipment from these operating arrangements.<sup>300</sup> NEMMCO recommended that since both the Guthega power station and the Jindabyne pumping station are effectively connected to the Murray switching station, they should both be located in the new Victoria region.<sup>301</sup>

However, in a joint supplementary submission with Snowy Hydro, NEMMCO indicated that it were open to a boundary location that was consistent with the Abolition proposal on the understanding that TransGrid and Snowy Hydro were planning to change the normal switching arrangement for the lines.<sup>302</sup> Shortly after, NEMMCO advised the Commission that its constraint modification work for the Snowy abolition proposal would now proceed on the assumption that Guthega will be in the new NSW region and Jindabyne will be located in the new Victorian region.<sup>303</sup>

### **C.9.1.2 Revenue metering**

TransGrid considered that there is sufficient installed revenue class NEM metering at Guthega, Jindera, Lower Tumut, Murray and Upper Tumut to cater for the proposed region boundary changes, provided energy transfers remain within the Type 2 or 3 metering categories for which the installations are registered.<sup>304</sup> TransGrid thought it possible that the load on some interconnectors would increase to Type 1 energy levels, requiring additional work to upgrade metering, regardless of whether the Abolition proposal or the Split Snowy Region proposal was implemented.<sup>305</sup>

---

<sup>298</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, pp.34-35.

<sup>299</sup> In particular Delta Electricity suggested that the current arrangements are at odds with the presentation given by Snowy Hydro at the public forum. See Delta Electricity, s.99 Abolition submission, pp.6-7.

<sup>300</sup> TransGrid, s.99 submission, Abolition of Snowy Region, Draft Rule Determination; s.95 submission, Congestion Pricing and Negative Residue Management Arrangements for the Snowy Region; s.95 submission, Split Snowy Region, p.2.

<sup>301</sup> NEMMCO, s.99 submission, Abolition of Snowy Region, Draft Rule Determination, p.2.

<sup>302</sup> Joint Snowy Hydro and NEMMCO, Supplementary Submission, Abolition of Snowy Region, 6 July 2007, p.1.

<sup>303</sup> NEMMCO, Letter re: draft National Electricity Amendment (Abolition of Snowy Region) Rule 2007, 20 July 2007, p.1.

<sup>304</sup> TransGrid, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.2.

<sup>305</sup> Ibid.

TransGrid offered to work with the Commission, NEMMCO and the relevant Metering Data Providers to identify and upgrade affected installations.<sup>306</sup> TransGrid also noted that upgrading an installation is a lengthy process, requiring a minimum of 10 to 12 months and up to 3 years to complete. TransGrid proposed that the Commission provide a transitional provision in the Rules to allow up to 3 years to upgrade any metering installations required as a result of a boundary change.<sup>307</sup>

NEMMCO understood that the Murray to Tumut lines have revenue quality metering at both ends, and that the other lines forming the new interconnection also have existing revenue metering. NEMMCO also noted that the load from the Snowy to NSW regions exceeded the threshold for upgrading the revenue metering from type 2 to type 1. This issue does not arise out of the Abolition proposal but is something TransGrid and NEMMCO will have to manage in parallel.<sup>308</sup>

In contrast to TransGrid's views, NEMMCO considered that the relevant lines in the Split Snowy Region proposal do not have revenue quality metering and considerable time and expense is likely to be involved in upgrading the existing infrastructure.<sup>309</sup> NEMMCO noted there may be potential to use SCADA data as a substitute, but this would raise a number of issues, including the need to develop appropriate policies and procedures.<sup>310</sup>

### **C.9.1.3 Region boundary**

Snowy Hydro proposed that the Victoria-NSW region boundary be located at the Guthega 132kV busbar, yielding closed regions and no islanding.<sup>311</sup> TransGrid proposed that the Commission chooses the region boundary to minimise the extent of transmission assets assigned across a boundary into a different region.<sup>312</sup> TransGrid proposed the location of the region boundary should be at the Murray switching station, at the end of lines 65 and 66.<sup>313</sup> NEMMCO also recommended the boundary on the Murray to Tumut lines be located closer to the Victorian (Murray) end, to achieve consistency with nearby lines. In its submission, NEMMCO specifically provided definitions for the revised boundaries that would form the basis for the constraint development work should a final decision not be available at that time.<sup>314</sup> In a joint submission with Snowy Hydro, NEMMCO indicated that it was open to a boundary location that was consistent with the Abolition proposal.<sup>315</sup>

---

<sup>306</sup> Ibid.

<sup>307</sup> Ibid.

<sup>308</sup> NEMMCO, s.99 Abolition submission, p.2-3.

<sup>309</sup> NEMMCO, s.95 Split Snowy Region submission, p.1.

<sup>310</sup> Ibid, p.2.

<sup>311</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.35.

<sup>312</sup> TransGrid, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.2.

<sup>313</sup> Ibid.

<sup>314</sup> NEMMCO, s.99 Abolition submission, p.2.

<sup>315</sup> Joint Snowy Hydro and NEMMCO, supplementary Abolition submission, p.1.

NEMMCO consequently wrote to the Commission indicating that it would proceed with the process for constraint building on the assumption that the Guthega power station would be in the NSW region and the Jindabyne pumps would be in the Victoria region.<sup>316</sup>

#### **C.9.1.4 Loop flows and load**

Snowy Hydro contended that the Split Snowy region proposal could not be practically implemented because a loop flow, which NEMDE cannot support, would be created between Victoria and NSW through Redcliffs.<sup>317</sup> Snowy Hydro also commented that the Wodonga load would be redefined into NSW.

#### **C.9.1.5 Demand forecasts**

VENCorp noted that a change in regional structure may necessitate adjustments to the calculation of Victorian regional demand (including the Jindabyne pump and losses on the Murray to Dederang transmission lines).<sup>318</sup> TransGrid expressed the view that any modification to the Snowy line will have little, if any, impacts on the current load forecasting requirements and practices of the organisation.<sup>319</sup>

#### **C.9.2 Start date**

Views of participants were mixed on the appropriate start date for the Snowy Hydro Rule change proposal, with some contending that any further delay would be problematic and others suggesting that the Commission's proposed start date was unrealistically early.

Delta Electricity believed that the proposed start date, 04 November 2007, may not provide sufficient time for market participants to prepare for the major change to the NEM. Delta Electricity recommended that the Commission consult market participants for a more realistic start date.<sup>320</sup> The Southern Generators agreed, saying that a notice period of at least one year would be required to allow participants to adjust their positions, and that the Commission's proposed start date would cause substantial additional disruption to contract markets.<sup>321</sup> The Southern Generators also questioned the Commission's decision to set a start date that falls

---

<sup>316</sup> NEMMCO, letter to the AEMC, 20 July 2007, p.1.

<sup>317</sup> Snowy Hydro, Supplementary submission, 26 March 2007, p.3.

<sup>318</sup> VENCorp, joint s.99 Abolition; and s.95 Split Snowy Region submission, p.3.

<sup>319</sup> TransGrid, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.3.

<sup>320</sup> Country Energy, s.99 Abolition submission, p.7.

<sup>321</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.19.



within a quarter, given the quarterly frequency of SRAs, and suggested that the Commission consider the costs and benefits of alternative start dates.<sup>322</sup>

EnergyAustralia suggested a shorter time frame should be possible, as participants have already commenced transitioning their portfolios.<sup>323</sup>

Snowy Hydro strongly opposed any form of extension of the Southern Generators Rule beyond 31 July 2007, contending that the derogations are resulting in significant market stress.<sup>324</sup>

NEMMCO advised that its proposed start date of 1 July 2008 was based on the assumption that a final determination on the Abolition proposal would be issued by the end of June 2007, and that any delays beyond this time in publication of the final determination would put at risk NEMMCO's ability to meet the proposed 1 July 2008 start date.<sup>325</sup> NEMMCO noted that the extension of the timetable reduced the importance of the savings and transitional arrangements the Commission incorporated, but recommended that these be maintained to facilitate transition.<sup>326</sup> In order to implement the Abolition proposal by July 2008, NEMMCO stated it would commence constraint building on the basis of the boundary definitions as set out in its submission, and consequently amended in its July 2007 letter.<sup>327</sup>

NEMMCO expected that the implementation effort and elapsed time to implement the Split Snowy Region proposal would be similar to that required for the Abolition proposal, and noted that the 1 July 2008 start date was dependent on commencing work by the end of June 2007.<sup>328</sup>

EnergyAustralia expressed the view that the start date could be advanced if NEMMCO outsourced some work to third party contractors, and urged the Commission to make this enquiry to NEMMCO.<sup>329</sup> TransGrid and Snowy Hydro both offered resources to assist NEMMCO in the reorientation of constraints to accommodate the region boundary change.<sup>330</sup> Snowy Hydro further contended that NEMMCO's work program was conservative, for example, by failing to allow for work streams to be conducted in parallel where possible.<sup>331</sup> Snowy Hydro suggested a number of areas where time could be saved in NEMMCO's project

---

<sup>322</sup> Ibid, pp.19-20.

<sup>323</sup> EnergyAustralia, s.99 Abolition submission, pp.2-3.

<sup>324</sup> Snowy Hydro, letter to AEMC chairman, 15 March 2007, p.2.

<sup>325</sup> NEMMCO, s.99 Abolition submission, p.1.

<sup>326</sup> Ibid, p.3.

<sup>327</sup> NEMMCO, letter to the AEMC, 20 July 2007, p.1.

<sup>328</sup> NEMMCO, s.95 Split Snowy Region submission, p.1.

<sup>329</sup> EnergyAustralia, s.99 Abolition submission, p.2.

<sup>330</sup> TransGrid, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.3; Snowy Hydro, Supplementary submission, 26 March 2007, p.5.

<sup>331</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.42.

plan.<sup>332</sup> Snowy Hydro concluded, based on NEMMCO advice, that a start date of 4 November or 30 December at the very latest would be achievable.<sup>333</sup>

### C.9.3 TNSP issues

VENCorp and TransGrid raised a number of implementation issues relating to the regulatory regime for TNSPs:

- Revenue determinations are based on the physical location of assets within jurisdictional boundaries, rather than NEM regional boundaries. Recovery of approved revenue is jurisdictional based. Where there are multiple TNSPs within a region, a Coordinating Network Service Provider (cl 6A.29.1(a) of the Rules) must be appointed to set prices for connection points within the region and make payments to other TNSPs with assets in the region.<sup>334</sup> TransGrid suggested this could be addressed by relocating the region boundary to Murray switching station;
- It is possible that there will be disparities in TransGrid’s jurisdictional licence or operational policies that will have implications for a key line in the region;<sup>335</sup> and
- TransGrid noted that the Commission’s analysis indicated prices between NSW and Victoria were likely to converge, which would reduce the IRSRs payable to TransGrid, in turn resulting in a material increase in transmission charges paid by NSW customers.<sup>336</sup> However, TransGrid noted that this increase was likely to be offset by more competitive energy prices.<sup>337</sup>

### C.9.4 Rule changes

The only submission to comment on the wording of the proposed Rule change was from NEMMCO:<sup>338</sup>

- A reference should be made to “the *regional reference node* located in the Snowy region”, rather than naming specific location names, since the name of each regional reference node is not a defined term in the Rules;
- The current definition of “Sydney Time” should be retained since NEMMCO uses this for settlements purposes; and

---

<sup>332</sup> Including, for example, testing system normal constraints while system not-normal constraints are under development and allowing excessive time for changes to be made to SRA arrangements. Snowy Hydro joint s.99 Abolition; s.95 Southern Generators’ Congestion Pricing; and s.95 Split Snowy Region submission, pp.42-44.

<sup>333</sup> Ibid, p.44.

<sup>334</sup> VENCORP, joint s.99 Abolition; and s.95 Split Snowy Region submission, p.2.

<sup>335</sup> Ibid.

<sup>336</sup> TransGrid, joint s.99 Abolition; s.95 Southern Generators’ Congestion Pricing; and s.95 Split Snowy Region submission, p.3.

<sup>337</sup> Ibid.

<sup>338</sup> NEMMCO, s.99 Abolition submission, p.1.

- Terms that were defined for the transitional provisions were highlighted in such a way that they would not become defined terms under the Rules.

## C.10 Modelling

In general, participants were supportive of the level of modelling analysis adopted by the Commission in its Draft Rule Determination. However, several submissions suggested additional modelling analysis was required.

### C.10.1 Limitations of modelling assumptions

ESIPC noted that the modelling undertaken for the Commission was extensive and included a range of assumptions about the portfolios of different market participants and their costs, contract levels and commercial strategies. These strategies, in particular, were likely to change over time. However, ESIPC did not make any suggestions as to how the Commission's analysis could be improved in this regard.<sup>339</sup>

Hydro Tasmania considered that the modelling undertaken to date did not weight the periods of peak demand appropriately.<sup>340</sup> Hydro Tasmania also stated that ignoring market responses to the occurrence and risk of planned and unplanned network outages would have understated the impact of the selected regional structures.<sup>341</sup>

Macquarie Generation supported the modelling approach, but expressed concern over two aspects of the modelling:

- The impact of system outage conditions.<sup>342</sup> Macquarie Generation suggested that the assumption of system normal conditions favoured the Abolition proposal. This was because even if Snowy Hydro were bidding strategically to take advantage of an intra-regional constraint, the modelling would not reveal any costs from this behaviour and there was no possibility of counter price flows occurring.<sup>343</sup> Consequently, Macquarie Generation recommended that the Commission model the impact of non-normal conditions on the incentives for Snowy Hydro under both the Abolition proposal and Split Snowy Region proposal.<sup>344</sup> It suggested the possibility of applying an interconnector constraint duration curve based on historic transmission flows;<sup>345</sup> and

---

<sup>339</sup> ESIPC, s.99 Abolition submission, p.2.

<sup>340</sup> Hydro Tasmania, s.95 Split Snowy Region submission, p.3.

<sup>341</sup> Ibid.

<sup>342</sup> Macquarie Generation, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.3.

<sup>343</sup> Ibid, p.6.

<sup>344</sup> Ibid, p.3.

<sup>345</sup> Ibid.

- The use of simplified constraint equations from the Annual National Transmission Statement.<sup>346</sup> Macquarie Generation are concerned this may overstate the likely level of inter-regional flows between Victoria and NSW. They suggest the Commission ask NEMMCO to conduct detailed load flow analysis to estimate maximum possible interconnector flows under various scenarios.<sup>347</sup>

Delta Electricity referred to comments by the AEMC's consultant, Danny Price from Frontier Economics, at the public forum on the draft Rule Determination, in which Mr Price highlighted the risks of a single generator exercising market power during non-system normal conditions.<sup>348</sup> Delta Electricity suggested that additional modelling, drawing on assumptions suggested by market participants in submissions and at the public forum, was required to validate the robustness of the Split Snowy Region proposal as an alternative to the abolition of the Snowy Region.<sup>349</sup>

### **C.10.2 Additional modelling to assess alternatives**

NEMMCO suggested analysis could be undertaken to assess whether the inefficient market outcomes referred to by Snowy Hydro, when both the Murray/Tumut and South Morang or La Trobe Valley constraints bind, arise principally because of CSP/CSC arrangements together with the Southern Generators Rule or because suitable congestion management has not been put in place for these other constraints.<sup>350</sup>

The Southern Generators believed that the Commission's modelling analysis needed to be extended to cover the current arrangements prior to a final determination.<sup>351</sup>

### **C.10.3 Southern Generators' modelling**

Snowy Hydro rejected the appropriateness of the ROAM modelling commissioned by the Southern Generators, stating that it was not comparable with, and was inferior to, the Commission's modelling. Snowy Hydro concluded that it was not possible to draw any conclusion from this work.<sup>352</sup> In particular they noted:

- ROAM did not use any game theoretic modelling, allowing only Snowy Hydro's plant to bid strategically and make volume/price trade-offs. Snowy Hydro suggested that this inappropriate assumptions were used for Snowy Hydro bidding;

---

<sup>346</sup> Ibid, p.8.

<sup>347</sup> Ibid.

<sup>348</sup> Delta Electricity, s.99 Abolition submission, p.4.

<sup>349</sup> Ibid, p.7.

<sup>350</sup> NEMMCO, s.95 Southern Generators' Congestion Pricing submission, p.2.

<sup>351</sup> Southern Generators, s.99 Abolition submission; s.95 Southern Generators' Congestion Pricing submission, p.17.

<sup>352</sup> Snowy Hydro, joint s.99 Abolition; s.95 Southern Generators' Congestion Pricing; and s.95 Split Snowy Region submission, p.11.

- There was no allowance for the contract level of participants, which was likely to affect participant bidding; and
- The Snowy Hydro energy level was not kept constant throughout the modelling.<sup>353</sup>

## **Part 2 – First round submissions on the Abolition proposal**

Part 2 of this Appendix presents a summary of submissions received before 19 January 2007 as part of the consultation process on the Abolition proposal and related alternatives.

The alternative considered in these submissions was Macquarie Generation's February 2006 "Alternative Snowy Region Boundary" Rule change proposal. This proposal sought to replace the existing Snowy region with two new load-bearing regions, one in northern Victoria and one in south-west NSW. On 22 March 2007, the Commission published a notice of its decision to discontinue the Rule making process for the Rule change proposal. Its reasons for this decision and the notice are available on the AEMC website. This proposal is referred to as the "discontinued Macquarie Generation proposal" in this Part of the Appendix.

### **C.11 First round consultation**

On 12 January 2006, the Commission commenced first round consultation under section 95 of the NEL on the Abolition proposal. Submissions on the proposal were to close on 10 March 2006. Snowy Hydro gave a presentation to the Commission on its proposal on 10 February 2006.

On 16 February 2006, the Commission published a section 107 notice to extend consultation on the proposal from 10 March 2006 to 24 March 2006. Its reasoning for this extension was to allow consideration of the Abolition proposal and the alternative discontinued Macquarie Generation proposal as it commenced first round consultation on the latter proposal on the 16 February 2006. Aligning the consultation periods enabled the co-ordination of submissions on both proposals.

The Commission received ten submissions that combined comments on both the Abolition and discontinued Macquarie Generation proposals from: Delta Electricity, Eraring Energy, National Electricity Market Management Company (NEMMCO), Origin Energy, Westpac Institutional Bank, the Australian Energy Regulator (AER), Ergon Energy, Energy Users Association of Australia (EUAA), and the Southern Generators. Four submissions from CS Energy, the Energy Retailers Association of Australia (ERAA), Snowy Hydro Ltd, and TransGrid submitted submissions on the Abolition proposal. Four submissions from CS Energy, the ERAA, Snowy Hydro Ltd., and Wambo Power Ventures were received on the discontinued Macquarie

---

<sup>353</sup> Ibid, pp.10-11.

Generation proposal. Five supplementary submissions from the Southern Generators, Wambo Power Ventures, Hydro Tasmania, Macquarie Generation, and Snowy Hydro were also received.

Origin Energy and Snowy Hydro supported the Abolition proposal and did not support the discontinued Macquarie Generation proposal. CS Energy supported the Abolition proposal as a short-term solution and considered the discontinued Macquarie Generation proposal may be considered as part of a longer-term option. The EUAA supported the discontinued Macquarie Generation proposal as the best long-term solution but thought its consideration should wait until the Congestion Management Review concluded. TransGrid's submission responded to statements presented in the Abolition proposal document. The remaining submissions did not support either proposal.

## **C.12 Preparation of Draft Rule Determination**

In preparing the Draft Rule Determination, the Commission sought comment from stakeholders on the modelling approach to be used to assess the Snowy region boundary change proposals. It also asked NEMMCO for advice regarding the process for implementing a region boundary change. Stakeholders submitted comments on the modelling approach and NEMMCO's implementation advice.

### **C.12.1 Information Disclosure Statement – 15 June 2006**

In preparing the Draft Rule Determination, the Commission published an Information Disclosure Statement on 15 June 2006 seeking comments on the modelling inputs and approach being adopted for the Snowy region boundary Rule change proposals. Submissions on this public consultation closed on 23 June 2006. Hydro Tasmania and Snowy Hydro Ltd. submitted comments on the Information Disclosure Statement.

### **C.12.2 Implementation of a region boundary change**

The Commission wrote to NEMMCO on 12 July 2006 requesting advice and clarification on understanding what process must be undertaken in order to implement a region boundary change and how long that process would take. NEMMCO responded on 25 August 2006. The Commission asked for stakeholder comments on NEMMCO's response by 13 October 2006. Six submissions on implementation were received from: the ERAA, Snowy Hydro Ltd., Macquarie Generation, Country Energy, Delta Electricity, and Ergon Energy.

## **C.13 Submissions related to the Snowy region boundary change proposals**

Due to the overlapping content of submissions to the above consultations, the summary below reflects comments related to the Commission's assessment criteria. Comments specifically related to the modelling approach are presented in Appendix A.

### **C.13.1 Timing of consideration (including on alternatives)**

Twelve submissions commented on the interactions between the Abolition and discontinued Macquarie Generation proposals, the proposed MCE Reform of Regional Boundaries Rule change proposal, (MCE boundary criteria proposal) and the Congestion Management Review (CMR).

#### **C.13.1.1 Consider Snowy region boundary change proposals now**

Five submissions preferred to see the Abolition and discontinued Macquarie Generation proposals progressed prior to considering the MCE boundary criteria proposal and CMR.

- Delta Electricity suggested both proposals could be used as test cases for developing criteria for congestion management and regional boundaries;<sup>354</sup>
- NEMMCO did not oppose fast-tracking but stated that the proposals should demonstrate the economic benefit characteristics outlined in the MCE proposal;<sup>355</sup>
- Eraring Energy suggested that a robust process for assessing alternative boundary proposals would be an outcome from considering the Snowy boundary Rule change proposals;<sup>356</sup>
- The numerous interim measures to deal with the congestion problems in the Snowy region convinced CS Energy that the Commission should consider these proposals now rather than waiting until the region boundary change process was finalised;<sup>357</sup> and
- Snowy Hydro stated that while the process proposed in the MCE boundary criteria proposal was sound, existing problems, like that in the Snowy region, should be corrected prior to implementing the new arrangements.<sup>358</sup>

Hydro Tasmania noted that the Commission was considering the Snowy boundary change proposals prior to determining a general region boundary criteria. It considered, however, that “in the interest of consistency”, lessons from the proposed modelling exercises should inform the more general criteria.<sup>359</sup> In a supplementary submission, Hydro Tasmania stated that the Southern Generators Rule “appears to have resolved all the known dispatch and pricing issues in relation to the constraint

---

<sup>354</sup> Delta Electricity, s.95 submission, Abolition and discontinued Macquarie Generation proposals, 23 March 2006, p.2.

<sup>355</sup> NEMMCO, s.95 submission, Abolition and discontinued Macquarie Generation proposals, 7 March 2006, p.1.

<sup>356</sup> Eraring Energy, s.95 submission, Abolition and discontinued Macquarie Generation proposals, 22 March 2006, p.1.

<sup>357</sup> CS Energy, s.95 submission, Abolition proposal, 24 March 2006, p.1.

<sup>358</sup> Snowy Hydro, s.95 submission, Abolition proposal, p.14.

<sup>359</sup> Hydro Tasmania, Submission on Information Disclosure Statement June 2006, 23 June 2006, p.2.

within the Snowy region” so the assessment of a boundary changes should now focus on the consequences of loss modelling.<sup>360</sup>

### **C.13.1.2 Consider Snowy region boundary change proposals, Congestion Management Review, and proposed MCE boundary change criteria together**

The AER supported an approach considering the proposals and Congestion Management Review (CMR) in parallel. It considered an holistic review process would allow consideration of all the possible options rather than a narrow approach focussed on considering Rule change proposals.<sup>361</sup> The Southern Generators supported consideration of these boundary change proposals within the CMR so propose a “sensible and co-ordinated [congestion management] regime”, which would put forward, if necessary, a single optimal change.<sup>362</sup>

### **C.13.1.3 Consider the CMR and proposed MCE boundary change criteria first**

Origin Energy stated that it saw the Abolition and discontinued Macquarie Generation proposals as alternatives, addressing the same issue. The proposals should therefore be considered together, it stated. Origin Energy commented, though, that the CMR, including details on economic criteria for analysing boundary changes, should be finalised first. Once the criteria were settled, Origin Energy proposed consideration of these Snowy boundary change proposals should be fast-tracked.<sup>363</sup>

The ERAA expressed support for a formal boundary change process. Its view was to expedite consideration on the MCE proposal then use those findings to consider these proposals on the Snowy region boundary. The ERAA was concerned with a fast-track solution without comprehensive economic analysis to ensure it was the most efficient long-term solution.<sup>364</sup>

Wambo Power Ventures stated it was “inappropriate” to agree to a one-off change to the region boundary structure pending the development of a general framework.<sup>365</sup>

---

<sup>360</sup> Hydro Tasmania, Supplementary s.95 submission, Abolition and discontinued Macquarie Generation proposals, 5 October 2006, p.1-2.

<sup>361</sup> AER, s.95 submission, Abolition and discontinued Macquarie Generation proposals, 24 March 2006, p.1.

<sup>362</sup> Southern Generators, s.95 submission, Abolition and discontinued Macquarie Generation proposals, 24 March 2006, p.2.

<sup>363</sup> Origin Energy, s.95 submission, Abolition and discontinued Macquarie Generation proposals, 4 April 2006, p.1-2.

<sup>364</sup> ERAA, s.95 submission, Abolition proposal, 23 March 2006, p.2.

<sup>365</sup> Wambo Power Ventures, s.95 submission, Abolition and discontinued Macquarie Generation proposals, 24 March 2006, p.1.



## **C.13.2 Economic efficiency of dispatch**

### **C.13.2.1 Positive affect on dispatch efficiency**

Origin Energy considered that by increasing the number of generators observing the same price signals, the Abolition proposal would enhance competitive neutrality, decrease bidding distortions, and lower the ability for each generator to influence its price for output.<sup>366</sup>

Snowy Hydro stated its proposal would increase generation from Tumut into NSW because it would no longer need to keep the lines into NSW unconstrained. It calculated that the net economic benefit of placing Tumut generation in NSW was around \$3.34 million.<sup>367</sup> The discontinued Macquarie Generation proposal, Snowy Hydro argued, would not eliminate Tumut generation's incentives to maintain headroom on the transmission lines into NSW.<sup>368</sup>

On the other hand, the EUAA considered the discontinued Macquarie Generation proposal provided the best means to align regional boundaries and financial transactions with transmission constraints and to minimise the need for special arrangements to manage intra-regional constraints.<sup>369</sup>

### **C.13.2.2 Adverse affect on dispatch efficiency**

The Southern Generators stated that a proposal should be rejected if it reduced dispatch efficiency.<sup>370</sup> The discontinued Macquarie Generation proposal, they stated, moved transparent pricing through the existing inter-regional constraints to intra-regional constraints.

Eraring Energy stated it opposed both proposals because they moved from explicitly pricing congestion on existing interconnectors to not pricing congestion because the existing interconnectors would become intra-regional transmission lines. In its view, both proposals would "fix one problem and create two new problems."<sup>371</sup> The Southern Generators concurred with the concern of moving away from explicitly pricing the inter-regional congestion on the "Dederang-Murray" southward constraint. They expressed a similar concern with the constraints north of Tumut generation.<sup>372</sup>

Westpac stated that the Abolition proposal created incentives for Tumut generation capacity to be offered at very low prices, yet would be "immune" to the shadow

---

<sup>366</sup> Origin Energy, s.95 submission, p.1.

<sup>367</sup> Snowy Hydro, s.95 submission, Abolition proposal, p.8-9.

<sup>368</sup> Snowy Hydro, Submission, June 2006 Information Disclosure Statement, 21 June 2006, p.4.

<sup>369</sup> EUAA, Attachment to s.95 submission, Abolition and discontinued Macquarie Generation proposals, 24 March 2006, p.6.

<sup>370</sup> Southern Generators, s.95 submission, p.6.

<sup>371</sup> Eraring Energy, s.95 submission, p.2, 5.

<sup>372</sup> Southern Generators, s.95 submission, p.7-8.

price at the Tumut node. It considered under this proposal, Snowy Hydro's ability to act as a "gate keeper" was not reduced; if anything it was more likely to increase it. Westpac continued, stating this would disadvantage the Victorian generators by shutting them out of the NSW market, even if there were no counter-price flows.<sup>373</sup> The EUAA considered the Abolition proposal was unlikely to stand as a long-term solution because other intra-regional transmission constraints north and south of the Snowy region would require congestion management mechanisms, like CSP/CSC in the future.<sup>374</sup>

Snowy Hydro stated that the discontinued Macquarie Generation proposal was "technically incorrect". It commented that Upper Tumut was "firmly connected" to Canberra and Yass, and it would therefore be "incorrect to place a boundary between these locations".<sup>375</sup>

TransGrid noted that in its Rule change proposal, Snowy Hydro commented that the current Snowy region boundary may create perverse incentives to invest in a 500kV ring upgrade as a way to increase supply from north NSW into the Sydney area. TransGrid responded to this claim by stating that any potential transmission investment needed to pass the Regulatory Test, and that it was "questionable" to argue that Snowy Hydro's proposed region boundary change provided exactly the same benefits as TransGrid's 500kV upgrade.<sup>376</sup>

In its technical supplementary submission, the Southern Generators commented their analysis of constraint locations relative to the proposed Snowy region boundaries indicated the discontinued Macquarie Generation proposal would provide a more accurate representation than existing regions, but that in others, it would be less accurate. They concluded for all constraints, the Abolition proposal, would have been "equal to or worse than the existing regions with the Tumut [CSP/CSC] trial in place."<sup>377</sup>

The Southern Generators proposed that the problems in the Snowy region could be better addressed by the permanent application of a CSP/CSC arrangement for both Murray and Tumut power stations. The allocation of CSC would follow a similar logic to that currently used to determine Tumut's allocation.<sup>378</sup>

### **C.13.2.3 Introduction of region loop flows**

Several submissions expressed concern that the discontinued Macquarie Generation proposal introduced an inter-regional loop flow between South Australia, Victoria, and the new Northern Victoria region. The Southern Generators, Westpac, Eraring

---

<sup>373</sup> Westpac, s.95 submission, Abolition and discontinued Macquarie Generation proposals, 24 March 2006, para 8-10.

<sup>374</sup> EUAA, Attachment to s.95 submission, p.6.

<sup>375</sup> Snowy Hydro, s.95 submission, discontinued Macquarie Generation proposal, 23 March 2003, p.7.

<sup>376</sup> TransGrid, s.95 submission, Abolition proposal, 27 March 2006, p.2-3.

<sup>377</sup> Southern Generators, Supplementary s.95 submission, Abolition and discontinued Macquarie Generation proposals, 31 March 2006, p.3.

<sup>378</sup> Southern Generators, s.95 submission, p.11.

Energy, Snowy Hydro, and NEMMCO all raised this concern in various submissions.<sup>379</sup>

Macquarie Generation submitted a supplementary submission stating its proposal intended to “preserve the linear structure of the NEM”. This, it stated, would “mitigate the need to implement a network model representation” so did not require fundamental changes to the NEM dispatch engine.<sup>380</sup>

Delta Electricity noted that when considering these boundary changes, the AEMC should “ensure the changed region does not have a generator or a [regional reference node (RRN)] in the loop.”<sup>381</sup>

#### **C.13.2.4 Loss factors**

In its supplementary submission, Hydro Tasmania raised a concern of the impact on dispatch efficiency and pricing implications from moving Murray and Tumut generation from dynamic loss factors to static loss factors. At the moment, the impact on dispatch efficiency due to the Murray-Tumut constraint is only during the short period that the constraint binds. A change in loss factor accuracy resulting from the move to static loss factors would affect dispatch efficiency all the time.<sup>382</sup>

Snowy Hydro addressed Hydro Tasmania’s concerns in its own supplementary submission. Snowy Hydro stated that under its boundary change proposal, the marginal loss factors for Murray and Tumut generation were no different from loss factors in other locations in the NEM. It considered the impact of marginal loss factors to be immaterial as they “are only an issue in the case of dynamic efficiency when due to dynamic loss factors one plant is dispatched in preference to another.”<sup>383</sup>

#### **C.13.3 Pricing outcomes and participant responses**

Origin Energy stated that it preferred the Abolition proposal since prices tended to be less volatile in larger regions because more generators observed the same price signals and there is more trade around prices that reflect a higher concentration of generation and load.<sup>384</sup>

---

<sup>379</sup> Southern Generators, s.95 submission, p.8; Westpac, s.95 submission, para 13; Eraring Energy, s.95 submission, p.4; NEMMCO, Letter to Dr John Tamblyn, Implementation of a region boundary change, 25 August 2006, p.9-10; Snowy Hydro, Submission on implementation, 12 October 2006, p.3.

<sup>380</sup> Macquarie Generation, Supplementary submission, discontinued Macquarie Generation proposal, 21 April 2006.

<sup>381</sup> Delta Electricity, s.95 submission, p.3.

<sup>382</sup> Hydro Tasmania, Supplementary s.95 submission on Abolition proposal, p.2.

<sup>383</sup> Snowy Hydro, Supplementary s.95 submission, Abolition proposal, 20 November 2006, Attachment A.

<sup>384</sup> Origin Energy, s.95 submission, p.1.

ERAA stated it supported regional boundaries that promoted efficient pricing as that provided appropriate investment signals to both generation and load.<sup>385</sup> The Southern Generators noted though, it was important to consider if implementing a region boundary change caused any new mispricing.<sup>386</sup>

Both the Southern Generators and Westpac suggested that new regional reference nodes should be located near generation (e.g. Murray or Tumut) since load was not as responsive to price signals as generation.<sup>387</sup>

In its submission to the June 2006 Information Disclosure Statement, Snowy Hydro commented that because the current Snowy region had no consumers, measuring the impact of the proposals on prices in the Snowy region was not necessary. It stated there would be no efficiency gains from cost reflective pricing. Rather, it continued, the impact of the proposals on prices in NSW and Victoria should be an important consideration.<sup>388</sup>

Under the Abolition proposal, TransGrid raised that the total settlement residues available for auctioning may be lower, resulting in lower Settlement Residue Auction proceeds to end customers currently used to offset transmission charges. This may result in increased transmission charges TransGrid noted.<sup>389</sup>

#### **C.13.4 Inter-regional trading and risk management**

Ergon Energy stated that a change in region boundaries should be accompanied by significant net economic efficiencies and enhanced market operations because of risks (and resultant costs) associated with trading across regions.<sup>390</sup> It is these risks and costs that submissions focused on when commenting on the affect the Abolition and discontinued Macquarie Generation proposals may have on a participant's ability to manage inter-regional price risk.

Submissions recommended that the Commission should consider the potential impact of the dissipating the NSW Electricity Tariff Equalisation Fund (EETF) arrangements on Retailers. The NSW Government announced its intention to phase out EETF from October 2008 to 20 June 2010. Submissions commented that uncertainty of the Snowy region boundary was influencing NSW retailers willingness to contract at this time to cover the volume previously covered by EETF. Effected retailers face increased uncertainty regarding counterparty risk, price, and instrument type.<sup>391</sup> Snowy Hydro also stated that uncertainty over the Snowy

---

<sup>385</sup> ERAA, s.95 submission, Abolition proposal, 23 March 2006, p.1.

<sup>386</sup> Southern Generators, s.95 submission, p.6.

<sup>387</sup> Ibid; Westpac, s.95 submission, para 13.

<sup>388</sup> Snowy Hydro, Submission on June 2006 Information Disclosure Statement, p.5.

<sup>389</sup> TransGrid, s.95 submission, p.3.

<sup>390</sup> Ergon Energy, s.95 submission, Abolition and discontinued Macquarie Generation proposals, 25 March 2006, p.1.

<sup>391</sup> Country Energy, Submission on implementation, 13 October 2006, p.2; Snowy Hydro, Supplementary s.95 submission, p.2-3.

region boundary was limiting its own ability to transact in medium- and long-term contracts.<sup>392</sup>

When considering the affect of a region boundary change on risk management, submissions favoured the Abolition proposal. Country Energy, Origin Energy, and Snowy Hydro all noted that this proposal was the less disruptive compared to the discontinued Macquarie Generation proposal. Submissions considered that the Abolition proposal would:

- improve hedging contract liquidity;<sup>393</sup> and
- create fewer regions meaning fewer transmission paths to be hedged by retailers, reducing basis risk and encouraging inter-regional trade.<sup>394</sup>

One of the main criticisms submissions presented for the discontinued Macquarie Generation proposal related to the significant market impact on existing hedging contracts and the future implications of inter-regional trading. Submissions considered that the discontinued Macquarie Generation proposal would:

- create substantial contract basis risk and increased volatility for participants;<sup>395</sup>
- reduce market liquidity, encouraging the creation of smaller “regional markets”;<sup>396</sup>
- introduce financial complexity by creating two new load-bearing regions, which the additional Settlement Residue Auctions required for hedging the added price risk and would not efficiently manage because the Auctions are not a firm instruments for hedging;<sup>397</sup>
- introduce significant new system and transaction costs for retailers, including the cost and time of unravelling and renegotiating existing contracts, which could take up to five years to complete;<sup>398</sup> and
- introduce “substantial complexity for retailers in ensuring customer prices in each state remain uniform in line with requirements by state governments”.<sup>399</sup>

On the other hand, the EUAA considered that a potential for well-defined regions, like in the discontinued Macquarie Generation proposal, would provide customers for Snowy Hydro to contract with no additional inter-regional trading risk. The

---

<sup>392</sup> Snowy Hydro, Supplementary s.95 submission, p.2.

<sup>393</sup> Country Energy, Submission on implementation, p.3; Origin Energy, s.95 submission, p.1.

<sup>394</sup> Origin Energy, s.95 submission, p.1.

<sup>395</sup> Eraring Energy, s.95 submission, p.5; Wambo Power Ventures, Supplementary s.95 submission, discontinued Macquarie Generation proposal, 15 May 2006, p.1; Origin Energy, s.95 submission, p.1.

<sup>396</sup> Delta Electricity, Submission on Implementation, 11 October 2006, p.2

<sup>397</sup> Country Energy, Submission on implementation, p.2

<sup>398</sup> Origin Energy, s.95 submission, p.1; Country Energy, Submission on implementation, p.1; ERAA, Submission on implementation, 13 October 2006, p.2-3.

<sup>399</sup> Origin Energy, s.95 submission, p.2

additional regions in northern Victoria and southwest NSW could provide more economic incentives for local generation, including co-generation, leading to lower losses and lower prices for customers. The EUAA did not think that some of these benefits may be offset with the additional costs of trading through more regions and that this trade-off would need to be investigated by the Commission.<sup>400</sup>

### **C.13.5 Power system security, supply reliability, and technical factors**

The only one to discuss power system security and supply reliability, NEMMCO's submission noted that neither Snowy Hydro nor Macquarie Generation acknowledged whether there may be any unintended consequences on the power system should their proposals be accepted.<sup>401</sup>

### **C.13.6 Good regulatory practice**

Almost all submissions agreed that the intra-regional congestion problem in the existing Snowy region affected dispatch and pricing efficiency, and investment efficiency.

#### **C.13.6.1 Assessment principles**

Snowy Hydro stated that any "dispatch efficiency losses from current pricing arrangements have to be balanced against any dispatch inefficiencies under regional pricing arrangements." It also considered investment efficient and price impacts were important assessment criteria to include when considering region boundary change proposals.<sup>402</sup>

Eraring Energy suggested criteria that was consistent with the MCE proposal, with the addition of considering that a change should not introduce major "basis risk" for market participants that cannot be managed by recontracting or using inter-regional hedging products.<sup>403</sup>

#### **C.13.6.2 Minimisation of operational intervention in the market**

Eraring Energy commented that the Snowy CSP/CSC Trial had a number of problems including: being complicated, having no defined assessment criteria; lack of transparency with CSC allocation; and no defined means of allocating CSC rights. Eraring Energy suggested that conceptually, implementation of a CSP/CSC mechanism avoids the need for additional region boundaries because the mechanism introduces localised nodal pricing in a dynamic way. However, it noted the CSP/CSC mechanism was complicated to both understand and implement. Eraring Energy agreed with both the Abolition and discontinued Macquarie Generation

---

<sup>400</sup> EUAA, Attachment to s.95 submission, p.6.

<sup>401</sup> NEMMCO, s.95 submission, p.3.

<sup>402</sup> Snowy Hydro, Submission on June 2006 Information Disclosure Statement, p.3, 4.

<sup>403</sup> Eraring Energy, s.95 submission, p.1.

proposals to convert the cross-section between Murray and Tumut generation into an interconnector. It did not support the proposal's choices to move away from explicitly pricing congestion on the existing interconnectors.<sup>404</sup>

Eraring Energy put forward an alternative proposal in its first round submission ("Eraring counter-factual") that retained the existing interconnectors and would explicitly price the Murray-Tumut constraint in a more transparent way than the existing CSP/CSC regime. It proposed its option: would not introduce "basis risk" for market participants; could be implemented quickly; and resolved the negative residue problem for Victoria to Snowy region flows.<sup>405</sup>

### **C.13.6.3 Promotion of stability and predictability**

CS Energy viewed continued stability of region boundaries as crucial for market certainty as changes in regional boundaries are a significant and long term regulatory risk for the NEM.<sup>406</sup> Ergon Energy concurred stating that a stable region boundary structure prompted efficient dispatch, pricing, and risk management.<sup>407</sup>

Noting that every region boundary adds trading risks, the ERAA supported region boundaries that allowed for retailers to effectively manage the risk of trading in a multi-region market, minimising the number of regions while maintaining economic efficiency.<sup>408</sup>

### **C.13.6.4 Promotion of transparency**

CS Energy stated that consideration of these region boundary change proposals should not be considered precedent for future reviews/boundary change proposals.<sup>409</sup> To minimise uncertainty, Ergon Energy noted that all boundary Rule change proposals should be subject to the proposed MCE process.<sup>410</sup>

### **C.13.6.5 Market power**

Snowy Hydro stated that use of ramp rates was not a signal or market power. Nor was having generators from the same company on either side of an interconnector, it commented.<sup>411</sup>

---

<sup>404</sup> Ibid, pp.2, 3, 5.

<sup>405</sup> Ibid.

<sup>406</sup> CS Energy, s.95 submission, discontinued Macquarie Generation proposal, 24 March 2006, p.1.

<sup>407</sup> Ergon Energy, s.95 submission, p.1.

<sup>408</sup> ERAA, s.95 submission, Abolition proposal, p.1.

<sup>409</sup> CS Energy, s.95 submission, Abolition proposal, p.1.

<sup>410</sup> Ergon Energy, s.95 submission, p.1.

<sup>411</sup> Snowy Hydro, s.95 submission, Abolition proposal, p.3.

### **C.13.7 Implementation**

Snowy Hydro noted that NEMMCO had already initiated a region boundary change during its processing of the Directlink conversion to regulated interconnector status. Part of the conversion was to redefine Terranora load to another NEM market region.<sup>412</sup>

#### **C.13.7.1 Execution and operational issues**

Under the discontinued Macquarie Generation proposal, the ERAA noted, the “rapid partitioning of a customer base into multiple price regions” would introduce major challenges for retailers operationally (e.g. risk management and providing regulated price/service offering to all customers.) The ERAA also commented that the majority of customers were insensitive to electricity prices and therefore such a region boundary change was unlikely to produce much efficiency benefit.<sup>413</sup> Origin Energy concurred stating that the discontinued Macquarie Generation proposal would increase the complexity for retailers to ensure customer prices in each state remained uniform in line with State requirements.<sup>414</sup>

Regarding the setting of reserve margins for its proposal, Macquarie Generation suggested that NEMMCO currently set a combined minimum reserve level for Victoria and South Australia. It did not see a reason why a similar methodology could not be extended for South West NSW with the NSW region, and Northern Victoria with the joint Victoria/South Australia region. Macquarie Generation considered the calculations were unlikely to change significantly in two years and NEMMCO could consider individual regional reserve levels when it undertook its next NEM-wide review in 2008.<sup>415</sup>

Considering NEMMCO’s advice on receiving demand forecasts from relevant TNSPs, Macquarie Generation commented that TransGrid and VENCORP currently prepare subregional load forecasts as inputs to their Annual Planning Reviews and network planning processes. It may be possible, it suggested, that these TNSPs already have forecast load levels in the new regions it proposed.<sup>416</sup>

Snowy Hydro and NEMMCO raised complications with the proposed Macquarie Generation boundary between Ballarat and Horsham as it was across a semi-distribution line rather than across a transmission line. NEMMCO’s proposed solution was to move the boundary south of Ballarat to accommodate for the lack of appropriate metering on the proposed boundary. Macquarie Generation had no objection to this approach.<sup>417</sup>

---

<sup>412</sup> Snowy Hydro, Submission on implementation, p.4.

<sup>413</sup> ERAA, Submission on implementation, p.2.

<sup>414</sup> Origin Energy, s.95 submission, p.2.

<sup>415</sup> Macquarie Generation, Submission on implementation, 17 October 2006, p.2.

<sup>416</sup> Ibid.

<sup>417</sup> Snowy Hydro, Submission on implementation, p.3; NEMMCO, Letter on implementation, 25 August 2006, p.13; Macquarie Generation, Submission on implementation, p.2.



Snowy Hydro also raised an issue with the lack of revenue quality metering to measure flows on the Macquarie Generation proposed region boundaries. It also flagged the implementation risks for the TNSPs in determining new regional energy and demand forecasts for the modified region loads.<sup>418</sup> Country Energy expressed concern about the generation to load ratio in the Macquarie Generation proposed regions.<sup>419</sup>

### **C.13.7.2 Transaction costs**

Macquarie Generation expressed that implementation costs represented a small fraction of the overall gains recognised from eliminating distortions created by misaligned region boundaries and intra-regional congestion.<sup>420</sup>

However, one of the transaction costs raised in multiple submissions was that of renegotiating contracts. These costs were seen to be significantly greater under the discontinued Macquarie Generation proposal compared to the Abolition proposal.

Under the International Swaps and Derivatives Association Master Agreements [ISDA MA], a change in region boundaries is considered a “Market Disruption Event.” This can trigger renegotiation of affected contracts. Many submissions commented on the implications of such renegotiation such as the requirement for parties to enter into complex and time and resource consuming renegotiations.<sup>421</sup>

Snowy Hydro and the ERAA consider that while there may be some contracts affected under the Abolition proposal, they suspect most contracts would not be impacted.<sup>422</sup>

The ERAA suggested that under the discontinued Macquarie Generation proposal, there may be a need to consider introducing new risk management instruments to assist retailers in meeting their obligations to supply customers with regulated price or service offering across multiple regions. Under the Abolition proposal, the ERAA commented that retailers would need to reassess their inter-regional trading and hedging strategies, including Settlement Residue Auction requirements.<sup>423</sup>

Delta Electricity and the ERAA raised in their submissions that there would be significant work to incorporate additional regions into existing IT systems.<sup>424</sup> Snowy Hydro added that the discontinued Macquarie Generation proposal would require extensive updating of region based data in NEMMCO’s market system and a

---

<sup>418</sup> Snowy Hydro, Submission on implementation, p.2-3.

<sup>419</sup> Country Energy, Submission on implementation, p.3.

<sup>420</sup> Macquarie Generation, Submission on implementation, p.1.

<sup>421</sup> Delta Electricity, Submission on implementation, p.2; ERAA, Submission on implementation, p.2; Snowy Hydro, s.95 submission, Abolition proposal, p.8.

<sup>422</sup> Snowy Hydro, Submission on implementation, p.3; ERAA, Submission on implementation, p.2.

<sup>423</sup> ERAA, Submission on implementation, p.3.

<sup>424</sup> Delta Electricity, Submission on implementation, p.2.

solution to the problem of no revenue quality metering to measure flows on the proposed region boundaries.<sup>425</sup>

In its advice on implementation, NEMMCO noted that its “ability to implement additional 2007 initiatives without additional costs may be restricted.”<sup>426</sup> Snowy Hydro noted this point in its submission, commenting that the NEM was set up to allow on-going changes in region boundaries so it would expect that NEMMCO’s market systems would be flexible enough to accommodate this market design feature.<sup>427</sup>

### **C.13.7.3 Transition**

ERAA, Country Energy, CS Energy, and Macquarie Generation all supported the extension of the Snowy CSP/CSC Trial until implementation of a boundary change in the Snowy region.<sup>428</sup>

### **C.13.7.4 Implementation lead time**

In its first round submission, NEMMCO stated that the proposed commencement dates of 1 July 2007 (Snowy Hydro) and 1 August 2006 (Macquarie Generation) did not provide sufficient time to formally implement either proposal. In its advice to the Commission on implementation, NEMMCO articulated that it could implement either proposal by November 2006. This was conditional on the Commission issuing its Draft Rule Determination on 15 December 2006 and its Final Rule Determination in March 2007.

Eraring Energy commented that market participants required “adequate forward notice” for implementing a region boundary change.<sup>429</sup>

The Southern Generators preferred a lead time of two years, but at a minimum, proposed four quarters.<sup>430</sup>

ERAA considers the minimum lead time for any region boundary change should be three years to account for the impact of any region boundary change on customer load and the value of financial instruments.<sup>431</sup> This is particularly relevant for the discontinued Macquarie Generation proposal, the ERAA noted, because the “rapid partitioning of a customer base into multiple price regions introduces major challenges for retailers operationally” (e.g. risk management and providing

---

<sup>425</sup> Snowy Hydro, Submission on implementation, p.2-3.

<sup>426</sup> NEMMCO, Letter on implementation, 25 August 2006, p.1.

<sup>427</sup> Snowy Hydro, Submission on implementation, p.2.

<sup>428</sup> ERAA, Submission on implementation, p.1-2; Country Energy, Submission on implementation, p.3; CS Energy, s.95 submission, Abolition proposal, p.1.; Macquarie Generation, Submission on implementation, p.3.

<sup>429</sup> Eraring Energy, s.95 submission, p.2.

<sup>430</sup> Southern Generators, s.95 submission, p.10.

<sup>431</sup> ERAA, Submission on implementation, p.2.

regulated price/service offering to all customers). Ergon Energy supported this approach, noting that NEMMCO's proposed timeframe would greatly stretch NEMMCO's resources, which may impact the efficient delivery of other services, increase the possibility of errors, and reduce the ability to deliver the necessary changes as an efficient cost.<sup>432</sup>

Macquarie Generation stated it had no problem with a proposed commencement date of 1 July 2008 for its proposal. It considered the deferred commencement date would: decrease the number of existing hedge and retail contracts affected by the realignment of region boundaries; greater notice period for SRA participants; reduce NEMMCO's implementation costs due to increased planning and implementation time; greater time for TNSPs to provide their necessary information to NEMMCO; and allow for new loss factors to be introduced at the start of a financial year.<sup>433</sup> ERAA supported a commencement date aligned with the start of a financial or calendar year, or at an absolute minimum, a start of a quarter.<sup>434</sup>

Delta Electricity commented that the complexities with the contract market make it difficult to quantify the exact impact on implementation of a region boundary change. It considered further review was necessary to determine the extent to which these issues would undermine NEMMCO's estimate of earliest implementation of November 2007.<sup>435</sup>

### **C.13.8 Consistency and relationship with policy environment**

#### **C.13.8.1 Consistency with MCE policy**

Southern Generators stated that the MCE policy was aimed at stability and avoiding, if possible, the multiple subdivision of existing regions. Their submission continued stating there was "no express policy regarding the reduct[ion] [of] the existing number of regions. They concluded there was "no 'stability benefit' gained by elimination of a region".<sup>436</sup>

#### **C.13.8.2 MCE proposal on boundary change process and criteria**

Many submissions did not support the discontinued Macquarie Generation proposal as it did not correspond to the MCE's proposed region boundary change criteria and process (which takes account of its proposed staged approach to congestion management). Inconsistencies identified included:

---

<sup>432</sup> Ergon Energy, Submission on implementation, 31 October 2006, p.1, 2.

<sup>433</sup> Macquarie Generation, Submission on implementation, p.3.

<sup>434</sup> ERAA, Submission on implementation, p.3.

<sup>435</sup> Delta Electricity, Submission on implementation, p.2.

<sup>436</sup> Southern Generators, s.95 submission, p.6.

- Creation of two new regions whose boundaries do not reflect identified areas of material and enduring congestion;<sup>437</sup>
- Introduction boundary change prior to considering transmission augmentation options or potential interim congestion pricing mechanisms, if appropriate;<sup>438</sup>
- Creation of multiple regions within jurisdictions;<sup>439</sup> and
- Placement of a boundary between two firmly physically connected locations – Upper Tumut and Canberra/Yass.<sup>440</sup>

The MCE Rule change proposal on boundary change criteria and process includes a requirement for applications to provide:

- “A detailed description of the proposed region change and reasons for the change;
- All the relevant technical details concerning the proposed region change; and
- A detailed analysis of whether the region change is likely to result in a material and enduring net economic benefit to all those who produce, consume, and transport electricity.”<sup>441</sup>

Submissions were critical of the two proposals because neither proposal appeared to provide a compelling case as to how either proposal promoted the NEM Objective.<sup>442</sup>

Snowy Hydro stated in its submission that its proposal was consistent with proposed MCE boundary change process, criteria, and approach to congestion management.<sup>443</sup>

### **C.13.8.3 MCE proposed staged approach to congestion management**

Noting the staged approach for congestion management proposed by the MCE, many submissions acknowledged it was unlikely that problems with the Murray-

---

<sup>437</sup> ERAA, s.95 submission, discontinued Macquarie Generation proposal, 23 March 2006, p.1; Origin Energy, s.95 submission, p.2; Snowy Hydro, s.95 submission, discontinued Macquarie Generation proposal, p.7-8.

<sup>438</sup> Snowy Hydro, s.95 submission, discontinued Macquarie Generation proposal, p.7-8; Snowy Hydro, Submission on implementation, p.3.

<sup>439</sup> CS Energy, s.95 submission, discontinued Macquarie Generation proposal, p.1.

<sup>440</sup> Snowy Hydro, Submission on implementation, p.3.

<sup>441</sup> Ministerial Council for Energy, Proposed Rule on Reform of Regional Boundaries, clause 3.5.2 (d), 7 October 2005. Available on the AEMC website.

<sup>442</sup> ERAA, s.95 submission, Abolition proposal, p.1; ERAA, s.95 submission, discontinued Macquarie Generation proposal, p.1; Ergon Energy, s.95 submission, p. 1; Delta Electricity, s.95 submission, p.1-2; NEMMCO, s.95 submission, p.1, 3; Wambo Power Ventures, s.95 submission, p.1.

<sup>443</sup> Snowy Hydro, s.95 submission, Abolition proposal, p.10.

Tumut constraint would be addressed through network augmentation in the short-to-medium term.<sup>444</sup>

Submissions also noted that the Murray-Tumut constraint was being managed by an interim congestion pricing mechanism (“Snowy CSP/CSC Trial”). This, in conjunction with the unlikely event of network augmentation, left a region boundary change as the remaining option to address the congestion problem.<sup>445</sup>

### **C.14 Long-term investment and end user impacts and utilisation**

Country Energy preferred the Abolition proposal because it (a) recognised a region boundary change was the most appropriate long term solution; and (b) considered that proposal the least disruptive to future generation investment.<sup>446</sup>

Snowy Hydro stated that “an early change to the Snowy region boundary would substantially reduce the risk of inefficient generation investment, by ensuring that new entrant generators compete on more level terms with incumbents for access to the transmission network.”

Wambo Power Ventures’ preliminary assessment indicated that any increase in the number of regions should be approached with caution given the negative impact on financial product liquidity and risk from the consequential increase in inter-regional hedging arrangements.<sup>447</sup> It stated that its investment in intermediate generation was only justified on the basis of the existing regulatory process assumptions, including the “MCE’s overarching requirements of only incremental change supported by robust economic criteria, and no impact on generation investment”.<sup>448</sup>

In its supplementary submission, Wambo Power Ventures stated that the discontinued Macquarie Generation proposal was just a gaming opportunity to maintain a commercial advantage for its own proposed gas-fired plant. The discontinued Macquarie Generation proposal, Wambo Power Ventures stated, would affect its own announced new gas-fired power station.<sup>449</sup>

In a further supplementary submission, Wambo Power Ventures argued against the claim that new generation at Wagga can displace Snowy Hydro generation on northward flows and that it is an inefficient generation investment. Wambo Power Ventures noted that gas turbines in the Wagga area are a significant positive non-network contribution to remedy south-west NSW region supply and voltage

---

<sup>444</sup> CS Energy, s.95 submission, Abolition proposal, p.1; Delta Electricity, s.95 submission, p.1; ERAA, s.95 submission, Abolition proposal, p.1; Ergon Energy, s.95 submission, p.1; TransGrid, s.95 submission, p.1; Origin Energy, s.95 submission, p.2.

<sup>445</sup> ERAA, s.95 submission, discontinued Macquarie Generation proposal, p.1; Delta Electricity, s.95 submission, p.1; Origin Energy, s.95 submission, p.2

<sup>446</sup> Country Energy, Submission on implementation, p.3.

<sup>447</sup> Wambo Power Ventures, s.95 submission, p.1.

<sup>448</sup> Ibid, p.2.

<sup>449</sup> Wambo Power Ventures, Supplementary s.95 submission, 15 May 2006, p.2.

limitations, inter-state interconnection limitations, and to improve the marginal supply/demand balances in NSW in the near term.<sup>450</sup>

ERAA stated that unconstrained changes in the NEM created uncertainty, which may threaten the viability of investment and strategic decision making.

---

<sup>450</sup> Wambo Power Ventures, Supplementary Submission, Regulatory Risks re: Possible Snowy Boundary Changes & Southern Region Constraints, 5 January 2007.