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Kate Hudson
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Dear Kate

Scarcity Pricing and Compulsory Contracting: options

Introduction

1. Thank you for the opportunity to comment on the *"Scarcity Pricing and Compulsory Contracting: options"* (SP&CC) consultation paper, dated October 2009. No part of Mighty River Power's submission is confidential and we are happy for it to be publicly released. Responses to the Electricity Commission's specific questions are provided in the Appendix to this submission.

Competitive operation of the electricity market and dry-year risk

As the Electricity Commission is aware, Mighty River Power believes the competitive operation of the electricity market has handled dry-years well over the last decade, particularly compared to the previous experience under central-planning/ECNZ's monopoly.[1] We believe this demonstrates that the competitive operation of the electricity market is satisfying the principal objective in the Government Policy Statement on Electricity Governance 2009 (GPS) to *"ensure that electricity is produced and delivered to all classes of consumers in an ... reliable ... manner"* and the GPS's specific outcome that *"risks (including price risks) relating to security of supply are properly and efficiently managed"*.[2]

What are the problems with the way the market deals with dry-year risk?

2. This is not to say there couldn't be improvements in the way dry-years are managed.

[1] The operation of Whirinaki in 2006 helped reduce the risks, and dampened spot prices, but does not change this conclusion.
[2] Paragraphs 1 and 2(b) of the GPS.

3. As observed by the SP&CC consultation paper that "as hydro conditions deteriorate, thermal generation is expected to ramp up to reduce pressure on hydro storage. While this general pattern has been evident in dry periods, during the 2008 drought there were periods when thermal generation wasn't running at full capacity and hydro generators preferred to draw down discretionary storage. This occurred even though the assessed likelihood of subsequent shortage was significantly greater than 1 in 60 ..."[3] Mighty River Power is sympathetic to the view that some poor reservoir management decisions were made in 2008.

4. The operation of the Whirinaki Reserve Energy also has a substantial impact on how well the market deals with dry-year risk (including future dry-year risk); reflected in submissions by market participants, the Ministerial Review and the observations made by the Electricity Commission in the SP&CC consultation paper. There has been near universal concern (Meridian being the notable exception) about the way Whirinaki was used in 2008. The operation of Whirinaki suppressed spot prices and effectively rewarded market participants that had not been taking out adequate hedge protection. We are largely supportive of the direction the Electricity Commission (and the Market Review) has indicated on the future of Whirinaki.

5. During the last few dry-years the electricity industry has relied on public conservation campaigns as a (low cost) way of helping to manage risks to security of (energy) supply. Mighty River Power recognises dry-year public conservation campaigns suffer from a "public good" type market failure. Gentailers benefit from public conservation campaigns (where spot prices exceed fixed price variable volume kWh charges) but don't bear the cost of them; the costs are instead "socialised" amongst consumers. We wouldn't say that public conservation campaigns are costless to gentailers though. Each time a conservation campaign is called for questions are raised about how well the electricity market works with calls for policy changes, many of which could have very negative impacts on gentailers.

Scarcity pricing/compensation scheme

6. Mighty River Power welcomes policy development on the possible introduction of scarcity pricing and compensation payments to electricity consumers during public conservation campaigns. We consider these options to be superior to compulsory contracting which we would not support. We believe it is desirable to avoid over-reliance on public savings campaigns.

7. The benefits of scarcity pricing/compensation come down, ultimately, to the allocative efficiency benefits of setting spot prices at VoLL in certain outage circumstances and the dynamic benefits from potentially changing the way market participants respond to dry-year risk.

8. The Electricity Commission previously floated the idea of introducing administered pricing when rolling outages were invoked under the Electricity Governance (Security of Supply)

[3] Paragraph 2.1.2(c) of SP&CC consultation paper.

Regulations 2008. We had sympathy for the Electricity Commission's view, at the time, that:[4]

> The cost of developing an administered pricing regime for use during very rare rolling outages would be too high. The Commission would expect prices to be high during rolling outages. In the unlikely event that prices fell to low levels as a result of outages, this would indicate the outages were excessive.

9. We made the observation that electricity purchasers would not be able to properly respond to spot market signals if they face quantitative restrictions on electricity consumption and the infrequency with which rolling outages would be applied means any potential allocative efficiency benefits from administered prices would be very minor.[5] However, a wider application of scarcity pricing to dry-year situations (not just limited to rolling outages) may make the cost of developing an administered pricing regime worthwhile. We believe this is something that lends itself to quantitative testing; measured in terms of allocative efficiency improvements and the (potential) benefits of improved dry-year management.

10. Mighty River Power cautions though that there are a number of complexities and interactions with other policy initiatives that would need to be worked through before it would be prudent to introduce a rebate/compensation scheme during public conservation campaigns and scarcity pricing.

11. Scarcity pricing/compensation schemes do not necessarily allocate the cost of dry-years/public conservation campaigns to gentailers who have not managed dry-year risk prudently. Instead independent retailers and gentailers with a larger customer base than generation portfolio would pay proportionality too much for (arguably) poor fuel reservoir management by other generators.

12. Genesis Energy has noted, for example, that "If the rebate applies to all suppliers, then it is detrimental to suppliers who have prudently managed their dry year risk. As the rebate obligation is on a per-ICP basis, this would also create an incentive to avoid retailing to residential and small business customers in favour of either larger consumers, or merchant generation."[6]

13. As a consequence, scarcity pricing/compensation could increase locational price risk for retailers with less generation capacity than retail customers in that location and could have a negative impact on retail competition. There is no easy solution to this. It reflects that no policy initiative is without cost and any policy option can have undesirable consequences. It also highlights that consideration of scarcity pricing/compensation should not undertaken in isolation of initiatives aimed at removing barriers to retail competition (including the initiatives for development of the hedge market and management of locational price risk).

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[4] Paragraph 38 of the Electricity Commission's Security Advisory Group paper "Rolling Outages Regulations and Planning: Summary of Submissions with Preliminary Commission Response", 23 November 2006.

[5] Paragraph 92 of Mighty River Power's "Submission to the Electricity Commission on arrangements for rolling outages", 12 December 2008.

[6] Paragraph 31 of Genesis Energy's submission on "The Preliminary Report of the Ministerial Review of Electricity Market Performance", 16 September 2009.

When scarcity pricing should be used?

14. One of the most important issues with the introduction of scarcity pricing is to have clear and transparent rules around when scarcity pricing would be introduced and the price that would be adopted to minimise the risks of political interference. MUEG make this point well in the comment that "As an extreme last resort a regulated floor sends very strong incentives to suppliers and end users with net spot exposure. However there are potential difficulties if Ministers can activate a floor well ahead of an event becoming an extreme last resort. MEUG members remember clearly the intervention last year leading to Whirinaki being offered below SRMC. Unless we have better surety the rules on implementing a floor will not also be shifted, then MEUG is reluctant to support this proposal."[7]

15. Mighty River Power's preference is for Option A. We believe scarcity pricing should only be used where the market has not provided sufficient supply to meet all economic demand, i.e.:

    a. rolling outages are mandated, under the Electricity Governance (Security of Supply) Regulations 2008 (VOLL pricing); and/or

    b. the System Operator issues instructions to curtail demand in a region during a "grid emergency" (VOLL pricing); and/or

    c. there are any other forced outages because the electricity generated is inadequate to meet demand (VOLL pricing).

16. As noted earlier in the submission if there are forced outages (for whatever reason) the wholesale electricity market would not be operating properly and would not produce spot prices that properly reflected the scarcity of supply (spot prices would be suppressed). The normal interaction of supply and demand would not have provided an acceptable level of security by itself and the market would, in effect, have been suspended. Pricing should reflect this. As a consequence, Mighty River Power is comfortable that in situations where forced load reductions are required to maintain an agreed level of system security, some form of VoLL pricing should be introduced. VoLL pricing is not a distortion in such circumstances as the wholesale market is no longer clearing at the required level of security.

17. This principle could be extended to suggest that scarcity pricing be introduced whenever the market has not delivered the agreed level of security as defined in Part C of the Electricity Governance Rules (EGRs). Based on this principle, scarcity pricing could also be implemented in reserve markets. This would mean that when Grid Emergencies arise due to insufficient generation and reserve being available to cover a contingent event (and the reserve market is suspended) a scarcity price is invoked.

18. However, in this situation, the security standard that has been breached is n-1 security, rather than actual curtailment of load. In fact, it has never been clear demand outages would certainly follow, even if the largest unit on the system happened to trip during these

[7] Response to question 2, Appendix of MEUG's "Submission on the preliminary report by ETAG and MED to the Ministerial Review of Electricity Market Performance", 16 September 2009.

Grid Emergencies. Hence the scarcity price should reflect the probability of load curtailment (as opposed to full VoLL) when demand is forcibly curtailed.

19. The Electricity Commission should consider the interdependencies of reserve market pricing with the energy market pricing, which, coupled with the relative frequency of Grid Emergencies (compared to load curtailment), mean the wealth effects of scarcity pricing in reserve markets are much more acute than energy market scarcity pricing alone. Notwithstanding this, Mighty River Power is of the view that when the System Operator cannot procure sufficient reserve to cover the largest contingent event, it should at least procure all available reserve. This would have two effects: (i) ensuring that the reserve price reflects the highest-price reserve offer (a form of scarcity pricing); and (ii) ensuring all available reserve is dispatched to cover a smaller event.

20. Mighty River Power does not, however, believe scarcity pricing should be introduced during conservation campaigns. The market is still 'working' during conservation campaigns and setting a meaningful price. Public conservation campaigns may dampen spot prices a little bit, but not to the extent there would be significant negative allocative efficiency impacts. We note that the Winter Review of 2008 only advocated for scarcity pricing during forced outages, not during public conservation campaigns.

21. If scarcity pricing is used during public conservation campaigns (resulting in higher spot prices than would occur absent the campaigns) this could artificially encourage hydro generators to release stored water to take advantage of the higher prices. If this transpired there could be a heightened risk of forced outages.

22. Both the Ministerial Review and Electricity Commission have expressed concern about gentailers having incentives to call for public conservation campaigns. The use of scarcity pricing during public conservation campaigns would actually increase the incentive on gentailers (with greater generation than retail customers) to lobby for public conservation campaigns as they would have more to gain from such campaigns.[8]

Design of a compensation scheme

23. Mighty River Power is supportive of proposals for the compensation scheme to include a flat-payment (of $10-12 per week) as a default arrangement, but allowing retailers to opt for a reward scheme based on actual savings e.g. arrangements like Mercury Energy's beat-your-bill campaign which was operated in 2001 and 2003.

24. This option is quite pragmatic in that some retailers have expressed concern about the complexity of reward schemes based on actual savings (particularly if they don't do monthly meter reads), while it could provide an opportunity for smarter retailers to encourage greater reductions in electricity consumption (thereby reducing their exposure to the price floors under scarcity pricing or general high spot prices during dry periods). Reward schemes would be particularly attractive for retailers with more consumer load than electricity generation capacity.

[8] The Ministerial Review stated (paragraph 103 of Appendix 6) that "The aim of scarcity pricing is to remove the incentive on market participants to advocate public conservation campaigns (and other 'socialisation" measures) in order to reduce their exposure to high spot prices.

25. This flexibility may also help address the concerns MEUG has raised about introduction of a compensation scheme:"[9]

> Investigation of better ways of targeting a compulsory savings requirement on retailers supplying consumers under FPVV contracts as the proposal may have unintended consequences. For example with an emerging dry-year risk event, one supplier may start an active savings reward scheme for its FPVV consumers and another supplier, equivalent in all respects with the first, may not. Why should the first retailer be obliged to make the same per FPVV consumer payment as the second once the government actively steps in?

26. Mighty River Power introduced a reward scheme in 2001 with individual price rebates offered to mass market customers (200,000) of 5 c/kWh on energy saved from the 10th July for the following two months with an option to extend the plan. This equated to a total saving for the customer of 17 c/kWh. Over 50 GWh of energy was saved as a result and $2 million in rebates were paid out, as well as bill reductions of a further $4 million. More than 72% of customers received a rebate.[10] This clearly provided a strong signal for residential and small commercial customers to conserve their electricity usage.

27. Customised buy-back plans were also formulated for Mercury Energy's top 20 customers (20 GWh and above) paying 10 c/kWh. No one in this group took up the offer. Each unit saved would have returned 18 c/kWh to the customer. Tailored buy-back plans were implemented for large time-of-use (ToU) customers. The buy-back scheme was extended to 280 customers at 10 c/kWh with an acceptance rate of just 10%. This is too be expected as the value add for most business outputs will generally be greater than the savings from reduced consumption.[11]

28. Mighty River Power reintroduced the scheme for residential/small commercial in 2003 with double the payback; 10c/kWh instead of 5c/kWh. Customer rebates equalled $4.3 million, which equated to power savings of 43GWh (enough to power a town the size of Taupo for one year).[12]

Concluding remarks

29. It is desirable to avoid the risk of over-reliance on public savings campaigns.

30. The proposals for scarcity pricing/compensation have substantial inter-relationships with other policy initiatives the Electricity Commission is considering; notably around locational price risk, development of the hedge market and removal of barriers to retail competition generally.

31. Whether scarcity pricing/compensation should be introduced may well depend, in part at least, on whether the Electricity Commission also introduces policies aimed at reducing locational price risk (e.g. a revised loss rental allocation and initiatives to develop the hedge market), given scarcity pricing/compensation may increase locational risks for retailers; particularly independent retailers and gentailers with a larger retail customer

[9] Response to question 1, Appendix of MEUG's "Submission on the preliminary report by ETAG and MED to the Ministerial Review of Electricity Market Performance", 16 September 2009.
[10] http://www.med.govt.nz/upload/30439/034.pdf
[11] http://www.med.govt.nz/upload/30439/034.pdf
[12] http://www.mightyriver.co.nz/News/Detail.aspx?id=564

base than generation capacity. As the Electricity Commission has noted "[Scarcity pricing] would need to be accompanied by other measures to ensure that market risk does not become unmanageable (or be perceived as such)."[13]

32. We also believe scarcity pricing/compensation should be considered in conjunction with the options of removing the Whirinaki Reserve Energy scheme and revoking Electricity Governance (Security of Supply) Regulations 2008.[14]

33. Mighty River Power accordingly believes one of the next steps in the Electricity Commission's Market Development Programme (MDP) consultation should be the release of a consultation paper which presents the Electricity Commission's overall preferred MDP package and explicitly works through the interrelationships of the different parts of the package.

34. In summary, Mighty River Power's views are:

    a. further work is warranted on the proposed scarcity pricing and compensation scheme arrangements;

    b. scarcity pricing/compensation schemes are not a panacea and can heighten barriers to entry/retail competition from independent electricity retailers and retailers with a bigger customer base than generation capacity;

    c. scarcity pricing should be adopted where the market has or is failing i.e.: rolling outages are mandated, under the Electricity Governance (Security of Supply) Regulations 2008; and/or the System Operator issues instructions to curtail demand in a region during a "grid emergency"; and/or there are any other forced outages because the electricity generated is inadequate to meet demand;

    d. scarcity pricing should not be adopted during public conservation campaigns; and

    e. any compensation scheme should allow retailers to opt for an alternative reward system where compensation is based on actual electricity savings.

35. If you have any queries regarding this letter, or would like further information, please do not hesitate to contact either me (on 09 308 8259 or robert.allen@mightyriver.co.nz) or Stephen Batstone, Risk and Transmission Manager (on 09 308 8257 or stephen.batstone@mightyriver.co.nz).

Yours sincerely

Robert Allen
Regulatory Manager

[13] Paragraph 3.3.4 of the SP&CC consultation paper.

[14] For commentary on whether the Electricity Governance (Security of Supply) Regulations 2008 should be revoked refer to Mighty River Power's submission on "Arrangements for Rolling Outages", 12 December 2008. Refer also to Genesis Energy's submission on "The Preliminary Report of the Ministerial Review of Electricity Market Performance", 16 September 2009.

Appendix: Responses to the Electricity Commission's questions

Question	Mighty River Power response
Q1 What concerns do you have with regard to security of supply under existing arrangements?	Refer to the section "What are the problems with the way the market deals with dry-year risk?" in this submission.
Q2 What, if any, other underlying issues lead to the potential for cost shifting among market participants?	
Q3 What is your assessment of pros and cons of scarcity pricing approaches versus compulsory contracting?	Mighty River Power supports further work on scarcity pricing but not compulsory contracting.
Q4 What other options should be considered to improve security performance?	Removal of the Whirinaki Reserve Energy scheme.
Q5 What approach to scarcity pricing should be preferred?	Option A. Mighty River Power believes scarcity pricing should only be used where the market has not supplied sufficient energy to meet demand, i.e.: a. rolling outages are mandated, under the Electricity Governance (Security of Supply) Regulations 2008; and/or b. the System Operator issues instructions to curtail demand in a region during a "grid emergency"; and/or c. there are any other forced outages because the electricity generated is inadequate to meet demand.
Q6 Do you agree with the outlined approach whereby the Commission will progress with a detailed proposal for a scarcity pricing regime and for a default buy-back arrangement? If not, what would be the best approach for moving forward?	Mighty River Power supports further work on scarcity pricing and a default consumer compensation scheme. Mighty River Power cautions though that whether scarcity pricing/compensation should be introduced may well depend, in part at least, on whether the Electricity Commission also introduces policies aimed at reducing locational price risk (e.g. a revised loss rental allocation and initiatives to develop the hedge market), given scarcity pricing/compensation may increase locational risks for retailers; particularly independent retailers and gentailers with a larger retail customer base than generation capacity.

Question	Mighty River Power response
	Mighty River Power accordingly believes one of the next steps in the Electricity Commission's Market Development Programme (MDP) consultation should be the release of a consultation paper which presents the Electricity Commission's overall preferred MDP package and explicitly works through the interrelationships of the different parts of the package.