

Loy Yang Marketing Management Company Pty. Ltd.

AGL Southern Hydro Pty. Ltd.

International Power (Hazelwood, Synergen, Pelican Point, Loy Yang B and Valley Power)

TRUenergy Pty. Ltd.

NRG Flinders Pty. Ltd.

Hydro Tasmania

10 February 2006

Mr John Tamblyn
Chairman
AEMC
Level 16
1 Margaret Street
SYDNEY 2000

By email: submissions@aemc.gov.au

Dear John

REQUEST FOR MAKING OF A RULE – MANAGEMENT OF NEGATIVE SETTLEMENT RESIDUES IN THE SNOWY REGION

The group of generators (the “Southern” generators) that proposed the Rule change¹ to manage negative settlement residues in the Snowy Region that is the subject of the current consultation, have chosen to make a further submission to provide additional evidence demonstrating:

- how the proposed solution addresses a problem that is a significant and enduring one which results in:
 - recurring inefficient dispatch at high priced periods, and
 - distortions to contracting which endures for years.

- how failing to adopt the Rule change would:
 - entrench the North-South split in the NEM and the contract market,
 - adversely impact on investment incentives,
 - run strongly counter to the Market Objective.

¹ NEMMCO is also a proponent.

- that the AEMC can adopt the Southern Generators' derogation without delay as:
 - resolution can be achieved without waiting for the (extended) regional boundary change process and other reviews before the AEMC, because the relationships with our proposal do not present a valid reason for deferring our proposal,
 - if affected by a Snowy region boundary change, the derogation will automatically sunset.
- even though it addresses a particular problem in the Snowy region, at the date of the sunset, the derogation may have an on-going role to play.

In addition our submission;

- addresses the relationship of our proposal with the current consultation by the AEMC on a regional boundary change process and the foreshadowed MCE initiated congestion management review,
- addresses the relationship of our proposal with the Snowy Hydro proposed regional boundary changes for the Snowy region, and
- responds to the comments made by Snowy Hydro in their November 2005 letter to the AEMC.

1 Introduction

Despite the delays in considering our rule change since it was first submitted to NECA in early 2005, the issue it attempts to address remains very significant in today's market. During November and December 2005, and during the current summer, NEMMCO artificially constrained flows across the Victoria to Snowy inter-connector by as much as 900MW to manage negative settlement residues with considerable adverse impact upon market dispatch efficiency and inter-regional trade. Indeed the circumstances that led to NEMMCOs' intervention were very similar to the circumstances of late 2004 that resulted in us developing this proposal.

As we anticipated in our original submission, the CSC/CSP trial around Tumut is unrelated to this issue and its commencement in October 2005 did not alleviate these negative settlement residues.

The key message of this submission is that there is an urgent need for change. The proposal we have made needs to be implemented promptly in the interests of economic efficiency, to eliminate the distortion that is currently preventing efficient dispatch and as a consequence distorting the financial market and trading activities. This proposal can be implemented without compromising other current trials and reviews, and it is low risk.

2 Relationship between the CSP/CSC trial and our proposal

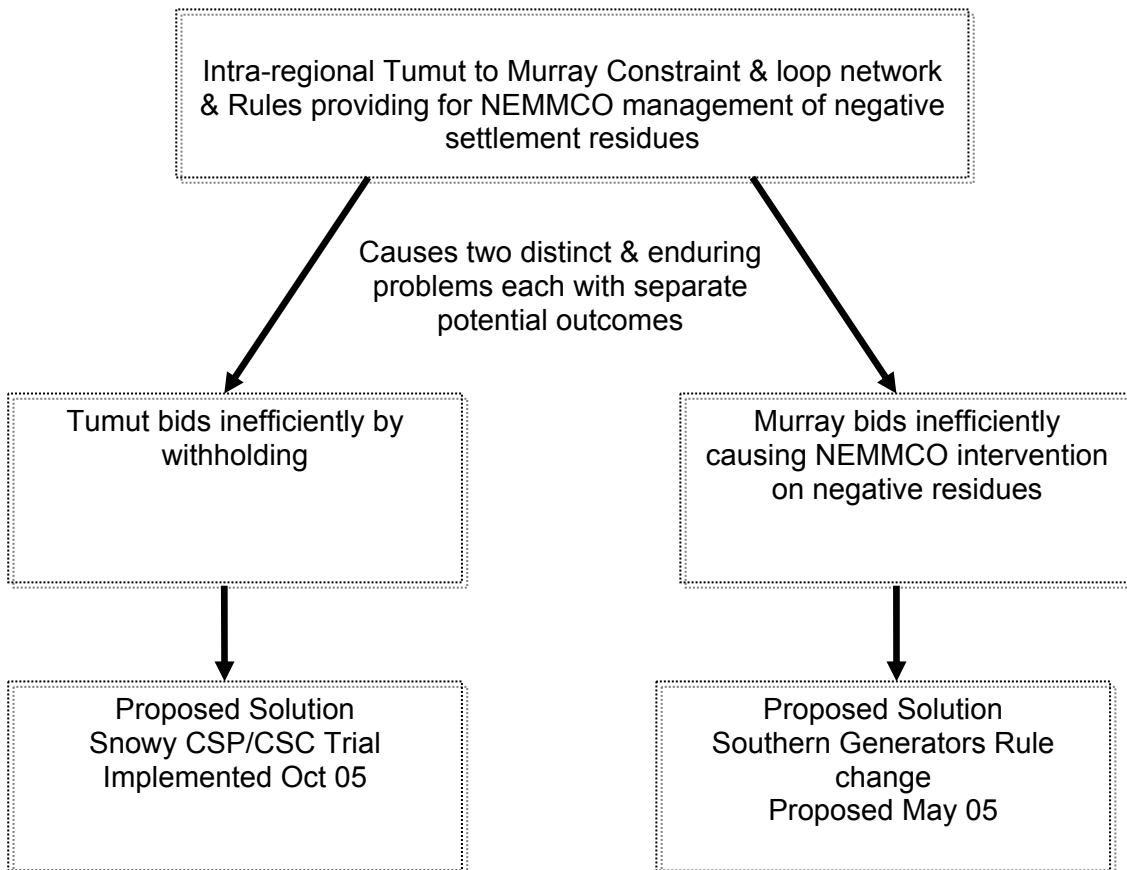
At the commencement of the NEM, network constraints were generally derived from previous practice in the non-market context, and differed widely in their formulation between locations.

The MCE has since accepted advice from Charles River Associates that constraints should be formulated with what they term ["full physical representation"], thus avoiding any inbuilt priority.

With the implementation of this formulation now underway, we believe that the dispatch process can in future provide efficient, unbiased dispatch of the offers and bids received except where:

- the regional settlement process can result in distorted incentives on market participants, affecting the offer or bid formation process, or
- efficient dispatch is distorted by intervention by the market operator.

Both these exceptions arise in the Snowy region as a consequence of an intra-regional constraint, a network loop and the market Rules not providing for the funding of negative settlement residues.



2.1 Snowy Hydro CSP/CSC Trial

The Snowy Hydro CSP/CSC trial addresses the distorted incentives due to the settlement process for the Tumut generators. In this case Tumut generation was under-valued in settlement and was therefore incentivised to withdraw capacity or increase the offer price to reduce dispatch of under-valued production.

A trial application of some elements of the CSP/CSC proposal is underway at Tumut, in response to a request from Snowy Hydro.

2.2 The Southern generators Rule change

This proposal addresses distortions caused by intervention by the Market Operator to manage negative settlement residues.

The intervention that we refer to here are the actions of NEMMCO under (or purported to be under) clause (c) of Part 8 of Chapter 8A of the National Electricity Rules. The current intervention considered by NEMMCO result in either :

- the deliberate mis-pricing of some generation², or alternatively
- the granting of priority for some generators against others through a network constraint that relates to no physical limit, by artificially limiting inter-connector flows.

Both these interventions will distort the market. At present for Northerly flows, NEMMCO artificially limits inter-connector flows, and for Southerly flows NEMMCO re-orientes the network constraint, ie “deliberate mis-pricing”.

A recent consultation by NEMMCO on the alternative interventions available for Northerly flows put NEMMCO in the position of having to decide which intervention had the least distortionary impact on the market in general and on individual participants. In doing this NEMMCO had to assess likely participant response to these distorted incentives. Unsurprisingly NEMMCO found this a very challenging task, and concluded that it could not be sure that the deliberate mis-pricing options would result in a better outcome than the artificial limit. Thus they proposed no change.

We believe that the goal should be to eliminate market intervention by NEMMCO other than on system security grounds.

Attempting to anticipate the complexity of market responses to NEMMCO intervention (or non-intervention in this case) will necessarily require scenario building involving arbitrary presumptions regarding individual behaviour. We suggest in this case such efforts are neither productive nor enlightening. Instead we suggest the following intuitive rule exists generally regarding NEMMCO interventions:

Any limitation of network capacity below the level required for system security will impair the efficient economic dispatch of the NEM.

We suggest that if the AEMC considers our proposal effective in removing this intervention without the need for deliberate mis-pricing, then the gains in market efficiency (and as a result the market objective) are self-evident.

3 The sequence of events related to negative settlement residues for Northerly flows

1. When the demand/supply balance is tight in NSW;
2. Electricity is flowing from Victoria to NSW via the Snowy region;
3. Large Murray generation volumes are offered in at low price (eg \$0.04/MWh), causing the intra-regional constraint to bind;
4. Because the constraint forms part of a loop, the Snowy price will fall below the Vic price and an “efficient counter-price flow” results;
5. Negative settlement residues accumulate and NEMMCO is forced to intervene to place a binding constraint on the Victoria to Snowy inter-connector to minimise or stop the accumulation of the negative settlement residues.
6. NEMMCO can only constrain the Vic-Snowy inter-connector, i.e. it prohibits export from Victoria.
7. This then relieves the intra-regional snowy constraint.
8. The Murray (Snowy RRN) price then increases to the NSW price.
9. For the Victoria to Snowy inter-connector the flow is zero and therefore there is no settlement residue.
10. For the Snowy to NSW inter-connector the NSW and Snowy regional prices are effectively equal (allowing for losses), and therefore there is no settlement residue.

This sequence of events for a typical day is evident on the charts included in Appendix 1. which relates to events on_08/02/05 and 02/02/06 and includes:

² Known as “Re-orientating a network constraint” towards a node that is not the regional reference node

For 02/02/06

- Five minute data for the Vic to Snowy inter-connector for the periods 09:00 to 17:00 which shows the reduction in Northerly flows to reduce the negative settlement residues and generally shows the sequence of events as detailed above.

For 08/02/05

- Five minute data for the Vic to Snowy inter-connector for the periods 09:00 to 17:00 which shows the reduction in Northerly flows to reduce the negative settlement residues and generally shows the sequence of events as detailed above.
- A typical bidding pattern required to induce and maintain the intra-regional constraint, which shows the significant amount of capacity being offered by Snowy Hydro at a very low price;
- The make up of energy flow into NSW from the Snowy region showing the reduction in flow from the Victorian region and the increase from the Snowy Hydro generators.

The consequence of this behaviour is that the capacity of the Vic to Snowy inter-connector which was running at 900MW and with flow to NSW increasing is constrained rapidly to 0 MW, and finally constrained to between 50 to 100MW. This also creates extreme price differences between the Victorian and NSW prices at the time of very high prices in NSW.

4 The effects of this behaviour

The consequences of this behaviour at time of high prices;

- significantly lessens competition for physical dispatch with inefficient dispatch for many high priced periods;
- significantly lessens competition by impairing inter-regional hedge contract trading for all trading periods; and
- distorts investment signals.

The impacts of these effects are detailed below.

4.1 Inefficient dispatch

Intervention by constraining Victorian exports to prevent negative residues creates:

- Inefficient physical dispatch :
 - As Murray generation is favoured over Southern Generation, the Wagga transmission path is underutilised.
 - Lower cost Southern generation is prohibited from exporting, replaced by higher cost(value) snowy or NSW generation
- Less competition for physical dispatch at key periods
 - Flow from the Southern NEM to the Northern NEM is blocked, preventing Victorian, South Australian and Tasmanian plant's ability to compete to supply NSW and Queensland load.

4.2 Effect on forward hedge contract trade

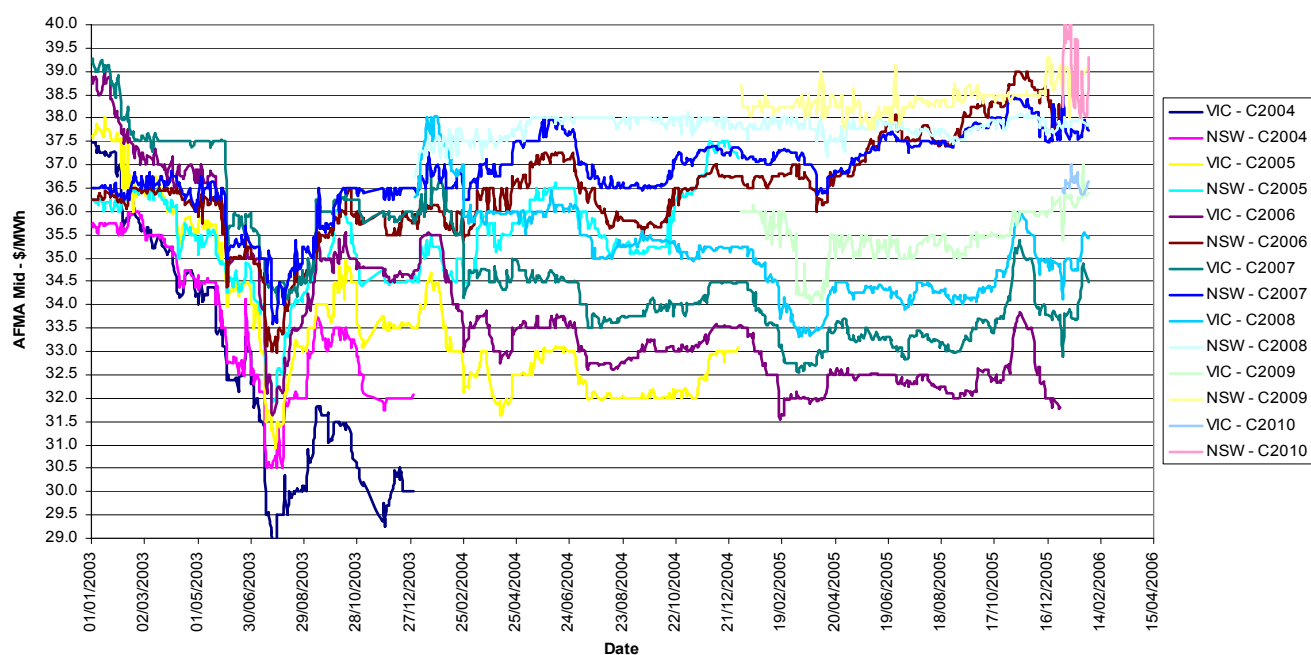
Because the behaviour eliminates the value of the IRSR's at the times the risk is greatest, ie high prices in NSW;

- the effectiveness of the IRSR's as a risk management tool is significantly reduced,
 - Vic-Snowy and Snowy-NSW interregional settlement residue auctions are the principal risk management tool for Southern Generators selling hedge contracts referenced to Northern Regional Reference Prices.
- Southern Generators are strongly discouraged in offering hedge products referenced against Northern regional reference prices.

Furthermore because forward contract trading commonly commences *three to four years* prior to period to which the hedge contract applies, the impact of the behaviour extends well beyond the current month or year. The restriction on flow that has occurred and is occurring now is affecting contracts now being sold for the 2007, 2008 & 2009 years.

The impact on the hedge market is shown on the following diagram where a divergence between the NSW and Victorian contract markets occurs post late 2004 when this behaviour commenced.

Separation of the Northern and Southern Hedge Market



4.3 Investment Incentives

The distorted dispatch and the consequent distortion to inter-regional contracting;

- Creates uncertainty and risk for investors who wish to trade output inter-regionally;
- Over-encourages generator investment in the Northern Region;
- Discourages generator investment in the Southern Region; and
- Encourages investment in duplicate generation capacity to meet individual Northern and Southern peaks; and
- Because the distortion is created by market operator intervention in a period of regulatory transition there is also significant uncertainty as to how and when the problem will be solved.

In Summary, as a general rule any constraints unrelated to the physical capacity of the electricity system will lead to an inefficient NEM, in dispatch, competition and investment.

4.4 Southerly Flows

When the intra-regional snowy constraint binds in a southerly direction, the snowy price can potentially be higher than the Victorian price for the same reason: the loop flow. Under present procedures, should this condition occur³, NEMMCO will intervene to stop negative residue accumulation by re-orienting the constraint towards Dederang, i.e. deliberately mis-pricing snowy such that it receives the same (lower) price as Victoria, allowing for loss factors.

Our proposal works in a symmetrical manner to the northerly flow condition, i.e. it re-allocates some associated positive settlement residue to cover the efficient negative residue. This will also negate the need for NEMMCO to intervene by deliberate mis-pricing.

³ These southerly conditions appear to be rarer than the northerly constraint, and we are not aware of any interventions by NEMMCO for this condition

5 Relationships with future Regional Boundary Changes and congestion management regimes

Since our submission and the commencement of the consultation period the AEMC has published on its website:

- A letter from Snowy Hydro dated 11 November 2005 proposing a rule change for a particular regional boundary change in the Snowy Region. In the advocacy of this proposal Snowy Hydro has chosen to make adverse comment about our proposal;
- A notice commencing initial consultation on the Snowy Region Boundary Rule proposal from Snowy Hydro Limited. Submissions are due by 10 March 2006;
- A notice commencing initial consultation on the Region Boundaries Rule proposal from the Ministerial Council on Energy. The Rule proposal relates to the process and criteria for the determination of region boundaries. Submissions are due by 10 March 2006; and
- A direction from the AEMC to conduct a Congestion Management Review. The review is to consider the requirement for enhanced trading arrangements in relation to congestion management and pricing. It is understood that this review is to commence in March 06 and finish in December 06.

The issues raised by the Snowy Hydro regional boundary change proposal are discussed in the following section and Appendix 1.

The introduction of our proposal would neither impede nor encourage implementation of the MCE region boundary Rule proposal or for that matter any boundary change in the Snowy region. If the Snowy region ceases to exist, or if a Snowy regional boundary change were approved, our proposal would no longer be necessary at this location. In either case, our proposal would sunset or would be rendered unnecessary as negative settlement residues would not accumulate. If the sunset occurred prior to a boundary change, we would request some form of extension.

Because it is not related to congestion management and pricing similarly there is no direct impact on the congestion management review.

We believe that the NEM will continue for the foreseeable future to be a market in which prices are established on a regional basis, and consequently artificial constraints or deliberate mispricing needs to be avoided.

We accept that our proposal is not generalised, indeed it only covers the existing Victorian to Snowy inter-connector. However, at this time, the only inter-connectors that could conceivably produce an efficient negative residue as a result of network loops are those in the Snowy region. The Tumut CSC/CSP trial is already managing negative residues around the Snowy-NSW inter-connector without the need for intervention. Our arrangement is therefore only necessary in the short-term for the other Snowy inter-connector.

This proposal is embedded in the participant derogation 8A (that also includes the Tumut CSC/CSP trial) which sunsets at the earlier of July 2007 or upon regional boundary change. Therefore there is no conflict with any hypothetical regional boundary change.

With respect to any change in the number of regions after the sunset:

- If the number of market regions was increased, more network limits that are currently intra-regional would become inter-regional, thus reducing the need for a constraint management scheme of the CSP/CSC type; but

- If the number of market regions were increased, it would increase the likelihood of a region boundary crossing a network loop such that efficient counter-price inter-connector flows would occur at times. This would increase the need for a scheme such as our proposal. Note also that the use of more regions would increase the likelihood that when network augmentation becomes necessary, the optimum solution may create a network loop across the existing region boundary, again requiring a scheme of the type that we propose to avoid market intervention.

Whatever the outcome while there are loops in the transmission network it will always be possible for economically efficient negative settlement residues to accrue (depending on regional boundary and constraint location relative to the transmission loops) and it would therefore be sensible to have a proven non-interventionist method of addressing this problem. This would provide participants with certainty as to how the problem might be resolved rather than having the uncertainty associated with outcomes implemented by the market operator.

6 The Snowy Hydro Boundary Change Proposal

The proposal by Snowy Hydro for a regional boundary change does not directly address the issue of NEMMCO intervention to contain negative settlement residues created by optimal dispatch when the Snowy constraint binds. However our proposal, although prepared without knowledge of the Snowy Hydro proposal, does not conflict with it. The introduction of our proposal would neither prevent nor encourage the region boundary change now proposed by Snowy Hydro or for that matter any alternative boundary change in the Snowy region.

The result of the Snowy Hydro proposal being approved is unclear to the extent that the proposal itself is unclear. If the intent is that the Snowy region remains as a nominal region without connection points, then our proposal remains equally necessary and effective even if the boundary change proceeds. If, on the other hand, the intent is that the Snowy region ceases to exist, then if the regional boundary change were subsequently approved, our proposal would no longer be necessary at this location.

In either case, our proposal would sunset. If the former were to occur, we would request some form of extension.

Snowy Hydro has however raised a number of issues which we have addressed in Appendix 1. In general the issues raised are not relevant to our proposal.

Given the absence of any disadvantage in proceeding with our proposal, whether or not any boundary change is subsequently implemented, we see no reason for Snowy Hydro to oppose it on those grounds.

7 Reasons for an Urgent Change

We have demonstrated above that there are no impediments to implementing our proposal now as the current AEMC consultations on boundary issues & constraints do not conflict with, nor present any valid reason to defer implementation of our proposal. Furthermore based on the protracted boundary change process proposed by the MCE a regional boundary change is unlikely to take effect before 2010.

The problem exists right now and has adversely impacted on inter-regional trade in the order of several \$10's of millions and any delay in addressing the issue will only increase this distortion.

The adverse effects of the current delay and any future delay will endure because there is a three to four year lead time in hedge contract trading with 2007, 2008 & 2009 contracts already being actively traded in 2006.

The actual settlement adjustment to be performed by NEMMCO is trivial and can be done initially manually and therefore requires no implementation period. We recommend a gazettal date as soon as the rule change process has completed. We do not believe implementation should wait until a Settlement Residue optional surrender/re-auction cycle is completed which could delay the process 3 months and beyond some of the peak winter period because:

- SRA units have been devalued as a consequence of the interventions,
- our solution will return value to current units so a surrender option is unlikely to benefit participants, and
- the impact on market efficiency is so significant any further delay related only to the valuing of SRA units at auction cannot be justified.

8 Conclusion

In this submission in support of our proposal, we have:

- Shown how the proposed solution addresses a problem that is a significant and enduring one which results in recurring inefficient dispatch;
- Shown how failing to adopt the Rule change would continue the distortion in the contract market, and adversely impact on investment incentives,
- Analysed the relationship between our proposal and other work before the AEMC to demonstrate that our solution can be implemented without delay or without impinging on other related activities; and
- Addressed the criticisms of our proposal by Snowy Hydro, made in passing while proposing an unrelated Rule change.

We recommend that the AEMC considers our proposal as soon as possible, and in isolation to other reviews, to fast track its implementation in the interests of market efficiency.

Each of the initiators of the proposed Rule change is prepared to support it with the Commission. We suggest that contact in the first instance should be with Mr Roger Oakley, Loy Yang Marketing Management Company on 9612 2211.

Yours faithfully

.....
Ken Thompson
General Manager
Loy Yang Marketing Management
Company Pty. Ltd.

.....
Alex Cruickshank
Manager Regulation
AGL Southern Hydro Pty. Ltd.

.....
Carlo Botto
Executive Director Corporate Strategy &
Risk
TRUenergy Pty. Ltd.

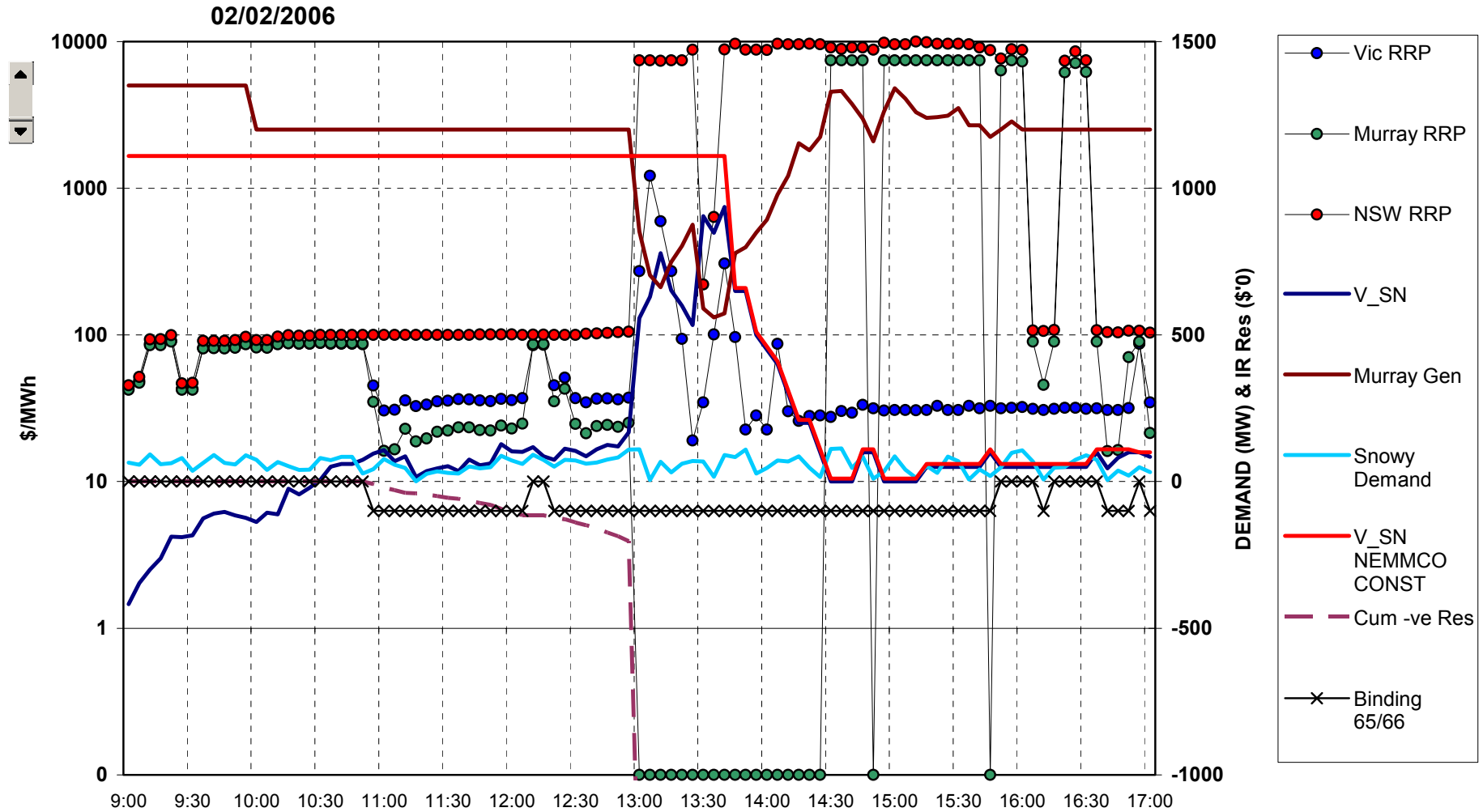
.....
Stephen Orr
Commercial Director
International Power

.....
David Bowker
Manager Regulatory Affairs
Hydro Tasmania

.....
Reza Evans
Manager Regulation & Market
Development
NRG Flinders

Appendix 1 - Data Relevant to the Accumulation of Negative Settlement Residues NSW to Snowy Inter-connector

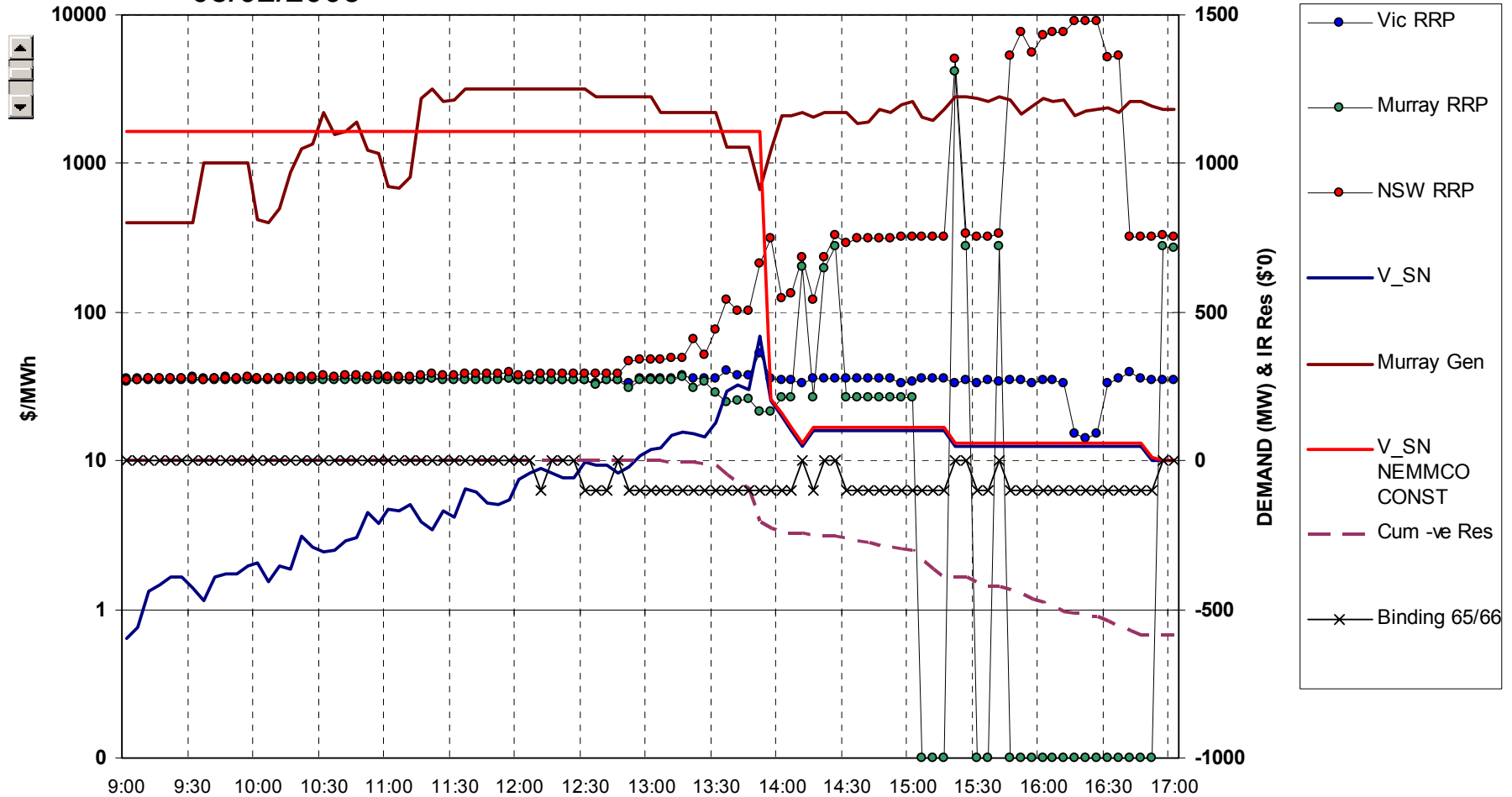
5 MINUTE DATA FOR A DAY WHERE NSW RRP HAS EXCEEDED \$300/MWh



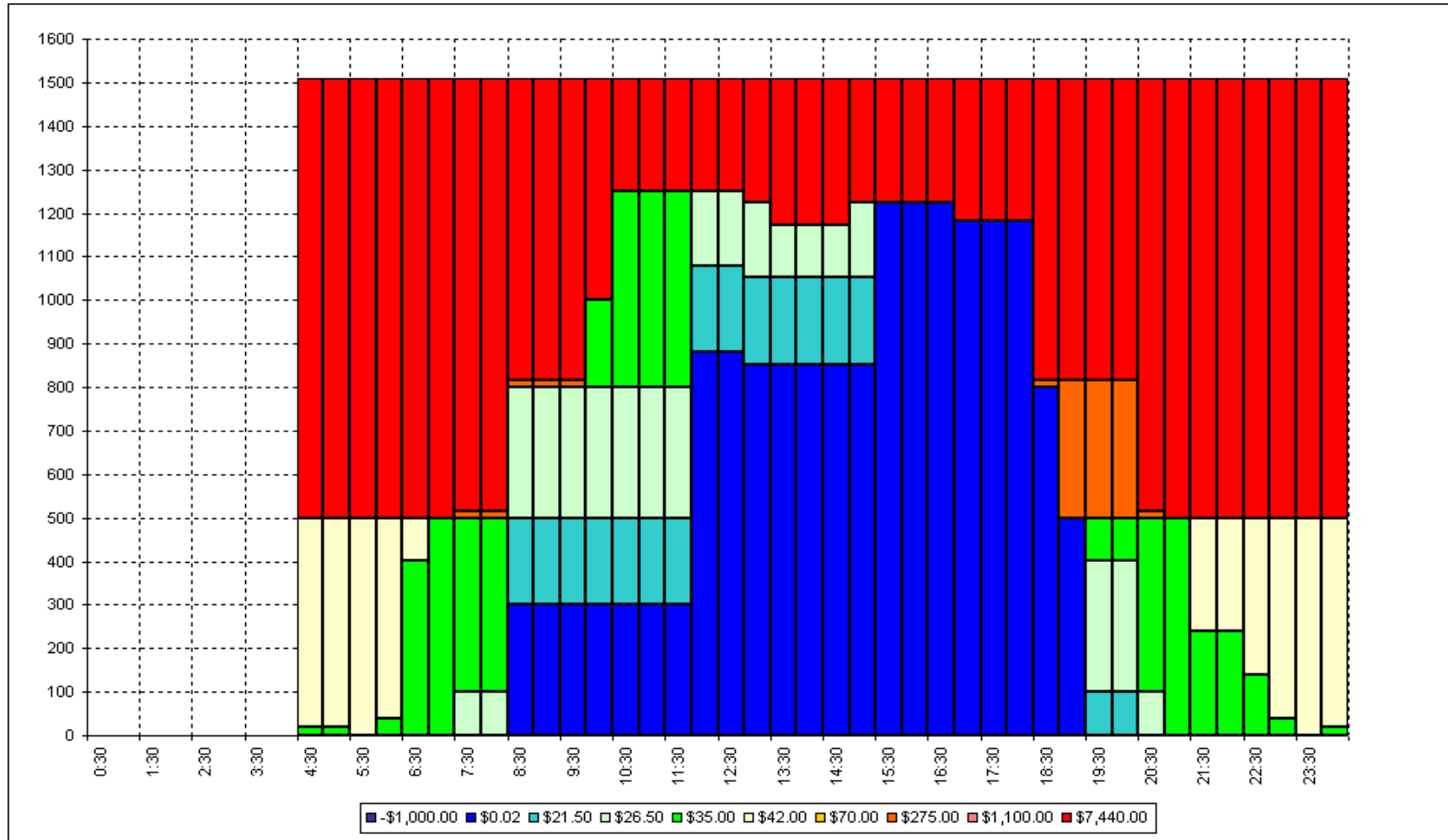
Appendix 1 - Data Relevant to the Accumulation of Negative Settlement Residues NSW to Snowy Inter-connector

5 MINUTE DATA FOR A DAY WHERE NSW RRP HAS EXCEEDED \$300/MWh

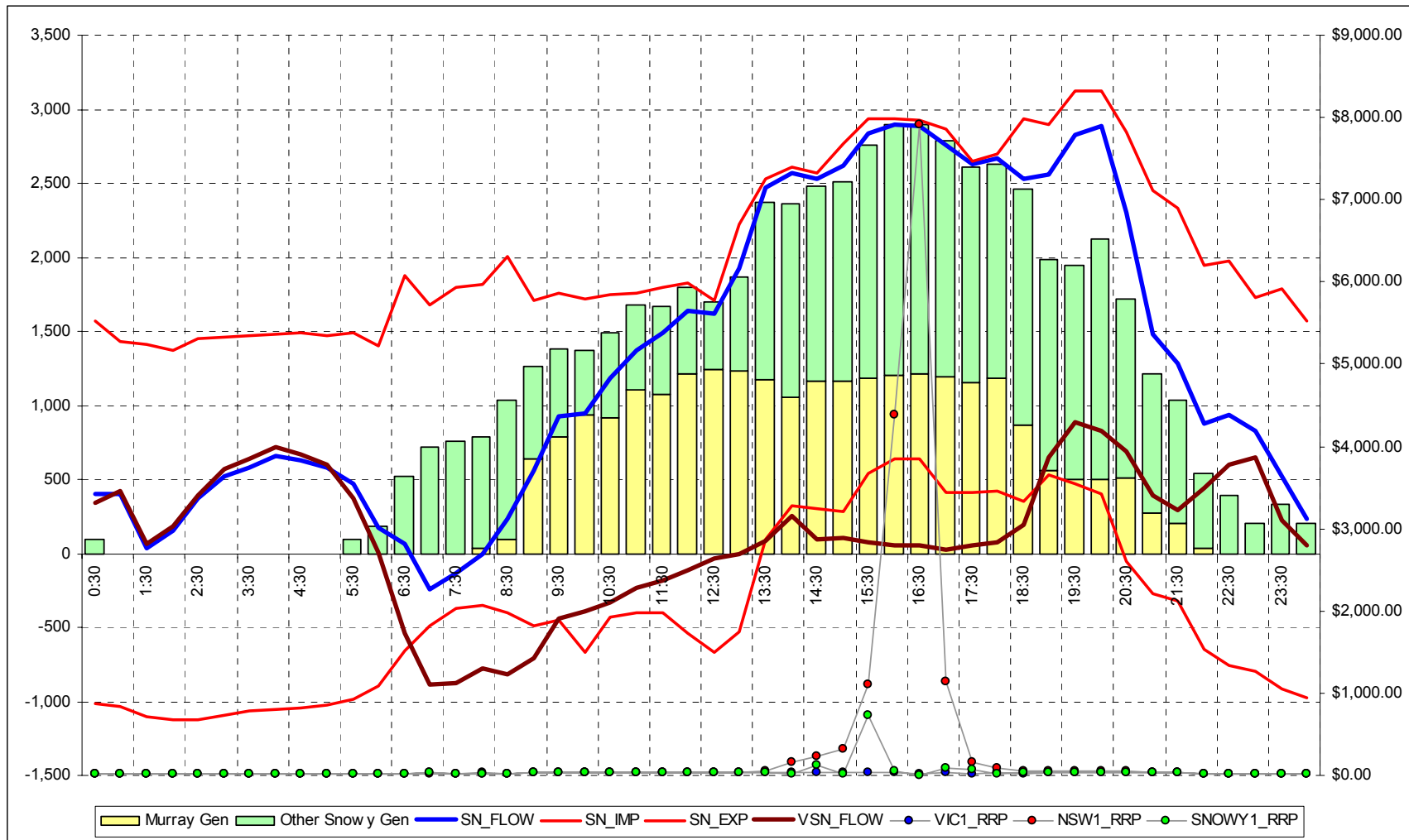
08/02/2005



**Appendix 1 - Data Relevant to the Accumulation of Negative Settlement Residues NSW to Snowy Inter-connector
Murray Bidding 8/02/06**



**Appendix 1 - Data Relevant to the Accumulation of Negative Settlement Residues NSW to Snowy Inter-connector
Flow - Snowy to NSW inter-connector on 8/02/2005**



Appendix 2 - The Snowy Hydro proposal

1 “Narrow in focus and does not consider wider issues”

We make no apology for the narrow focus of our proposal. It is designed as a specific application of a concept to resolve a serious market distortion caused by deficiencies in the settlement process that is evident at a particular location.

In this it is similar to the CSP/CSC trial proposed by Snowy Hydro and now underway. Our proposal has not been put forward to address the potential issues identified by Snowy Hydro. Our proposal neither attempts to address nor negatively impacts on wider issues

Both proposals are narrow in focus for the same reasons; firstly that they are both time limited applications, and secondly that they both aim to deal with specific problems that have been evident in the market at a particular location.

A more generalised application of our proposal may need a more complex design. This is not necessary at this time because all other existing and contemplated regional boundaries do not contain the features that are creating the negative residue issues around Snowy, i.e. a “pair” of inter-connectors transferring energy in series where one includes a loop and an intra-regional constraint.

In our view the wider issues alluded to by Snowy are best addressed by the AEMC in the Congestion Management Review.

2 ‘Tumut local generation versus “western ring” generation’

The point made here by Snowy Hydro relates to the hypothetical situation of having Tumut generation in the NSW region, and ultimately whether NSW should be a single region.

This issue is far beyond the scope of our proposal, and we do not believe that it has any relevance to the consideration of our proposal, which relates to problem present in the current market, not hypothetical different markets.

In our view this issue can be addressed by the AEMC in the Congestion Management Review.

3 ‘Victorian customers lose out’

Snowy Hydro is inviting AEMC to take a view on the proper level of prices in the market. While AEMC should properly be interested in the efficiency of market dispatch and the correct determination of prices as a function of dispatch outcomes, we do not see it as an AEMC role to take a view on the proper price level. Prediction of likely market price movements is in any case entirely speculative.

Our proposal is simply to allow prices to be set by the market without the distortion created by NEMMCO intervention and allow the links to export from Victoria the amount of energy that they are physically capable of carrying.

Snowy Hydro by contrast is asking AEMC to allow intervention to continue, and to distort prices if AEMC judges that the distorted prices are in some way “better” than the undistorted prices. The fallacy in this contention is evident by its expansion. In the limit, Snowy Hydros’ contention would suggest that all exports from a given region should be artificially interrupted at all times in the interests of customers in the exporting region!

We suggest that the AEMC should utterly reject this contention for administrative interference in price outcomes. Whilst it is not relevant to the AEMCs’ decision, we note for interest that by removing the artificial limit of supply from southern generators towards NSW and Queensland, customers as a NEM-wide class should receive a net benefit.

Also, the poor pricing of congestion can lead to ill timed or inappropriate investment, and hence long term inefficient market outcomes for the consumer.

4 ‘Inappropriate long-term incentives on Snowy Hydro’

The incentives that Snowy Hydro refers to here are not associated with the current regional structure of the market.

Our proposal is to allow dispatch and pricing of the market without NEMMCO intervention, in the current market structure.

We have not taken a view on what the future regional structure should be, and hence this comment is not relevant to our proposal.

5 ‘NSW reliability is worse off under the Victorian proposal’

The nature of Snowy Hydros’ contention here is not clear, but it appears to relate to a different regional structure in NSW. Since consideration of future regional structure is beyond the scope of our proposal, this comment is not relevant. In any case, our proposal impacts only on efficient dispatch and pricing, and does not alter current regional reserve sharing.

In regard to NSW reliability, we should clarify some previous statements by us⁴. In normal market operation, the absence of artificial network constraints will improve generator access to load, and allow more competitive options for power to flow from generators to those customers who demand it. However where NSW reliability is threatened, we now understand that NEMMCO would remove the intervention and allow negative residue to accumulate. The NEM dispatch engine places a very high value against supply shortfall, and it will dispatch a generation pattern, regardless of bid price, in whatever pattern minimises load shed. In the unusual circumstance described by Snowy Hydro, the engine would explore any available capacity provided by the Murray generation if it assisted reliability with or without our rule change.

Similarly, if any functional generator was bid unavailable for whatever reason, NEMMCO would direct it to be made available to avoid load shedding.

In any case, where reliability is threatened, our rule change actually has no effect as NEMMCO withdraw the artificial constraint even without this rule change. Thus our proposal actually makes no change to NSW reliability.

⁴ Page 5 of our proposal “will also increase the reliability of supply to NSW for northwards flows”.