Submission to the Australian Energy Market Commission

Congestion Management Review Draft Report

December 2007

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Executive Summary

The Energy Users Association of Australia (EUAA) welcomes the opportunity to provide a submission to the Australian Energy Market Commission (AEMC) in response to its Congestion Management Review Draft Report (Draft Report), released in September 2007.

The EUAA is a non-profit organisation focused entirely on energy issues. Members determine the EUAA's policy and direction; and our activities cover both national and state issues. The membership represents a wide spectrum of end users located in all states. Currently, the EUAA has about 90 members, which are predominantly large business users of energy with activities across all states and many sectors of the economy.

The issue of network congestion is important to end users because the lack of a robust framework for the management of congestion will raise prices above efficient levels, negatively impacting on end users of energy. In particular, transmission congestion, within and between the NEM jurisdictions has the potential to increase the volatility of wholesale prices when interconnectors are constrained, limiting access to lower priced interstate generation, and in turn, increasing the level of uncertainty and risk that participants price into derivatives. Network congestion can also increase the ability of generators to exercise inappropriate strategic bidding behaviour in the wholesale market.

The primary matter of concern to EUAA relates to the fact that the Congestion Management Review has not examined the experience with the Regulatory Test in supporting development of interconnection capacity. This largely reflects the initial setting of the terms of reference for the review, and also the AEMC's interpretation of the terms. The EUAA considers that congestion is correlated with the Regulatory Test being unable to provide for interconnector infrastructure and the lack of any effective national planning of the NEM transmission system. While the latter is being addressed with initiatives to set up a national transmission planner, the EUAA expresses concern about the processes to address the form and functioning of the Regulatory Test.

The Australian Energy Regulator (AER) final decision on the Regulatory Test and Guidelines, in November 2007, indicates that the AER considers that maintaining the Regulatory Test in its current form, with some revisions to the market benefits limb of the test, appears appropriate. The AER's review notes that developments in a broader policy environment such as the AEMC's task of integrating the two limbs as part of the new transmission planning arrangements and MCE's development of rules for the economic regulation of distribution, may deliver significant changes to the Regulatory Test. That is, due to policy developments, the AER undertook an incremental approach to revisions to the test, which were aimed at achieving consistency with the amended NER, and improving the clarity of the application of the test. The AEMC's timetable for advising the MCE on the implementation of the new transmission planning arrangements is by June 2008, with new arrangements to commence by June 2009.

As the primary mechanism used to assess the efficiency of network investment, the Regulatory Test is an important element in minimising the occurrence of network constraints.

While the role of demand side in optimising the utilisation of transmission capacity (including network congestion) and mitigating market power at times of peak demand, seems to be emerging, it is under-utilised because it has insufficient support in the regulatory process and in the wholesale market to make it commercially viable. In 2004/05 and 2006, the EUAA conducted a trial and case studies of demand side response (DSR) predicated on the responsiveness of end users to high prices in the NEM, and network congestion signals. This work established that there is a significant business case to support demand side response in the NEM. Since then, however, MCE efforts to effectively develop DSR have been disappointing.

The EUAA is, however, encouraged by the establishing of an AEMC review of demand side participation, due to commence shortly with the release of a statement of approach before the end of 2007. The EUAA considers that this review should be acknowledged as one of the reform initiatives that could enhance congestion management arrangements in the NEM.

Given the substantial length of time taken to release papers for consultation, there are a number of reviews (now at varying stages of progress) occurring outside of the Congestion Management Review that will have an impact on the management of network congestion that the AEMC has appropriately acknowledged. These relate to rule change processes with the Snowy region boundary and transmission regulation and planning. The AEMC considers that "over time, these will help anticipate and address efficiently the most salient instances of congestion in the NEM". However, as the EUAA has been involved in the consultation processes for these reviews, it considers that there are a number of outstanding issues, each having the potential to impact the effectiveness of these initiatives outside the Congestion Management Review, which are further outlined in this submission.

The EUAA believes that the initial setting of the terms of reference for the AEMC's review, and also the subsequent interpretation of these terms by the AEMC, hindered the ability of the review to deliver the highest potential benefits for the market. These views were also articulated by the Energy Reform Implementation Group (ERIG) in its report to COAG in January 2007. It is significant that, in the course of interpreting the terms of reference, the AEMC's Draft Report does not provide rigorous analysis of the impacts of congestion on either end users or retailers in terms of final delivered prices. This means that it is not possible for retailers, major end users or small end users in the NEM to understand the impact that congestion is having on them in terms of final delivered prices.

The EUAA generally supports the recommendations of the AEMC's Draft Report although it considers that the AEMC's recommendations do not adopt any significant new measures. The EUAA does, however, retain its concerns that the AEMC's findings with respect to the materiality of congestion are largely based on indicators which may mask the magnitude of the disconnect between dispatch and offers; or fail to capture the impact of constraints which are of less significance on an individual cost basis but which are repeated and sustained.

Of the ten recommendations contained in the Draft Report, the EUAA does not support the AEMC's recommendations that:

- Negative settlement residues no longer be netted off against positive residues within a billing week or from the proceeds of the next auction and that instead, negative residues be funded by directly billing the importing region's TNSP and recovered through network charges. This is discussed further in section 4 of this submission;
- The threshold at which NEMMCO intervene to manage negative settlement residue be lifted to $100,000. This is discussed further in section 5 of this submission;
- NEMMCO be allowed to determine the timing for when it publishes a methodology for the production of mis-pricing information. This is discussed further in section 10 of this submission; and
- No amendments be made to the current transmission pricing rules in order to give locational pricing signals to new generators. This is discussed further in section 11 of this submission.

1. Introduction

1.1. This Submission

The Energy Users Association of Australia (EUAA) welcomes the opportunity to provide a submission to the Australian Energy Market Commission (AEMC) in response to its Congestion Management Review Draft Report (Draft Report), released in September 2007.

The EUAA is a non-profit organisation focused entirely on energy issues. Members determine the EUAA's policy and direction; and our activities cover both national and state issues. The membership represents a wide spectrum of end users located in all states. Currently, the EUAA has 90 members, which are predominantly large business users of energy with activities across all states and many sectors of the economy.

The lack of a robust framework for the management of congestion will raise prices above efficient levels, negatively impacting on end users of energy. In particular, transmission congestion, within and between the NEM jurisdictions has the potential to:

- Increase the volatility of wholesale prices and increase the level of uncertainty and risk that participants price into derivatives;

- Impede National Electricity Market Management Company's (NEMMCO) efficient dispatch of generation and management of system security. In the long-term, this may also distort generator location decisions; and

- Increase the ability of generators to exercise inappropriate strategic bidding behaviour in the wholesale market.

This submission provides the EUAA's response to the issues and recommendations made by the AEMC in its Draft Report.

The primary matter of concern to the EUAA relates to the fact that the Congestion Management Review has not examined the experience with the Regulatory Test in supporting development of interconnection capacity. This largely reflects the initial setting of the terms of reference for the review, and also the AEMC's interpretation of the terms of the review. Congestion has arisen as a result of the Regulatory Test being unable to provide for interconnector infrastructure and the lack of any effective national planning of the NEM transmission system. While the latter is being addressed with initiatives to set up a national transmission planner, the EUAA expresses concern about the lack of appropriate recognition of the need to examine the form and functioning of the Regulatory Test.

The AER's final decision on the Regulatory Test and Guidelines, in November 2007, indicates that the AER considers that maintaining the Regulatory Test in its current form, with some revisions to the market benefits limb of the test, appears appropriate. These revisions relate to procedural requirements to gather information on alternative options and the introduction of commercial feasibility as a factor to be considered for the 'likelihood' of alternative options. The AER's review notes that developments in a broader policy environment, such as the AEMC's task of integrating the two limbs of the test as part of the new transmission planning arrangements and MCE's development of rules for the

economic regulation of distribution may deliver significant changes to the Regulatory Test. That is, due to policy developments, the AER undertook an incremental approach to revisions to the test, which were aimed at achieving consistency with the amended NER, and improving the clarity of the application of the test. The AEMC's timetable for advising the MCE on the implementation of the new transmission planning arrangements is by June 2008, with new arrangements to commence by June 2009.

As the primary mechanism used to assess the efficiency of network investment, the Regulatory Test is an important element in minimising the occurrence of network constraints. The level of network investment is important to end users because:

- Under-investment in network services exposes users to poor performance and high energy prices when constraints occur. Customers are also exposed through under investments in interconnections creating price disparity between regions;
- Over investment will result in inefficient investment and higher than necessary network charges; and
- The level of investment in the transmission system and interconnectors contributes to maximising competition between generators within and outside a constrained region. This is because electricity transmission not only provides a mechanism for transporting energy to the distribution network (and thereafter to end users), but also plays a central and critical role into the efficient dispatch and pricing of the NEM.

While the role of demand side in optimising the utilisation of transmission capacity and mitigating market power at times of peak demand is emerging, it has insufficient support in the regulatory process to make it commercially viable and therefore is still little utilised. Given significant impediments to effective deployment, such that it is a response from dispersed providers that requires some coordination, cultural impediments about its opportunities and commercial benefits at the provider and user level and the need to align the economic and commercial incentives (and signals) in the energy market, network and end user sectors, it can be argued that there is a market failure in respect to demand management. The EUAA's extensive work supports this, and also the need for corrective action. It is also the case that DM is applicable in both the (market based) energy and (regulated) network segments and that the latter is more about regulation than removing impediments.

In 2004/05, the EUAA conducted a trial and case studies of demand side response predicated on the responsiveness of end users to high prices in the NEM, and network congestion signals. However the EUAA is encouraged by the establishment of an AEMC review of demand side participation, due to commence shortly, with the release of a statement of approach before the end of 2007. The EUAA considers that this review should be acknowledged as one of the reform initiatives that will potentially enhance congestion management arrangements in the NEM.

1.2. Background to the AEMC's review

The Ministerial Council on Energy (MCE) directed the AEMC on 5 October 2005 to review congestion management in the National Electricity Market (NEM). The terms of reference provided by the MCE required that a final report be publicly released within nine months of the direction to conduct the review.

In two instances, the AEMC requested extensions for the reporting date for the Congestion Management Review, granted by the MCE in June 2006 and January 2007. The extensions were agreed to on the grounds that the AEMC were considering rule change proposals to the National Electricity Rules, relating to region boundary changes and processes, and that work on these elements should be progressed concurrently with the Congestion Management Review. Subsequent to this, the AEMC published two consultation and information documents on issues relevant to congestion management in 2006 and 2007, being:

- An Issues Paper released in March 2006 – This was the first step in the AEMC's public consultation on congestion management. The purpose of this Issues Paper was to seek views from stakeholders on:
    - Specific network issues that the current approach to congestion management has failed to address adequately;
    - Problems and issues with the current approach to managing congestion in the NEM, and some indication as to the materiality of these problems; and
    - Options for improving the management of congestion in the NEM.
- A Directions Paper released in March 2007 – The purpose of this Directions Paper was to inform interested stakeholders as to the areas and issues that the AEMC intended to focus on in its forthcoming Draft Report. Interested parties were invited to make submissions in relation to both the proposed areas and issues to be addressed in the Draft Report. In responding to the Directions Paper, the EUAA expressed concerns regarding the limitation in the analysis that had occurred to date, in particular:
    - The failure to incorporate the impacts of changes to generator bidding behaviour under the various scenarios assessed, potentially adversely impacting both the accuracy of the AEMC's assessment of the costs and benefits of the options for change, as well as establishment of the congestion counterfactual (i.e. the *status quo*) against which it will be compared;
    - The risk that, in its Stage 2 analysis, the AEMC would focus its attention on the drivers for mis-pricing identified by NEMMCO (e.g. the introduction of fully optimised constraints and network outages) without the economic dispatch cost of mis-pricing ever being assessed. The EUAA considered that this had the potential to result in the pursuit of options for change (incremental or fundamental) that were ineffective at addressing physical and financial risks associated with congestion; and
    - Whether the Stage 2 analysis would examine the extent to which generator behaviour is distorted in response to constraints and, to the extent possible, for this distortion to be quantified.
- While the analysis undertaken by the AEMC in developing the Draft Report has been useful in alleviating some of the concerns that the EUAA expressed in response to the

Directions Paper, particularly with respect to basis risk,[1] the EUAA still considers that there remains a lack of detailed analysis regarding the impact of congestion for end users and the delivered outcome for end users of options for congestion management. The EUAA also notes that retailers, despite being directly exposed to the impacts of pricing above efficient levels, do not appear to have played a material role in the latter stages of the AEMC's congestion management review.

Given the substantial length of time taken to release documents for consultation, there are a number of reviews (now at varying stages of progress) occurring outside of the Congestion Management Review that have had an impact on the management of network congestion. It is appropriate that the AEMC has acknowledged a number of other reform initiatives that relate in different ways as to how congestion is managed in the NEM. The AEMC's Draft Report has been developed in the context of the "package" of reforms aimed at, or related to, the management of congestion in the NEM and a view by the AEMC that:

- The related package of initiatives will "over time, help anticipate and address efficiently the most salient instances of congestion in the NEM" (at page iii); and
- There is limited evidence of material and persistent congestion in the NEM to date. As a consequence, the ten recommendations contained in the Draft Report are aimed at improving pricing and dispatch outcomes, risk management instruments and information disclosure to support transparent transmission capability. That is, the recommendations are largely 'incremental' in nature.

It appears that the AEMC is of the view that it is the package of related reforms, rather than the recommendations emanating from the Congestion Management Review itself, that will serve to fundamentally address issues regarding congestion management. While the EUAA supports the AEMC's recognition of the likely impact of concurrent reforms on the management of congestion, the EUAA believes that there are a number of outstanding issues with the potential to impact the effectiveness of these initiatives. In particular:

- The Final Rule Determination on the Abolition of the Snowy Region. The EUAA submission on that process recommended that the Snowy regional boundary be abolished, but emphasised that any realignment of regional boundaries should be subject to a thorough analysis of economic impacts and operational implications. This should include analysis as to whether the proposal would lead to more efficient price signals, and in turn more efficient patterns of generation and generation investment, in order to deliver an overall lower cost of energy to end users. The EUAA also argued that the potential gaming of inter-regional settlement residues by Snowy be reviewed as part of the congestion management review;
- Recent transmission reforms, including the development of Pricing Guidelines by the Australian Energy Regulator (AER) to give effect to the Chapter 6A of the National Electricity Rules (Rules). The EUAA believes that greater weight should be placed on the interests of consumers and that welfare transfer from producers to consumers should be treated as a benefit, in the conduct of the Regulatory Test. In applying the Regulatory Test it appears that the ACCC has adopted a partial equilibrium approach to assessing economic benefits of proposed projects (i.e. limiting impacts of investment to within the NEM). The EUAA is concerned that this approach fails to examine interactions between other sectors of the

[1] "Basis risk" arises from inter-regional price differences to the extent that retailers and generators have entered into financial contracts that are settled against the RRPs of other regions. These price differences may be due to inter-regional transmission constraints.

economy, such as second order economic impacts. The ACCC's consideration of welfare transfers in the application of the *net economic benefits* element of the test is less than transparent, given that there are no guidelines on the methodology of estimating competition benefits. An assessment using a general equilibrium approach and weighting of consumer benefits accordingly would be consistent with the NEM objective;

- The development of the new Service Target Performance Incentive Scheme (STPIS) by the AER. As discussed later in this submission, the EUAA is concerned that the STPIS does not deliver the assumed incentives for Transmission Network Service Providers (TNSPs) to reduce congestion. The EUAA considers that networks should not be incentivised positively for doing what they are obligated to do, but that they should be penalised for not meeting their obligations. ; and
- The AEMC's ongoing work in relation to the National Transmission Planner (NTP). The EUAA is supportive of the development of a meaningful national planner to address the lack of coordination and regionalisation in the transmission planning process and believes that the NTP should conduct its economic assessment of transmission development activities through transparent and standard processes, to ensure that inter-regional infrastructure requirements receive the same priority as intra-regional infrastructure requirements. The EUAA considers that a key function of an effective transmission planner is to conduct long term planning with regard to long term supply scenarios and current/future government policy.

1.3. Setting of the Terms of Reference

As identified in the terms of reference set by the MCE for the Congestion Management Review, the AEMC is to:

- Identify and develop improved arrangements for managing financial and physical trading risks associated with material network congestion, with the objective of maximising the net economic benefit for those who produce, consume and transport electricity in the market;
- Review and articulate the relationship between a constraint management regime, constraint formulation; regional boundary review criteria, the ANTS flow paths, the Last Resort Planning Power; the Regulatory Test and TNSP incentive arrangements. The AEMC should develop a constraint management regime that applies as a mechanism for managing material constraint issues, until it is addressed through investment or regional boundary change;[2]

In its final report to COAG in January 2007, the Energy Reform Implementation Group (ERIG) indicated some concerns with the scope of the terms of reference for the Congestion Management Review, and their ability to deliver the highest potential benefits for the market. ERIG noted that:

> *The current terms of reference note the relationship between; inter alia, the Regulatory Test and TNSP incentive arrangements at item 3.2. However, other than a high level reference to the market objective at 3.1, no reference is made to economic efficiency. ERIG expects that the AEMC congestion review should deliver an appropriate management regime which will improve*

[2] Sections 3.1 and 3.2 in Attachment A – Terms of Reference for the AEMC Congestion Management Review, *Letter from MCE to AEMC*, 5 October 2005.

> *the efficiency of operations and dispatch in the short term and meet the dynamic efficiency imperatives in the longer term.*[3]

The EUAA agrees with the ERIG that a broader scope approach, with consideration of the economic impacts, would have assisted the review in delivering recommendations to improve the efficiency of the market. The EUAA is aware that ERIG also acknowledged the Regulatory Test as "currently flawed"[4] and in need of reform, and considers that more needs to be done at the MCE level to assess this important issue.

1.4. EUAA's concerns with the AEMC's interpretation of the Terms of Reference

The AEMC's Terms of Reference (TOR) for this review included a requirement "to develop a constraint management regime that applies as a mechanism for managing material constraint issues, until it is addressed through investment or regional boundary change".

The AEMC introduced a new concept of "feasibility" in its interpretation of this requirement in the TOR, such that any constraint management regime must be considered feasible for the management of material congestion prior to being recommended. The EUAA notes that the introduction of the concept of "feasibility" implies the following:

- Firstly, that the congestion identified by the AEMC must be material, and therefore must be demonstrated to be material;

- Secondly, that the benefits of any recommendations to relieve future congestion must be "feasible". This implies that they be "operationally feasible" and "financially feasible", in turn implying that benefits must exceed costs; and

- Thirdly, that after the material congestion problem is identified and tested for feasibility, consideration must be given to whether its feasibility is impacted by the possibility of any future investment or regional boundary change.

Significantly, the EUAA considers that:

- The AEMC's Draft Report does not provide rigorous analysis of the impacts of congestion on either end users or retailers in terms of final delivered prices. This means that it is not possible for retailers, major end users or small end users in the NEM to understand the impact that congestion is having on them in terms of final delivered prices; and

- It is not clear whether the AEMC's assessment of "feasibility" and "materiality" explicitly takes into account end users impacts and if so, in what manner. To this end, it is difficult to assess whether the constraint management regime that results from the Draft Report's recommendations furthers the NEM Objective more than the *status quo* counterfactual.

[3] Energy Reform Implementation Group, *Energy Reform - The Way Forward for Australia*, p.179.

[4] *Ibid*, p.1

This lack of analysis of the impact of congestion on end users is the EUAA's principal concern with the AEMC's Draft Report. The EUAA considers that the absence of this analysis arises largely from the narrowness of the AEMC's interpretation of the TOR.

1.5. EUAA's high level position

The EUAA generally supports the recommendations of the AEMC's Draft Report although it notes that the AEMC's recommendations do not adopt any significant new measures. The EUAA, on balance, agrees with the basis on which the AEMC has developed its recommendations because:

- Some congestion will always occur in an environment where the ability of the network to manage power flows is a dynamic variable influenced by both the characteristics of individual network components and the system as a whole; and
- The costs of designing a "fix" may be high, and the benefits of doing so may be uncertain. The EUAA is particularly wary of reforms which might encourage an increased prevalence of "gaming" behaviour. For example, the potential for strategically located generators to withhold generation at their node under localised spot pricing arrangements.

The EUAA does, however, retain its concerns that the AEMC's findings with respect to the materiality of congestion are largely based on indicators which:

- May mask the magnitude of the disconnect between dispatch and offers; or
- Fail to capture the impact of constraints which are of less significance on an individual cost basis but which are repeated and sustained,

In this context, the EUAA believes that the AEMC should retain its focus on the way in which generator bidding behaviour and congestion are inter-related.

Of the ten recommendations contained in the Draft Report, the EUAA does not support the AEMC's recommendations that:

- Negative settlement residues no longer be netted off against positive residues within a billing week or from the proceeds of the next auction and that instead, negative residues be funded by directly billing the importing region's TNSP and recovered through network charges. This is discussed further in section 4 of this submission; and
- The threshold at which NEMMCO intervene to manage negative settlement residue be lifted to $100,000. This is discussed further in section 5 of this submission;
- NEMMCO be allowed to determine the timing for when it publishes a methodology for the production of mis-pricing information. This is discussed further in section 10 of this submission; and
- No amendments be made to the current transmission pricing rules in order to give locational pricing signals to new generators. This is discussed further in section 11 of this submission.

1.6. Assessment of the AEMC's Recommendations

The AEMC has made recommendations in relation to the following ten issues:

- Assessment of localised spot pricing arrangements;

- Pricing for constrained-on generation;
- Treatment of negative settlement residues;
- Managing negative settlement residues by zero flow clamping;
- Settlements residue auction design;
- Constraint formulation;
- Methodology and process for developing, formulating and implementing constraint equations;
- Real-time information flow relating to the application, invocation and revocation of constraints;
- Mis-pricing; and
- Transmission pricing.

The EUAA has assessed the issues of importance for end users in reaching a final position in response to each of the AEMC's recommendations. The EUAA's position in response to the AEMC's ten recommendations is set out in the following sections.

2. Issue One – Assessment of Localised Spot Pricing Arrangements

2.1. AEMC's recommendation

The AEMC assessed the feasibility of implementing a form of localized spot pricing arrangements based on either negotiated allocation of transmission rental rights, or auctioned allocation of transmission rental rights.

It recommended against introducing any such arrangements for the following reasons:

- It would be likely to raise significant implementation issues and competition concerns and have significant wealth transfer implications;
- It would constitute a disproportionate response to the problems created by the present levels and impacts of congestion, based on currently available evidence; and
- Depending on the extent of its application, it could go beyond the scope of the MCE's TOR for the Congestion Management Review.

2.2. Discussion of issues of significance to end users

The EUAA notes that the AEMC considered a range of alternative means of pricing congestion including options that could be invoked on a localised, time-limited basis in response to specific congestion issues. All of the options involved a degree of localised spot pricing (i.e. being settled at nodal prices rather than at the Regional Reference Node (RRN) price) in an attempt to overcome mis-pricing. The key difference between the pricing options considered is the manner in which rights to congestion rent (i.e. the value of transmission capability which is equal to the volume of energy being constrained multiplied by the constraint price) are "bundled" across a series of constraints.

The Draft Report has focused largely on Constraint Support Contracts (CSC) / Constraint Support Pricing (CSP) as the "bundled" rights option. The EUAA notes that the CSC/CSP framework was developed specifically in the context of the NEM for the Snowy Tumut constraint and was strongly supported by the Latin Group in its response to the Congestion Management Review Issues Paper. The Latin Group proposal was to adopt the CSC/CSP system across the NEM.

The EUAA does not support the roll out of a regime of CSC/CSP congestion pricing rights on the basis that it would impose significant end user and regulatory costs that do not appear to be justified, particularly in light of the fact that, by their nature, such regimes are intended to be temporary measures only for the management of congestion.

All of the "bundled" and "un-bundled" pricing options reviewed involve generators being settled at a price that wholly or partially reflects their nodal price rather than the RRN. The EUAA agrees with the AEMC's concern that the introduction of a form of localised pricing may not address mis-pricing, on the basis that generators with influence over their local node may seek to withhold their output or offer it at a very high price in order to maximise their profits. This would clearly disadvantage end users.

However, the EUAA also notes that pricing within the current RRNs of the NEM produces distortions in prices and mutes signals on the most efficient location for new investment. The pricing distortions include the creation of cross subsidies between end users. This is a matter that should be further investigated to determine the extent of this problem and how best to deal with it.

The AEMC noted two additional risks of introducing a congestion pricing regime[5]:

- The first is that the lack of robust leading indicators as to when congestion will occur might lead to "instances where greater congestion pricing might improve the efficiency of the outcome is missed". As noted earlier in this submission, the EUAA is concerned that the leading indicators utilised to date to identify congestion and assess its materiality:
  - o May mask the magnitude of the disconnect between dispatch and offers; or
  - o Fail to capture the impact of constraints which are of less significance on an individual cost basis but which are repeated and sustained,
- The second is that "congestion pricing schemes are introduced where they deliver no benefit".

While the second risk is unlikely to negatively impact end users as, subject to the concerns expressed above, it may (but not necessarily will) reduce prices, the first risk is of significance to end users, as it will lead to an increase in end user prices.

2.3. EUAA's position

The EUAA supports the AEMC's position not to implement a form of localized spot pricing arrangements based on either negotiated allocation of transmission rental rights, or auctioned allocation of transmission rental rights.

The EUAA's position is based on its support for the fundamentals underpinning the AEMC's decision being that:

- It is unclear whether locational pricing will actually improve the economic efficiency of dispatch in a market where parties have some degree of market power;
- It is difficult to predict when and for how long congestion will occur, and therefore enacting a "fix" is a risky proposition for which users will ultimately pay;
- The congestion management regime is temporary in nature and there are numerous implementation and allocation problems surrounding the provision of congestion rights for parties to hedge the resulting basis risk; and
- There is scope within the existing regime for regional boundary change to address any material and sustained congestion, in the event that this does occur. Any

[5] AEMC 2007, *Congestion Management Review*, Draft Report, 27 September 2007, Sydney, p.93,

boundary change would need to be accompanied by a qualitative assessment of other constraints emerging.

3. Issue Two – Pricing for Constrained-On Generation

3.1. AEMC's recommendation

The AEMC recommended that implementing a regime of constrained-on payments through changes in the Rules for the settlement of the spot market would not represent a proportionate means of improving the management of physical and financial risk from network congestion.

3.2. Discussion of issues of significance to end users

A generator is constrained-on when it is dispatched for a quantity that is greater than the amount it is willing to produce at the RRP. The constrained-on generator may therefore incur a loss on the additional output and be incentivised to manage this risk by bidding 'high' in order to avoid being constrained-on or by reducing the level of its financial contracting. Incidents of mis-pricing or lower contracting can both lead to high prices for end users.

The AEMC has examined the introduction of constrained-on payments under which generators would receive some form of compensation to reflect the difference between the price that they would have been willing to supply and the RRP.

The AEMC considered two different options for making constrained-on payments to generators:

- Congestion pricing – A congestion pricing scheme which would allow a generator the right to settle only the agreed output at the RRP, with excess output settled at the constraint support price. The EUAA considers that this option could give rise to generator gaming on the basis that if the generator knew it would be constrained-on for a period, it could seek to influence higher price outcomes. This, in turn, could place upward pressure on prices paid by end users; and

- Compensation based approach – This option would extend the current provisions allowing for compensation to be paid only when NEMMCO gives a direction to all situations where a generator is constrained-on. The AEMC has not considered how this approach could be implemented.

The AEMC has noted in the Draft Report that the economic impact of constrained-on events does not seem to be significant, and may in any circumstances be beneficial for consumers if gaming behaviour is prevented. The EUAA notes, however, that the AEMC does not detail how many connection points have been constrained-on, how much energy was required to be offered in excess of bid amounts and what the impact of this might be on end users. The EUAA considers that, in the absence of this kind of information it is difficult to assess the full economic impact of constrained-on events.

3.3. EUAA's position

While the EUAA recognises that the risks of being constrained-on currently fall on the generator, as it would be required to sell more energy than it intended at the RRP, it believes that generators are already pricing the cost of this risk into their market bids and contracts.

If generators were to be explicitly compensated for this risk through an additional allowance then they would be compensated twice. End users would inevitably pay for these inefficiently higher costs through their end prices.

The EUAA therefore supports the AEMC's view that implementing a regime of constrained-on payments through changes in the Rules to settlement of the spot market would not represent a proportionate means of improving the management of physical and financial risk from network congestion.

4. Issue Three – Treatment of Negative Settlement Residues

4.1. AEMC's recommendation

The AEMC recommended that:

- Negative settlement residues no longer be netted-off against positive residues within a billing week with the remainder recovered from the proceeds of the next auction; and

- Negative residues be funded by directly billing the importing region's TNSP and be recovered by that TNSP through its network charges.

4.2. Discussion of issues of significance to end users

Inter-Regional Settlements Residue (IRSR) units available through Settlement Residue Auctions (SRAs) are the key mechanism within the NEM for the management of "basis risk".

When there is a divergence in the RRPs, inter-regional flows lead to IRSRs, which represent the difference between the RRPs multiplied by the volume of the inter-regional flow. These IRSRs are auctioned to the market to assist in managing the risk of inter-regional price differences, although they do not provide a firm hedge. A negative inter-regional settlement residue arises where electricity flows from a higher priced to a lower priced region (i.e. in a counter-priced direction) as a consequence of factors such as constraints influencing the dispatch process.

Participants will be deterred from contracting across regions if they are unable to manage these inter-regional risks, potentially leading to higher contract prices and higher prices for end users.

It is important to note the AEMC's premise for proposing that the current arrangements for recovering negative settlements residue through SRAs could be improved by NEMMCO charging the importing region's TNSP directly for any negative settlements residue. The AEMC's premise that:

- It believes that there is nothing further that needs to be done to improve the reliability and predictability of the transmission network, as the national transmission planner process will cover these issues adequately;

- It believes that it would be more efficient if negative settlement residues are not netted from positive settlement residues; and

- It believes that it would be more efficient for NEMMCO to bill the importing region's TNSP directly for negative residues.

4.3. EUAA's position

The EUAA does not support the AEMC's recommendation because:

- The current arrangements have only been in place 18 months. As such, it is difficult to gauge whether they represent an effective long-term response when considered in the context of the other "efficiency improvements" recommended by the AEMC in its Draft Decision. The EUAA supports retaining the existing arrangements until the current stated period for review in order to fully assess their impact; and

- Energy users are already exposed to the risks of inter-regional trade indirectly as retailers pass the additional risks of inter-regional trade through to end users. It is unclear how the proposed redistribution of negative residues would improve the firmness and value of the IRSRs to such an extent that end users would not be unduly penalized through both an increase or 'uplift' in network charges and energy charges above efficient levels. That is, the EUAA does not accept the suggestion that the impacts for end users under the current and proposed mechanisms are mutually exclusive.

It is the EUAA's view that, in circumstances where a framework for the recovery of negative residues via the TNSP were to be introduced, recovery from network users should not occur more frequently than the basis upon which settlement residues are offset – that is, the offset and recovery should be aligned.

5. Issue Four – Managing Negative Settlement Residues

5.1. AEMC's recommendation

The AEMC recommended that:

- The threshold at which NEMMCO intervenes to limit the accumulation of negative settlement residue be lifted from $6,000 to $100,000;
- The need for physical intervention as a means of managing negative settlement residues, and the level of the threshold for invoking such an intervention, should be reassessed in three years with a view to complete removal if possible; and
- NEMMCO should be obliged to outline how it interprets and applies those provisions of the Rules that enable it to effect clamping in the constraint guidelines recommended in Chapter 6.

5.2. Discussion of issues of significance to end users

Under Part 8 of Chapter 8A of the Rules, NEMMCO is permitted to constrain the interconnector flows through the dispatch process ("clamping") if there is the prospect of negative residues accumulating to a value greater than the $6,000 threshold set out in its published operating procedure. The purpose of this is to increase the firmness of the IRSRs in the counter-priced direction by reducing negative residues.

The AEMC considers that under the current arrangements, it is difficult for participants to predict when clamping will take effect, how quickly it will proceed and how it will impact dispatch and pricing. The costs of managing these risks are passed on to end users through higher energy prices. It is the AEMC's view that "clamping" also moves the market away from least cost dispatch which may reduce economic efficiency.

5.3. EUAA's position

It is unclear whether this measure will lead to a better balancing of the need for intervention with the resultant reduction in the efficiency of dispatch. The EUAA is aware that NEMMCO reviewed the trigger level for negative settlement residue in October 2006, in which a $100,000 threshold for intervention was proposed on NEMMCO's assessed capacity to carry market liability. The final decision of the review did not support the increasing of the size of the trigger level.

The EUAA notes that the AEMC has not assessed the likely extent to which the number of physical interventions will be reduced and the magnitude of the efficiency loss that will persist. On this basis, the EUAA does not support the proposal to increase the trigger level for the management of negative settlement residues, as we consider it important that the costs and benefits of such a change to be addressed.

Importantly, the EUAA does not support the introduction of a regime that would permit individual generators or groups of generators to fund negative settlement residues themselves in exchange for clamping not being applied, as contemplated as a possible option by the AEMC. It is the EUAA's view that this regime would be administratively complex, could lead to potential gaming by generators and may result in an inconsistency in approach across the market. It is also difficult to see how this regime could be implemented in a transparent manner.

On this basis, the EUAA also supports:

- A requirement for NEMMCO to outline in constraint guidelines how it will interpret and apply the provisions of the Rules that enable it to affect clamping and to consult with users on these.

While the EUAA accepts that there may be value in exploring the potential for 'positive flow clamping' to be introduced, a detailed investigation will be required as part of this analysis of its impact on the efficiency of dispatch and IRSR 'firmness'.

6. Issue Five – SRA Design

6.1. AEMC's recommendation

The AEMC recommended that several tranches of IRSR units be made available for auction up to 3 years in advance of the relevant IRSR quarter, with the detailed development of release profile being established through the Settlement Residue Committee (SRC).

6.2. Discussion of issues of significance to end users

IRSR units are purchased by participants through quarterly SRAs, one year in advance. The AEMC decided that, of the options it considered to incrementally improve the flexibility and usefulness of the SRAs, the only option which has merit is for the sale of units further in advance. This would involve an extension to possible lead-time from IRSR unit purchase to application, from 12 months to 36 months, and would allow participants to buy IRSR units up to 3 years in advance.

6.3. EUAA's position

The EUAA supports the AEMC's recommendation on the basis that:

- It will provide increased flexibility for retailers to align the contract term and the contract price, at minimal implementation cost. It will therefore better enable retailers to plan and hedge their longer-term contract positions;

- It may increase the use of IRSRs by participants for the active management of "basis" risk, and reduce the propensity of participants to purchase IRSRs purely on a speculative basis (as is understood to have occurred historically); and

- In a competitive environment retailers should pass on at least part of the savings arising from their ability to reduce and better manage their risk exposure.

7. Issue Six – Constraint Formulation

7.1. AEMC's recommendation

The AEMC recommended including in Chapter 3 of the Rules, a requirement for NEMMCO to use a fully co-optimised network constraint formulation to the extent practicable, except where NEMMCO reasonably determines that an alternative constraint formulation is necessary to:

- Meet system security requirements; or
- Manage negative settlement residues.

This would be subject to a proviso that NEMMCO's use of an alternative constraint formulation is consistent with the constraint guidelines referred to in recommendation 7 of the Draft Report.

7.2. Discussion of issues of significance for end users

NEMMCO uses the National Electricity Market Dispatch Engine (NEMDE) to determine how much is required to be dispatched by a generator at any particular point in time, while maintaining a safe and secure system. NEMDE:

- Calculates the least-cost way of dispatching generation to meet load, based on the prices and quantities contained in bids and offers; and
- Contains a set of network "constraint equations" which establish the capability, security and reliability parameters of the network. Each constraint equation is a mathematical representation of the way in which different variables affect flows across particular transmission limits. A network constraint is therefore a limitation imposed on the market dispatch relating to the physical capability of the transmission network.

The way in which these constraint equations are established in NEMDE and controlled by NEMMCO, will have a bearing on the least-cost way of dispatching generation.

The AEMC's recommendation gives effect to the formalization of the use of the fully "co-optimised" constraint formulation applied by NEMMCO and used in NEMDE, whereby all terms that may be directly controlled by NEMDE are placed on the left hand side of the mathematical formulation.

Currently, NEMMCO's ability to apply fully co-optimised constraint equations is given effect through Part 8 of Chapter 8A of the Rules, which was put in place as a derogation. The AEMC is proposing that the substance of the Part 8 derogation should be enshrined within Chapter 3 of the Rules.

7.3. EUAA's position

The EUAA supports the AEMC's recommendation that Part 8 of Chapter 8 of the Rules be enshrined within Chapter 3 of the Rules, without distinction between intra and inter-regional constraints. Tthe EUAA considers that this would provide increased certainty to industry and end users as to the nature of the constraint formulation to be applied, with the limited exceptions proposed by the AEMC.

8. Issue Seven – Methodology and Process for Developing, Formulating and Implementing Constraint Equations

8.1. AEMC's recommendation

The AEMC recommended obliging NEMMCO to:

- Develop constraint guidelines outlining the methodology and process to be followed when developing, formulating and implementing constraint equations to assist participants to assess the impact of constraints on dispatch and pricing;
- Comply with its published constraint guidelines; and
- Consult with stakeholders when developing or modifying those guidelines.

8.2. Discussion of issues of significance for end users

The AEMC considers that, given the potentially significant commercial impact of the way in which constraint formulations are developed and implemented, these matters should be subject to a high degree of transparency and predictability for market participants. The AEMC has therefore, recommended that NEMMCO develop, formulate and implement constraint equations in accordance with published "constraint guidelines".

The AEMC stated that these constraint guidelines should provide sufficient information for participants to understand NEMMCO's approach to constraint equation development, formulation and implementation, and should assist Market Participants to assess the impact of constraints on dispatch and pricing.

8.3. EUAA's position

The EUAA supports the provision of additional, timely and better quality information to allow participants to better manage trading risks in relation to congestion.

The EUAA:

- welcomes the AEMC's recommendation that NEMMCO be required to publish and comply with new constraint guidelines to assist participants to asses the impact of constraints on dispatch and pricing, and to consult with stakeholders in the development of the guidelines. The EUAA considers that these guidelines will increase the predictability of NEMMCO actions; and
- believes that constraint guidelines developed by the NEMMCO should contain worked examples to assist readers understand how different constraint equations are developed and applied in the market. This will assist market participants and end users understand how the application of different constraint equations might ultimately impact on electricity wholesale prices.

9. Issue Eight – Real-Time Information Flows

9.1. AEMC's recommendation

The AEMC recommended that the Rules be amended to:

- Require NEMMCO to develop and publish an information resource that assists market participants to understand and predict the nature and timing of events that are likely to materially affect constraints in the dispatch process;
- Define "events" to include, at a minimum, network outages, commissioning (or decommissioning) of new generating units, loads or network assets and new or modified network support constraints;
- Require NEMMCO to publish defined information on a timely basis and to publish updates to that information as soon as practicable;
- Ensure the information resource is transparent so that it gives market participants confidence that all relevant information is published in a timely manner;
- Require NEMMCO to consult with industry in developing or changing the information resource; and
- Oblige TNSPs and other registered participants to provide the information required by NEMMCO to develop this information source.

9.2. Discussion of issues of significance for end users

The AEMC has recognised that it is important that market participants have access to information to understand and predict the nature and timing of events that are likely to materially affect constraints in the dispatch process, and timely notification of events that lead to different constraints being invoked or revoked. It has been suggested that there is currently a lack of transparency in the market regarding this information.

Market participants need to take physical or financial measures to manage the impact of constraints. When the timing of constraints cannot be accurately predicted, market participants can find themselves exposed to both physical and financial risk, which in turn disadvantages users.

9.3. EUAA's position

The EUAA:

- Supports the AEMC's recommendation to develop an information resource that allows participants to understand the emergence and impact of congestion related events.
- Considers the newly developed information resource should:

- Enable generators to better anticipate possible impacts of constraints and retailers to better manage price risk. This should theoretically result in downward movements in prices for end users; and

- Allow interested end users, and parties such as aggregators, the ability to make themselves aware of technical aspects of electricity wholesale settlement, thereby reducing information asymmetry and potentially assisting with the development of effective demand side response.

10. Issue Nine – Mis-Pricing

10.1. AEMC's recommendation

The AEMC recommended that:

- NEMMCO develop a methodology in consultation with participants for the production of mis-pricing information that covers all material congestion in the NEM;
- NEMMCO publish mis-pricing information on a quarterly basis; and
- NEMMCO's other resource commitments be taken into account when establishing a commencement date for this requirement.

10.2. Discussion of issues of significance for end users

Mis-pricing occurs where congestion results in divergences between the settlement price (i.e. the RRP) and implied local nodal price, without this impact being reflected in differences in the prices paid or received by participants in the region. Mis-pricing can create risks for participants and promote behaviours, particularly with respect to bidding, that reduce economic efficiency.

The AEMC's Draft Report supports greater transparency of the incidence of congestion related mis-pricing. The AEMC considers that:

- The establishment of a new data series might assist policy making in relation to congestion management in the future;
- Information about mis-pricing might assist in identifying points of congestion on the network in order to enable more specific and targeted "fixes" to be designed; and
- Information about mis-pricing may assist users to consider the location of investment in a more informed manner.

10.3. EUAA's position

The EUAA agrees with the first two elements of the AEMC's recommendation. The provision of quarterly reporting on mis-pricing will provide valuable information to inform the current debate on the materiality or otherwise of mis-pricing and assist in the development of future policy responses.

The EUAA does not support the third element of the AEMC's recommendation, which appears to allow NEMMCO the ability to vary its commencement date for this methodology, based on its resource commitments. As a statutory organization, NEMMCO is charged with implementing the AEMC's recommendations in line with the Rules and its resource commitments must be managed in order to meet its requirements.

11. Issue Ten – Transmission Pricing

11.1. AEMC's recommendation

The AEMC recommended that no amendments be made to the current transmission pricing rules in order to give locational pricing signals to new generators.

11.2. Discussion of issues of significance for end users

The AEMC has highlighted the issue that new generators can cause congestion if the network has not been sized to meet the new capacity. This is because generators have no obligation to consider whether their new capacity can be accommodated by the network as they currently pay "shallow" connection costs only. This means that generators pay for the costs of their immediate connection to the transmission network but are not required to contribute to the costs of downstream augmentations (i.e. "deep" connection costs), which is paid for by end users. This may lead to the inefficient locating of generators.

The AEMC considered whether the introduction of additional capacity or access charges into the current framework of transmission service pricing is required to provide locational signals to new generators.

11.3. EUAA's position

In the past, the EUAA has supported the need for generators to pay cost reflective network charges, including a contribution to deep connection. We still believe there is merit in transmission connected generators contributing to use of system costs because the generators are better able to put pressure on TNSPs to be efficient (than end users). This would provide a bigger incentive to ensure that transmissions prices/costs were efficient and to counter-act the monopoly power of TNSPs. This arrangement is consistent with other industries, where suppliers pay for transportation.

With respect to the areas of transmission reform identified in the Draft Report as providing context for the AEMC's consideration of further reforms to the framework for transmission, the EUAA notes that:

- The current transmission investment framework does not incentivise TNSPs to manage congestion effectively. TNSPs receive an overall return on assets through prices and therefore, there are no incentives for "spot reductions" in congestion through targeted investment; and

- The TNSPs' Service Target Performance Incentive Scheme (STPIS) does nothing to incentivise TNSPs to reduce congestion. The STPIS is an average formula which is designed to monitor average performance. It should in no way be confused with a site or region specific measure. The additional measures released by the AER in June 2007 to incentivise TNSPs to provide longer notification of planned outages and minimize binding constraints will build upon the STPIS.

Therefore, while the EUAA supports these initiatives, they should not be viewed as a 'solution' to the need to deliver incentives through the transmission pricing framework.