Submission to the Australian Energy Market Commission

EUAA Member Demand Side Participation (DSP) Experiences and Response to AEMC Review of DSP in the National Electricity Market – Stage 2 Issues Paper

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EXECUTIVE SUMMARY

The Energy Users' Association of Australia (EUAA) welcomes an opportunity to make this second submission to the Australian Energy Markets Commission (AEMC) review of demand side participation (or demand side response (DSR)) in the National Electricity Market (NEM).

The EUAA membership represents a wide spectrum of energy end-users located in all states, with the overwhelming majority involved in the production and delivery of a comprehensive range of goods and services that are essential to Australia's social and economic wellbeing. This broad range of activities involves an equally diverse range of energy use patterns, ranging from production processes that would impose very substantial costs on the user even if interrupted briefly (such as telecommunications, chemical processing or glass manufacture), through processes that can be interrupted for time periods ranging from minutes to hours, to the transfer of load to on-site 'back-up' generators.

Price, reliability and quality of supply are of key importance to all EUAA end-use members. This means that EUAA members are likely to respond to "DSR incentives" that result in improvements in any of these three attributes, providing the benefits clearly exceed the costs.

The EUAA's strong relationship with end users is seen as a way of adding value to the AEMC's review and information was therefore sought from members about their experiences in using DSR. The primary reason for seeking feedback from members was that it is obviously end-users who provide DSR; and the EUAA is fully aware that each end-user has their own views, priorities and criteria for making judgements and decisions about DSR. The EUAA also believes that there is value in seeking feedback from members because neither the NERA draft report nor the AEMC's *Issues Paper* address issues from the perspective of those who provide DSR.

Background to this Submission

The EUAA presumes that the AEMC is using the *Issues Paper* consultation process to identify where the Rules might be changed to achieve a different outcome that better aligns with the *Single Market Objective*. That is, any Rule changes would result in a more competitive and more economically efficient outcome that delivers long-term benefits to end-users.

It is the EUAA's firm view that the AEMC has an obligation to provide an informed basis for identifying and discussing the issues being considered for Rule changes. The current Rules are complex and the impact of any changes is virtually impossible for end-users to assess in quantitative terms. In addition, and as noted in our first submission, the value to the EUAA (and end-users generally) is reduced by the limited scope of the AEMC's review.

The EUAA is also disappointed to note that the AEMC has suggested that high impact issues requiring more fundamental change to the Rules and operation of the NEM would be the subject of further work where appropriate to consider the costs and benefits of change. Whilst it is appropriate that such analysis be undertaken before implementing any major changes, it is the EUAA's view that this should be part of the current AEMC review.

The EUAA notes that increasing DSR has been accepted as a desirable policy objective by both the Ministerial Council for Energy (MCE) and CoAG's Energy Reform Implementation

Group (ERIG). Given the public recognition by the MCE and ERIG of the importance of DSR, the EUAA is firmly of the view that the AEMC should make this review wide in its application and coverage and supplement the application of conceptual and theoretical foundations with numerical analysis.

Feedback from EUAA Members

The EUAA was able to elicit some useful feedback from members about their experiences with DSR. Of the range of views expressed, major points that appear relevant to the AEMC's deliberations included:

- No respondents were prepared to accept full exposure to spot market price volatility on an ongoing basis (by becoming a Registered Market Participant).

- Respondents preferred to exercise DSR within a flexible contract arrangement with a 'cooperative' retailer or with an aggregator such as Energy Response Pty Ltd.

- Where the benefits were clear, and DSR capability available, respondents were prepared to invest in software, systems, procedures and training to facilitate DSR.

- However, there is general recognition that (in the absence of changes to the Rules) the 'incentives' available from DSR arise from a short-term opportunity to reduce energy costs, with no worthwhile prospect (much less guarantee) that investment in DSR capacity is likely to achieve a reasonable return in the longer term.

- One respondent expressed considerable frustration in trying to reach agreement with Electranet on the installation of 'market meters' for the on-site generators, a process that had been dragging on for more than 6 months. This user was strongly of the view that any Rule changes to promote DSR should focus on increasing incentives for Market Participants to remove 'bottlenecks' (such as Electranet's tardy response to install 'market meters') or require incentive payments to make DSR work.

- This user also said that they could not operate in a market where they would be exposed to VoLL for any prolonged period of time; and that the AEMC should not consider increasing VoLL as a way to incentivise DSR. If VoLL was increased, it would flow directly into higher energy contract prices that would more than offset any possible benefits from increased take-up of DSR.

- There were divergent views about providing DSR to networks, with some users advising they were prepared to do so (and one confirmed they had done so through Energy Response Pty Ltd's aggregation service) and one advising they had considered but rejected that option because of concern about accepting an obligation to off-load at the instruction of the network service provider or transfer of direct load control to the network service provider.

- Some respondents reported difficulty in negotiating inclusion of DSR options in retail contracts where the retailer also owned generation capacity; and none reported direct contact from network service providers seeking DSR capacity (although several members also advised the EUAA they had responded to Transgrid's recent public call for DSR tenders).

The reluctance by some major retailers to provide a response to the requirements of members reinforces the need for an ongoing project by the EUAA to develop a standard energy contract for large users. The EUAA has been working on this development for some time because it is important from the perspective of empowering end users to act as providers of DSR without being limited to DSR opportunities that arise at the discretion of the retailer.

The EUAA is also aware that members can face significant challenges convincing their own organisations that DSR opportunities should be pursued; and many experience frustration in dealing with retailers and network service providers if they seek to explore DSR opportunities.

The EUAA is also aware, in feedback from members, that few would make significant investment to enhancing DSR capacity/opportunities beyond investment that is likely to offer significant returns through energy efficiency savings or through specific commitments underwritten by DSR agreements. Accordingly, it is of some concern to the EUAA that the AEMC (and NERA) appear to focus primarily on how to increase incentives for supply side entities to pursue DSR. While there may be a sound case for action in this area, there is also an equal – or possibly greater – need to stimulate end-users' interest in providing DSR capacity.

Comment on AEMC's Stage 2 Issues

The EUAA has attempted to add value to the AEMC review by seeking feedback from members about their experiences with DSR. Information obtained from this process, as well as feedback from members over the last decade, has been used in framing the responses outlined in section 4 of this submission. The EUAA has also relied upon its involvement in DSR through member contact, market and regulatory reviews and various projects.

Key messages for the AEMC from these responses are:

- Any changes in "DSR incentives" for network service providers should be in the form of additional obligations to provide information about DSR opportunities that is meaningful to end-users information and obligations to approach large end-users directly about DSR opportunities.

- There is no evidence that any of the current distribution network service provider incentive schemes are effective in enticing DNSPs to take an active role in seeking DSR services from end-users.;

- Current retail price controls, combined with the desire for large and small consumers to seek predictable retail pricing substantially reduces the benefits that can be derived from further changes to network pricing incentives.

- The Rules should not be amended to raise the threshold for the Regulatory Test. This would reduce the already low interest by NSPs in proactively seeking DSR and increase the difficulty that aggregators such as Energy Response have in recruiting the required larger aggregations of DSR capacity.

- Network planning and augmentation arrangements should be amended to specify minimum mandatory conditions that include an obligation for NSPs to directly

approach large end-users, in the local network area where DSR capacity could be utilised; and provide information on the commercial benefits from providing DSR.

- Changes to Rules governing the minimum conditions in network connection agreements (and the minimum performance obligations of NSPs) are required along the lines outlined above>

- Whilst it is to be hoped that the AER's assumption of the role of 'national' regulator for transmission and distribution will result in improvements, the Rules should be amended to remove discrimination between remote and embedded generation and require all generator connection costs to be treated on a consistent basis, irrespective of size or location (and jurisdiction).

- The Rules should be amended to specify minimum commercial conditions that truly reflect the economic and commercial value provided by embedded generators.

- Greater participation of DSR in the wholesale market could be achieved by amending the Rules to provide direct incentives for end-users to offer capacity through a DSR capacity payment. To avoid disruption to the energy only design of the NEM, this could be limited to DSR. Such changes could significantly improve the flexibility of dispatch arrangements by providing clear commercial incentives for end-users to offer DSR capacity well in advance of its required dispatch and would also assist in improving the accuracy of NEMMCO's demand forecasts. However, such changes would have to be supplemented by a mechanism in the Rules to allow education and skills development to occur that would substantially increase DSR capability in the NEM.

- There could be merit in examining the feasibility and desirability of creating a DSP category of participant with market participation costs that reflect the size and limited participation of such participants.

- The Rules should also be reviewed to consider providing direct incentives for end-users to offer capacity through a DSR capacity payment mechanism, which should include an 'uplift' payment to provide a direct incentive for end-users to make DSR capacity available. Alternatively, depending on the value of the 'uplift payment', a direct incentive could be provided for end-users to undertake investments needed to activate an otherwise 'dormant' increment of DSR capacity.

- The relative success of the last NEMMCO Reserve Trader tender provides positive evidence that a 'DSR capacity mechanism' can work. However, as noted in an independent review undertaken for the EUAA as part of this process, the procurement process specified in the Rules is adversely impacted by the complexity of NEMMCO's tendering and contracting documentation.

- Finally, the EUAA recognises that the existing Reserve Trader process is bureaucratic, legalistic and costly, each of which acts as a disincentive to prospective DSR providers. However, removing this provision without replacing it with a simpler, less costly mechanism is unlikely to increase DSR activity at a cost that is acceptable to end users.

1. Introduction

The Energy Users' Association of Australia (EUAA) welcomes an opportunity to make this second submission to the Australian Energy Markets Commission (AEMC) review of demand side participation (or demand side response (DSR)) in the National Electricity Market (NEM).

Our first submission focused on a response to comments and recommendations made by NERA Economic Consultants (NERA) in a 20 February 2008 draft report to the AEMC titled *Review of the role of demand side participation in the National Electricity Market* (the NERA report). This second submission is made in response to the AEMC's *Stage 2: Issues Paper* that was released for comment on 16 May 2008.

The EUAA is a non-profit organisation focused entirely on energy issues. Members determine the EUAA's policy and direction;[1] and our activities cover both national and state issues. The EUAA has over 100 members representing a wide spectrum of energy end-users located in all states. In the contect of this submission, a number of members have reported that they are involved in DSR and others that they would have some capacity to do so if they understood how to access the opportunity and the incentives to offer DSR were improved.

The EUAA membership represents a wide spectrum of energy end-users located in all states. It is relevant for the AEMC to note specifically that the overwhelming majority of the EUAA's end-user members are involved in the production and delivery of a comprehensive range of goods and services that are essential to Australia's social and economic wellbeing. Amongst other things, this includes production and delivery of:

- raw and processed industrial materials;
- engineering and construction materials;
- chemical and petrochemical products;
- raw and processed minerals;
- paper, paper products and packaging;
- food processing, storage and retailing;
- commercial, technical and educational services;
- telecommunications;
- transport; and
- water.

This broad range of activities involves an equally diverse range of energy use patterns, ranging from production processes that would impose very substantial costs on the user even if interrupted briefly (such as telecommunications, chemical processing or glass manufacture) through processes that can be interrupted for time periods ranging from minutes to hours to the transfer of load to on-site 'back-up' generators.

[1] The EUAA has four classes of membership. *Full* and *Associate* members are all large end users of energy spending in excess of $5 million and $1 million per year respectively.

The AEMC will be fully aware that price, reliability and quality of supply are key matters of importance to all EUAA end-use members even though, for most, energy is likely to account for less than 5% of their total input costs – noting that for some members, energy may be a very significant input cost. This means that EUAA members are likely to respond to "DSR incentives" that result in improvements in any of these three attributes, providing the benefits clearly exceed the costs.

2. Background to this Submission

The EUAA is concerned that there was very little indication in NERA's final report that meaningful notice was taken of the contents of our first submission to this review. Apart from including a list of those submitting responses, there was no visible evidence in the final report that NERA had considered the contents of any of the submissions. There was certainly no significant change to those parts of NERA's draft report that were subject to critical comment by the EUAA (not even a response to our comments). Accordingly, the EUAA urges that the AEMC consider the contents of our first submission and address the matters and criticisms raised therein as part of its deliberations of responses to the *Stage 2: Issues Paper*.

Of particular relevance to both submissions is the fact that the EUAA and its members have been actively involved in promoting the development of DSR in the NEM. This activity has included:

- conduct of Australia's first DSR Trial in November and December 2002, which contributed directly to the formation of Energy Response Pty Ltd, Australia's first demand side aggregator;
- a series of follow-up case studies to the trial;
- work to assess the performance of the NEMMCO contract for reserves in Victoria/South Australia in 2006;
- active participation in the development of DSR regulatory incentive schemes in NSW;
- regular participation in market and regulatory reviews where DSR has been an issue; and
- assessment of the NEMMCo Reserve Trader arrangements.[2]

The EUAA is also developing a *DSR Action Plan for End Users* to assist end-users generally, policymakers and Governments recognise ways to overcome impediments to DSR, including those of an external nature (such as market and regulatory impediments) and those of internal nature (such as those relating to cultural or organisational factors).

The EUAA initiated contact with members seeking information about their experiences in using DSR as part of the preparation of this submission. The EUAA notes that none of its members has 'in-house' resources that can be assigned to reviews such as this. In general, members rely on the EUAA to respond to regulators' consultation processes and there are practical challenges in engaging with members at short notice because all of the

[2] The EUAA also made a submission to the Ministerial Council on Energy Steering Committee of Officials Review of *National Frameworks for Distribution Networks: Network Planning and Connection Arrangements*. That submission contains comments on aspects of DSR that are relevant to matters being considered by the AEMC. A copy of the submission is available on the MCE web site.

members' representatives have major organisational responsibility focused on energy procurement, energy management or production activities.

The EUAA had a particular reason for seeking feedback from members as part of this review. The primary reason was that it is obviously end-users who do, and could, provide DSR; and the EUAA is fully aware that each end-user has their own views, priorities and criteria for making judgements and decisions about DSR. The EUAA also believed that there was value in seeking feedback from members because the NERA draft report did not address issues from the perspective of those who provide DSR. In addition, the AEMC's *Issues Paper* also did not address issues from the perspective of end-users. Our strong relationship with end users was therefore seen as a way of adding value to the AEMC's review.

It is the EUAA's firm view that the AEMC has an obligation to provide an informed basis for identifying and discussing the issues being considered for Rule changes. The current Rules are complex. The impact of their application in current form – and the impact of any changes to the Rules – is virtually impossible for end-users to assess in quantitative terms. Without an understanding of quantitative impacts, it is not possible for end-users to provide informed feedback about possible changes to the Rules; and it is equally difficult for the AEMC to consider and address these perspectives.

In addition, and as noted in our first submission, the value to the EUAA (and end-users generally) from this review, and this *Issues Paper*, is reduced by the limited scope of the AEMC's review.

The issues identified by the AEMC focus on how existing Rules might be changed. The EUAA presumes that the AEMC is using the *Issues Paper* consultation process to identify where the Rules might be changed to achieve a different outcome that better aligns with the *Single Market Objective*. That is, any Rule changes would result in a more competitive and more economically efficient outcome that delivers long-term benefits to end-users. Yet the *Issues Paper* does not consider two important matters as outlined below.

The first matter is that any value from the *Issues Paper* is reduced because there is no quantification of 'market outcomes' that could provide guidance to end-users on the relative materiality of the many issues referenced in the *Issues Paper*. Just two simple examples highlight this point:

- the *Issues Paper* contains no numerical reference to any measure of quality or reliability of supply (or the impact of DSR on such measures); and the only reference to dollar values relate to the thresholds for investment under the Regulatory Test and the current value of the short-term price cap (VoLL); and
- section 5.2 of the *Issues Paper* asks for views about whether the costs of participating in the wholesale market and in financial contracting are too high – but says nothing about what levels of cost currently apply. Given the very small number of end-users that are Registered Participants and (presumably) the equally small number who might be directly exposed to financial contracting, it is difficult for them to express an informed view on these matters.

The second important point is that no EUAA member has the resources to make an informed study of the 1,055 pages of the Rules. None of the members who provided feedback for this submission had a detailed understanding of the Rules, nor could they be expected to. Therefore, in the absence of information on the quantitative impact of the current rules, or any Rule changes, there is little prospect of getting informed feedback from

major energy users about possible changes to the Rules – which is (or should be) the primary focus of an *Issues Paper* dealing with demand side participation.

The EUAA is also disappointed to note that the *Issues Paper* is very narrow in its scope and appears to focus on minimal changes to the Rules. For example, the AEMC has suggested that high impact issues requiring more fundamental change to the Rules and operation of the NEM would be the subject of further work where appropriate to consider the costs and benefits of change. Whilst it is appropriate that such analysis be undertaken before implementing any major changes, it is the EUAA's view that this should be part of the current AEMC review.

As noted above, the NEM will have been in operation for 10 years in December 2008. While the Rules have existed for only five years, they are based on incremental changes to the National Electricity Code that preceded the Rules. As also noted above, the three matters of highest importance to end-users are price, reliability and quality of supply; all of which are directly impacted by the Rules and all which can be measured and reported in quantitative terms. In addition, the EUAA notes that increasing DSR has been accepted as a desirable policy objective by both the Ministerial Council for Energy (MCE) and CoAG's Energy Reform Implementation Group (ERIG).

Given the public recognition by the MCE and ERIG of the importance of DSR, the EUAA is firmly of the view that the AEMC should make this review wide in its application and coverage and supplement the application of conceptual and theoretical foundations with numerical analysis. It is not appropriate for the AEMC to put off further work to consider the costs and benefits of major or fundamental changes to the Rules. Such matters shouldb e part of the current review.

In the EUAA's view, this is an important role that is best exercised by the AEMC given its independent position and responsibility for assessing Rule changes within the context of the market objective.

3. Feedback from EUAA Members

As noted in our first submission, the EUAA is aware that large end-users' retail supply contracts have typically contained clauses dealing with DSR. It is also typical that these clauses are 'non-binding' in that the retailer is not obliged to request a DSR service during periods of high spot market price or network constraint. Neither is the end-user obliged to provide DSR capacity if requested by the retailer, but can choose to do so if, or when, such a request is made.

Our first submission also noted that some of the EUAA's members have sites with wholesale spot market exposure or contracts with partial exposure to spot prices; but in the main, even the largest members have conventional fixed price electricity contracts with a retailer of their choice.

The EUAA was able to obtain some useful feedback from members about their experiences with DSR, although they generally requested that their feedback be provided in a form that did not identify them or the specific location of their operations. Of the range of views expressed, major points that appear relevant to the AEMC's deliberations included:

- No members reported that they were prepared to accept full exposure to spot market price volatility on an ongoing basis (by becoming a Registered Market

Participant). Instead, each of the respondents preferred to exercise DSR within a flexible contract arrangement with a 'cooperative' retailer or with and aggregator such as Energy Response Pty Ltd. The full range of experiences reported by members can be encompassed within the examples outlined below.

- One member had established a long-term relationship with a retailer (in Queensland) based on a period contract allowing the user to exercise an option to accept exposure to spot price volatility for all or a particular part of a site load on a quarterly basis. This allowed the user to utilise spare production and stockpiling capacity in a production process that could be interrupted for periods ranging from minutes to hours, with the goal of minimising the cost of energy. The contract also allowed the user to seek the 'protection' of full retail hedge cover in a forthcoming quarter (by providing the specified notice to the retailer) when production or stockpiling capacity was constrained or spot price volatility became too severe to manage.

  This particular user had:

  - invested in commercial price monitoring software and linked outputs from this software into production control systems;
  - undertaken training of management, operations and production staff to integrate DSR into the production process based on specific spot price triggers;
  - established 'Decision Rules' based on stockpile levels and production capacity that allowed DSR to be activated progressively and automatically when the 5-minute despatch period price rose above $30/MWh, with all production suspended when the 5-minute despatch price reached $100/MWh (provided adequate inventories were held in the product stockpile); but
  - suspended DSR entirely once demand for the product substantially reduced spare production capacity – even though spot price volatility remained well beyond the 'Decision Rule' thresholds.

  This particular user had also made commitments to expand production capacity and will reconsider re-activating DSR once the new capacity comes on line.

- Another member operating 'un-interruptible' continuous production processes, with major sites in all NEM Regions reported that major retailers in the SA and VIC Regions refused to negotiate energy supply contracts with effective DSR clauses. In this case, the major retailers also owned generation assets and presumably saw no commercial value in utilising DSR (while other retailers in the Regions were unable to match the 'competitive' energy prices offered by the generation-owning retailers – possibly because they were unable to access hedge cover at a cost that matched the 'transfer pricing' available to the generation-owing retailers).

In this case, the user had reached agreement with Energy Response Pty Ltd to provide DSR by transferring load to on-site 'stand-by' generation capacity at a number of sites.[3]

This user also expressed considerable frustration in trying to reach agreement with Electranet on the installation of 'market meters' for the on-site generators, a process that had been dragging on for more than 6 months.

This user also considered that DSR would have to take the form of transferring load to on-sire generators because short-term interruption to the continuous production processes would be so costly that it would require payments exceeding VoLL to compensate for the cost of the interruption.

This comment and the one above emphasise several points that are relevant to the AEMC's review:

- in one particular circumstance (i.e. interruption of a continuous production process), VoLL is lower than this user's perceived value of lost load;
- at the same time, and under different circumstances at the same site (i.e. having time to transfer load to on-site generation), VoLL would be substantially higher than the same user's perceived value of lost load.

This user was strongly of the view that any Rule changes to promote DSR should focus on increasing incentives for Market Participants to remove 'bottlenecks' (such as Electranet's tardy response to install 'market meters') or require incentive payments to make DSR work, whilst ensuring that end-users retained the ability to contract for DSR outside retail agreements given vertical integration which works against DSR. The user also said that they could not operate in a market where they would be exposed to VoLL for any prolonged period of time; and that the AEMC should not consider increasing VoLL as a way to incentivise DSR. If VoLL was increased, it would flow directly into higher energy contract prices that would more than offset any possible benefits from increasing the takeup of DSR.

- None of the respondents said they had time to look at, much less understand what impacts the current Rules, or any changes to the Rules, might have on their interest in, or incentive to provide, DSR (and none said they had time to read the AEMC *Issues Paper*).
- There were different views expressed about providing DSR to networks.
  - Some users advised they were prepared to provide DSR to networks; and at least one had provided such services through Energy Response Pty Ltd (although none had been approach by retailers or network service providers directly for this purpose).

[3] While the EUAA member expressed satisfaction with this arrangement, they did point out that their interests might have been best served by being able to compare the Energy Response offer with competing retailers.

- However, another user (who had used substantial volumes of DSR to 'manage energy price exposure') had considered and rejected the option of providing DSR for networks because of concern about 'loss of sovereignty'. That is, the user would not accept an obligation to off-load at the instruction of the network service provider; nor would they accept transfer of direct load control to the network service provider.

The reluctance by some major retailers to provide a response to the requirements of members reinforces the need for an ongoing project by the EUAA to develop a standard energy contract for large users. The EUAA has been working on this development for some time because it is important from the perspective of empowering end users to act as providers of DSR without being limited to DSR opportunities that arise at the discretion of the retailer. In particular, the EUAA's standard contract allows for the end-user to provide DSR, either as a service offered to a DSR aggregator such as Energy Response Pty Ltd, or as an individual response to DSR opportunities sought by network service providers or NEMMCO. This was a member driven initiative.

Importantly, the EUAA's work on a standard energy contract and other DSR work seek to ensure that end-users do not sell themselves short in terms of DSR options. It also ensures they can incorporate DSR in their energy procurement strategies. Following the launch of the contract late last year, the EUAA expects to specifically examine the contract from the point of view of DSR opportunities to accommodate issues such as those indicated in the examples above.

The EUAA is aware that members can face significant challenges convincing their own organisations that DSR opportunities should be pursued;[4] and many experience frustration in dealing with retailers and network service providers (NSPs) if they seek to explore DSR opportunities. For example, no members reported contact by either their retailers or an aggregator in the extreme spot price events in Victoria or South Australia in mid-March;[5] and none has been directly approached by a distribution network service provider (or TSNP) seeking DSR network support.

We are, however, aware that some have been approached and are likely to participate in a recent Transgrid tender for DSR to provide network support *in lieu* of upgrading the transmission network in the Newcastle-Sydney-Wollongong 'loop', although only the largest users are able to provide DSR directly to Transgrid due to a minimum load requirement. Others will participate via aggregators such as retailers or Energy Response.

The EUAA is also aware, in feedback from members, that few would make significant investment to enhancing DSR capacity/opportunities beyond investment that is likely to offer significant returns through energy efficiency savings or through specific commitments underwritten by DSR agreements.

[4] The reluctance of some members to pursue DSR opportunities would appear to hinge on the (not unreasonable) perception that such a course of action creates risks that the organisation chooses to avoid (through a retail contract).

[5] The volatile prices (above $5,000/MWh) in South Australia in March 2008 were unprecedented in the historical spot price history in the NEM, as there were 26 half hourly trading intervals where prices were at, or close to the market cap of $10,000/MWh. The EUAA is also aware that significant opportunity to curtail demand by large energy users was available on 16 January 2007, when high demand and transmission unavailability caused by bush fires caused high prices and an involuntary loss of load for several hours in Victoria, but was never activated.

In the EUAA's view, this is not surprising. There has been a focus by some jurisdictional regulators on stimulating 'incentives' for supply side entities to take an interest in DSR. However, the measures implemented by jurisdictional regulators in the distribution sector in NSW, South Australia and Victoria provide only limited and partial incentives for DNSPs to pursue DSR opportunities where this is more 'efficient' than investing in network solutions. There is no guarantee as to the continuity of such schemes beyond existing regulatory periods. In contrast, EUAA members generally recognise the 'incentives' available to them from DSR for what they are – a short-term opportunity to reduce energy costs, with no worthwhile prospect (much less guarantee) that investment in DSR capacity is likely to achieve a reasonable return in the longer term. It is of some concern to the EUAA that the AEMC (and NERA) appear to focus primarily on how to increase incentives for supply side entities to pursue DSR. While there may be a sound case for action in this area, there is also an equal – or possibly greater – need to stimulate end-users' interest in providing DSR capacity

4. Comment on AEMC's Stage 2 Issues

The Terms of Reference specified by the AEMC for this review cover:

- Economic Regulation of transmission and distribution networks (section 2 of the Issues Paper)
- Network Planning (section 3 of the Issues Paper)
- Network Access and Connection Arrangements (section 4 of the Issues Paper)
- Wholesale and financial markets (section 5 of the Issues Paper)
- DSP for Reliability Purposes (section 6 of the Issues Paper)

As noted in earlier sections of this submission, the *Issues Paper* provides very little quantified information that can assist end-users rank the issues identified by the AEMC or, indeed, make informed comments on the issues. The EUAA has attempted to add value to the AEMC review by seeking feedback from members about their experiences with DSR. Information obtained from this process, as well as feedback from members over the last decade, has been used in framing the responses outlined below. The EUAA has also relied upon its involvement in DSR through member contact, market and regulatory reviews and various projects.

The AEMC *Issues Paper* provides a series of brief discussions of issues identified in each of the fives areas outlined above. The EUAA offers a brief comment on each of the matters that the AEMC is seeking views on in the table below. Text in italics has been copied from the *Issues Paper* and has been highlighted as it appears to signal a pre-condition that the AEMC would apply when considering any comments/views it receives.

AEMC Issue	***EUAA Response***
Economic Regulation of transmission and distribution networks (section 2 of the *Issues Paper*)	
• s2.1: The balance of incentives may not encourage the efficient inclusion of demand-side options: o impact that the service incentive targets and the associated incentive scheme may have on	There is no evidence that distribution network service providers (DNSP) see any need to take an active role in seeking DSR services from large end-users. At best, the DNSPs respond to the current 'balance of incentives' by including information about DSR opportunities in Network Planning Reports that are either inaccessible to end-users, or

the incentives for the use of efficient DSP. ○ whether the regime, through the use of incentives such as the ECM (i.e. efficiency carryover mechanism), encourages network businesses to avoid operational expenditure that would be spent on DSP. ○ suggestions on how they could be addressed.	if accessible, are highly technical. In some jurisdictions (e.g. NSW) the DNSPs are required to call for expressions of interest from prospective DSR providers. But there is no evidence that any DNSP would do more than what is specified as a mandatory condition in the jurisdictional arrangements. This suggests that the 'balance of incentives', however constructed by regulators, is not sufficient to encourage the DNSPs to be proactive in seeking DSR capacity. This could be addressed by amending the Rules to make it mandatory for DNSPs to directly approach all large end-users, retailers and aggregators in the relevant local network area where a DSR opportunity exists. It would also be necessary to mandate that the DNSPs provide information that is meaningful to end-users, including a firm indication of the commercial benefits they could expect from providing DSR.
• s2.2: The building blocks control setting method may limit the incentives for innovation on demand-side participation: ○ *noting that AER is currently considering R&D allowance for QLD and SA DNSPs.* ○ whether the Rules provide sufficient incentives for network businesses to undertake research and development and innovation on DSP initiatives. ○ what approaches could be adopted to encourage efficient innovation on DSP.	There is no evidence that any DNSP undertakes meaningful R&D on any aspect of service delivery. Nor is there any evidence that large end-users, many of whom operate multiples sites in many (or all) NEM Regions, derive any benefit from the piecemeal application of "incentive regimes" that differ by jurisdiction. It is to be hoped that the assumption by the AER of the national network regulatory role – transmission and distribution – improves this situation. The DNSP's have shown they are unlikely to do anything that is not mandated by regulators, unless they see an opportunity to make "above-efficient" returns. Therefore, to the extent that the AEMC has any evidence that DNSPs should be undertaking R&D, it will have to amend the Rules to either make this mandatory or to provide "inefficient" commercial incentives for them to do so.
• s2.3: The form of price control may not facilitate efficient demand-side participation: ○ *noting that new distribution Rules include mechanisms such as a demand-side incentive scheme to overcome some of the disincentives.* ○ the materiality of the impact of 'price cap' and 'revenue cap' incentives on the pursuit of efficient DSP options while having regard to the positive outcomes each form of price control may encourage. ○ appropriateness of such a scheme for transmission networks and other network businesses that are subject to a revenue cap.	As noted above, there is no evidence that DNSPs see any need to take an active role in seeking DSR services from large end-users. This strongly suggests that none of the current forms of "incentive" are effective. Whilst a revenue cap is sometimes said to provide a greater incentive for DSR than a price cap, we believe that the incentive is blunt and note that the use of revenue caps has not resulted in significant use of DSR in jurisdictions where it has been applied (e.g. transmission, NSW distribution prior to the current regulatory period and Queensland, distribution). There may also be broader reasons for preferring price caps over revenue caps. The most effective way to change the incentives could be to specify minimum mandatory conditions that include an obligation to directly approach large end-users, retailers and aggregators in the local network area where DSR capacity could be utilised; and provide information on the commercial benefits

	from providing DSR.
• s2.4 The structure and components of tariffs may not provide customers with efficient signals about electricity use: ○ *recognising existing jurisdictional requirements regarding locational and capacity based pricing as well as the feasibility of such price signals being passed through to end-use consumers by retailers.* ○ options for improving the signals to consumers to manage their demand; such as benefits from increasing the locational component of tariffs or requiring more efficient signals about the use of network capacity to be provided to consumers. ○ appropriateness of such a scheme for transmission networks and other network businesses that are subject to a revenue cap.	The EUAA has no objection to amending the Rules to improve the cost-reflectivity of tariff components – provided the revised tariff components apply to the users who actually create the cost drivers and to ALL users. We note with concern, however, that existing price controls in NEM jurisdictions would have the effect of blunting any such incentives. The current Rules that require NSPs to structure tariffs so they provide "efficient signals" are more-or-less meaningless to end-users because there are no equivalent obligations for energy retailers, who "smear" network pricing signals through their retail product offerings – particularly for small consumers who have the most volatile load and who contribute most to "inefficient" use of network assets. In addition, the continued use of regulated prices for small consumers can also seriously obscure any "efficient signals" in network tariffs.There is also evidence that large end-users prefer to take energy supply under retail contracts with predictable terms and stable prices that (on the whole) tend to smooth out the volatility of "efficient pricing signals" – except where it is clear they can benefit commercially from providing DSR. That is, current retail pricing practices and the overwhelming desire for large and small consumers to seek "refuge" in predictable retail pricing substantially reduces the benefits that can be derived from further changes to network pricing incentives. The way to deal with this is to remove the controls not to exempt such users from cost reflectivity in network tariffs.
Network Planning (section 3 of the Issues Paper)	
• s3.1: The Regulatory Test threshold may be limiting the ability for alternatives to smaller network augmentations to be considered: ○ *noting that AEMC is currently considering a Rule change proposal from the Electricity Transmission Network Owners Forum (ETNOF), now renamed GridAustralia, to, among other things, increase the minimum threshold for the Regulatory Test from $1 million to $5 million.* ○ whether the consultation requirements for new small and large distribution network assets provide sufficient opportunity for non-network options to be revealed in the planning process.	The EUAA understands that Energy Response has been successful in recruiting a significant number of small increments on DSR capacity for its aggregation service. This indicates that opportunities exist for both DNSPs and TNSPs to access small-scale DSR. Accordingly, there is little merit in approving a Rule change that reduces "incentives" for NSPs to seek DSR. Such a change would reduce the already low interest by NSPs in proactively seeking DSR and increase the difficulty that aggregators such as Energy Response have in recruiting the required larger aggregations of DSR capacity.
• s3.2: The planning arrangements may not allow sufficient time for demand-side options to integrate in the planning process: ○ whether the arrangements in Chapter 5 provide potential demand-side proponents with sufficient time to develop alternative proposals	The network planning arrangements are essentially "passive" and inconsistent between jurisdictions. However, changing the notice periods and/or aligning procedures across jurisdictions will have little impact unless NSPs are also given "incentives" to be more proactively involved in DSR.

when options are being sought. ○ the nature and extent of any inconsistencies in jurisdictional planning requirements and which jurisdictional arrangements most effectively reveal efficient demand side options in response to a proposed network investment.	As noted above, one effective way to change the incentives could be to specify minimum mandatory conditions that include an obligation for NSPs to directly approach large end-users, in the local network area where DSR capacity could be utilised; and provide information on the commercial benefits from providing DSR.
• s3.3: Consultation on augmentation options rather than on the needs of the network may create a bias against demand-side options: ○ recognising the reliability obligations and timing constraints that apply to network businesses in planning and augmenting their networks ○ whether the current planning arrangements encourage an undue emphasis on network options to the disadvantage of efficient DSP options. ○ identify the causes of any under-consideration of non-network options and measures that might be adopted to improve the efficiency and balance of the planning process. ○ comment on any lessons from the NTP Review that could be applied to distribution networks in this context.	As noted above, one effective way to change the incentives could be to specify minimum mandatory conditions that include an obligation for NSPs to directly approach large end-users in the local network area where DSR capacity could be utilised; and provide information on the commercial benefits from providing DSR.
Network Access and Connection Arrangements (section 4 of the Issues Paper)	
• s4.1: Arrangements for avoided TUOS and DUOS may under / over value demand management options: ○ whether the existing requirements for avoided TUOS and DUOS in the Rules provide efficient incentives for investment in and location of embedded generation (EG) and whether the current rebate arrangements reflect appropriately the network benefits provided by EG. You should also comment on how the efficiency of these arrangements could be improved.	As noted above, the most effective way to change the incentives is to specify minimum mandatory conditions that include an obligation for NSPs to directly approach large end-users, retailers and aggregators in the local network area where DSR capacity could be utilised; and provide information on the commercial benefits from providing DSR.
• s4.2: Minimum technical standards for connection to the network may provide a barrier to potential embedded generation options: ○ whether the existing minimum technical standards contained in the Schedules of Chapter 5 of the Rules reflect the minimum requirements for connection. ○ whether the minimum standards for connection are consistent across jurisdictions and reflect appropriate minimum requirements for connection of EG to the network.	As noted in the body of this submission, at least one large end-user expressed frustration about the delay caused by Electranet in finalising installation of "market meters" for on-site generation. This would suggest that the current minimum standards are inadequate, requiring a Rule change to compel NSPs to respond in shorter time periods (and otherwise remove obstacles that cause delay in connection of embedded generation). To the extent that jurisdictional requirements differ, these differences should be eliminated by specifying minimum conditions in the Rules. It is to be hoped that the AER's assumption of the role of 'national' regulator for transmission and distribution will also result in some improvements. The EUAA currently has a project underway which is looking at the existing arrangements for network connection in the NEM with a view to simplification and dealing with the bias towards networks in

	deemed connection agreements. Where existing technical standards require small embedded generators to be connected by AS4777 compliant inverters, the Rules should be amended to allow these devices to be connected to the local distribution network by a Licensed Electrical Contractor/Installer with subsequent notice to the local DNSP (and the end-user's retailer) without any prior notice to the DNSP (as in the case for equivalent increments of load).
• s4.3 Deep connection costs to the network may be a barrier to potential embedded generation options: ○ what is an appropriate framework to ensure consistency regarding the connection costs of EGs. ○ *noting the different treatment of connection costs across jurisdictions*, is there a framework that would better facilitate the efficient connection of EGs.	Discrimination in the treatment of connection costs between large, remote generators and smaller embedded generation distorts efficient investment decisions. The Rules should be amended to remove this discrimination and require all generator connection costs to be treated on an entirely consistent basis, irrespective of size or location (and jurisdiction). It is to be hoped that the AER's assumption of the role of 'national' regulator for transmission and distribution will also result in some improvements.
• s4.4 Contracting arrangements for embedded generation may not reflect the network support benefits that can be provided: ○ *Noting that different arrangements apply across jurisdictions, and that the Rules require negotiation in good faith* ○ the extent to which EGs are able to negotiate their contractual arrangements in a timely manner, with sufficient information, such that the remuneration they receive is an appropriate reflection of the network support benefits they are providing. ○ the adequacy of the dispute resolution arrangements in this area and whether there would be benefits in clarifying dispute resolution provisions in the Rules. ○ whether the treatment of the benefits that aggregators can provide as a package of network benefits is appropriate.	Negotiation in 'good faith' is a meaningless concept due to information asymmetry and substantial differences in negotiation power. The Rules and AER regulation of networks ought to address these matters. The Rules should be amended to specify minimum commercial conditions that truly reflect the economic and commercial value provided by embedded generators. See also the comment above concerning minimum connection arrangements.
Wholesale and financial markets (section 5 of the Issues Paper) DSP for Reliability	
• s5.1: Wholesale market processes may exclude potential demand-side resources from efficiently participating: ○ *Noting that AEMC will be conscious of the alternatives to the demand-side participating directly in the wholesale spot market, such as participating through retailers and aggregators.* ○ whether more flexibility can be provided in the dispatch arrangements to facilitate DSP and what would be the impact of doing so. ○ ways the accuracy of NEMMCO's demand forecasts can be improved. ○ understanding the capability of the demand-side to be involved in this market from a skills	The opportunity to participate in DSR via retailers and aggregators has resulted in a very limited take up of DSR in the NEM over the past 10 years. The track record is quite poor and disappointing, which reflects badly on the market and the extent to which it is competitive. This is even more important with the re-aggregation that has occurred on the supply side. As noted, the EUAA response to the NERA draft report, the current arrangements applying to market participation are far too complex and costly to be of interest to the overwhelming majority of large end-users (and beyond the comprehension of smaller end-users). Greater participation of DSR in the wholesale market could be achieved by amending the Rules to

and education perspective.	provide direct incentives for end-users to offer capacity through a DSR capacity payment. To avoid disruption to the energy only design of the NEM, this could be limited to DSR. Such changes could significantly improve the flexibility of dispatch arrangements by providing clear commercial incentives for end-users to offer DSR capacity well in advance of its required dispatch. A DSR capacity payment scheme would also assist in improving the accuracy of NEMMCO's demand forecasts. The EUAA would not support Rule changes that required 'non-market' DSR aggregators to provide input to NEMMCO's planning processes. This would increase costs for aggregators without providing any additional incentives for end users to offer DSR. As noted in the body of this submission, the EUAA has been actively involved in promoting DSR opportunities to members and assisting their understanding of the opportunities. This experience confirms that much more is required than the relatively passive role of "understanding the capability of the demand side." The EUAA has no doubt that substantial additional benefit could be derived by increasing the resources applied to increasing the understanding of end-users (for both EUAA members and end-users generally) about DSR opportunities, and skills necessary to access these opportunities. A mechanism in the Rules to allow education and skills development to occur would substantially increase DSR capability in the NEM. Conversely, relying on the market (or the EUAA acting alone without any additional incentives) to promote this capability will be much less effective.
• s5.2: The costs of involvement in the wholesale market and in financial contracting may be unnecessarily high: o whether there are costs to participate in the wholesale market that are too high, or inappropriate for demand-side proponents. o whether there is merit in developing mechanisms in the Rules to reduce the costs of contracting between retailers and demand-side proponents.	See comment in body of submission. The AEMC has provided no quantitative information on current costs of involvement in the wholesale market or in financial contracting. The AEMC cannot reasonably expect informed comment on this matter from end-users who have no exposure to these processes and no information on which to base informed comment. The costs of participating in the NEM, such as payment of fees to NEMMCO and prudential requirements, could act as a deterrent to DSR take up. There could be merit in examining the feasibility and desirability of creating a DSP category of participant with market participation costs that reflects the size and limited participation of such participants.
• s5.3: Demand-side participants may not be adequately compensated for providing a demand-side response: o *Noting there will not be one single value of lost load for the demand-side. Each potential demand-side resource will have its own cost to face for not consuming electricity.* o the costs for various demand-side resources to participate.	As noted above, the Rules could also be reviewed to consider providing direct incentives for end-users to offer capacity through a DSR capacity payment mechanism. Such a mechanism would allow the different costs of providing DSR capacity to be reflected through a 'market-based' approach, with the 'most competitive' increments of DSR capacity being selected. This approach would also allow DSR aggregators to "mix and match" numerous small

○ whether there is the need for additional uplift payments to compensate demand-side resources for the benefits they may provide to the market.	increments of DSR capacity with (potentially) widely divergent costs and offer aggregated DSR capacity at a competitive price. The suggested DSR capacity mechanism would have to include some form of 'uplift' payment to overcome the obstacles identified in the body of this submission. In particular, an 'uplift' payment would provide a direct incentive for end-users to make DSR capacity available or, depending on the value of the 'uplift payment', provide a direct incentive for end-users to undertake investments needed to activate an otherwise 'dormant' increment of DSR capacity.
DSP for Reliability Purposes (section 6 of the Issues Paper)	
• s6.1: The use of a short-term emergency Reserve Trader may not facilitate the development and use of efficient demand-side participation for reliability: ○ *Noting that Reliability Panel considered the option of a standing reserve (see Appendix D) to address these issues associated with the Reserve Trader.* ○ whether there would be benefits from increasing the certainty and reducing the costs of the arrangements through a standing reserve.	There is no doubt that increased (commercial) incentives would bring forward more DSR capacity. As noted above, the Rules should also be reviewed to consider providing direct incentives for end-users to offer capacity through a DSR capacity payment. The relative success of the last NEMMCO Reserve Trader tender also provides positive evidence that a 'DSR capacity mechanism' can work. However, as noted in an independent review undertaken for the EUAA,[6] the procurement process specified in the Rules currently is adversely impacted by the complexity of NEMMCO's tendering and contracting documentation. By comparison, the report noted that Energy Response Pty Ltd was able to undertake a parallel DSR procurement program – and submit a complying (and successful) Reserve Trader bid to NEMMCO based on a brief (7 page) 'DSR procurement agreement' and process that was accepted by a range of small, medium and large industrial and commercial end-users. While some of the recommendations from this report were directed at improving the 'transparency' of consultations that NEMMCO is required to undertake with NEM jurisdictions, others relating to simplification of the DSR procurement process are directly relevant for the AEMC's consideration of this issue; and a copy can be provided by the EUAA.
• s6.2: The use of reserves may not allow demand-side participants to obtain a fair market value for their services: ○ *Noting that the Reserve Trader is a backstop emergency measure,* whether the use of reserves is operating to facilitate efficient demand side participation in those arrangements. That is, without the Reserve Trader, or through the use of alternative mechanisms, would the demand-side be able	The EUAA recognises that the existing Reserve Trader process is bureaucratic, legalistic and costly, each of which acts as a disincentive to prospective DSR providers. As mentioned above, this was a key outcome of our work, in conjunction with Energy Response, on the NEMMCO contracts for reserve in Vic/SA in 2005-06.[7] However, removing this provision without replacing it with a simpler, less costly mechanism is not likely to increase DSR activity at a cost that is acceptable

[6] *NEMMCO 2005/06 Tender for Reserve Assessment of Energy Response Bid - A report prepared by Marsden Jacob Associates for the Energy Users Association of Australia*, February 2007.

[7] Ibid.

to better participate in providing reserve to the market. ○ *Noting that doing this may require significant market change for an uncertain benefit*, whether there are other alternatives for maintaining reliability of supply without distorting market outcomes and investment signals.	to end users. Presumably, such a mechanism would rely primarily on a 'market response' to the short term market price cap (VoLL) that would be 'adjusted' upwards until the 'required DSR capacity' was forthcoming. As noted in the body of this submission, large end-users are very concerned that an increase in VoLL would translate directly into higher retail energy prices without any guarantee that the increased costs could be offset by DSR payments (or retail energy cost savings attributable to DSR). As noted above, the Rules should also be reviewed regarding direct incentives for end-users to offer capacity through a DSR capacity payment.