

16 April 2004

User Participation Working Group
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Dear Hilary

Commercial in Confidence

Response to Improving User Participation in the Australian Energy Market Discussion Paper - March 2004

Thank you for the opportunity to respond to the above Discussion Paper.

Energy Response Pty Ltd (Energy Response) has been established to provide an independent (third party) commercial aggregation mechanism for Demand Side Response (DSR) to NEM price and demand signals. Energy Response has the rights to the models and platforms utilised in the Trial and has actions in hand to effect a commercial DSR solution. The economics of this mechanism are heavily dependent upon the ability to educate electricity consumers on the value to them from an effective DSR mechanism.

As identified in the assessment of the EUAA Trial, there is a significant public good benefit that will be created from the implementation of an effective DSR mechanism but it is likely to prove difficult to capture sufficient of this benefit commercially until a viable DSR commitment has been established. However, with appropriate support in the early years, we believe electricity consumers who participate by providing DSR through an aggregation mechanism will receive substantial benefits.

We have attached a number of comments on key points in the Discussion Paper with particular focus on DSR. While we have mainly focussed on DSR, we have also offered some comments on interval metering and retail prices where relevant to DSR.

We see the implementation of an effective DSR mechanism as a very important next step forward in the development of the electricity market environment to enable and encourage a wider range of electricity consumers to participate in the NEM, improving NEM efficiency and increasing the direct benefits to DSR providers and indirect benefits to all consumers.

We would appreciate opportunities to further assist the SCO to address issues related to the formation of government policy which would support the development of a fully effective DSR through this demonstrated aggregation mechanism.

Yours faithfully



Ross Fraser

(Attachment 1)

Response to Improving User Participation in the Australian Energy Market Discussion Paper - March 2004

Not Confidential

Comments on specific issues raised in the Discussion Sections

General:

- It is generally and widely acknowledged that the NEM lacks an effective DSR mechanism and that this needs to be overcome if the NEM is to meet its full obligations to provide electricity consumers with the full benefits expected from this market.
- The DSR mechanism demonstrated in the EUAA Trial was specifically designed for the Australian NEM and, within the limits of the scope of the Trial, showed that it can form the basis of an effective commercial DSR mechanism which will provide a simple process for consumer responses to both forecast high prices and peaks in network demand with the achievement of a market value for the DSR provided.
- It is also expected, that the same mechanism, will enable a wider number of responses to develop over time, eg, including to Ancillary Services, as supporting technology becomes commercially viable.
- All of these DSRs will provide increased competition in the market (to hedges, to AS, etc) creating a more efficient market and secure power system, both of which are key issues for electricity consumers.
- It is anticipated that the implementation of an effective DSR will empower consumers and encourage them to take a more active part in the NEM. Large to mid-sized consumers would be able to realise the direct benefits of DSR over the next few years and the same mechanism could also be used in the future to provide low cost, automated remote managed DSR from similar types of loads in the small business and residential consumer categories. This would in turn support the full roll-out of interval meters.
- It is important that the DSR mechanism adopted as part of the NEM environment improve the efficiency of the NEM and should also maintain strong investment signals to ensure the long term security and sustainability of the electricity supply. Pay-as-Bid is considered to be less likely to support this outcome than the more market based aggregation mechanism demonstrated by the EUAA Trial.
- Initially there will be a very limited number of 'educated' consumers who will be able to provide DSR and more than one 'independent DSR aggregator' would be expected to make any early stage of this new mechanism non-viable.

Barriers to effective DSR

A number of the barriers to effective DSR have been identified in previous papers and some were addressed in the EUAA Trial. Two significant barriers would appear to remain although there are other smaller barriers which also will need to be addressed. The two significant barriers are:

- The lack of availability of an independent, simple to use mechanism which will provide an efficient process for both market participants and consumers to use to form an adequate and reliable aggregation pool of DSR available to the market or its participants; and
- Awareness by electricity consumers of the value which they can create for themselves by participating in the provision of DSR and the general benefits which would flow to all consumers from a fully effective DSR.

Following the EUAA Trial, Energy Response Pty Ltd (Energy Response) was established to provide a commercial vehicle to address the first point. Energy Response has a developed Business Plan and is in commercial negotiation with a number of market participants to develop acceptable terms for sale and supply of aggregated DSR. The fact that an easy to use DSR mechanism is in place would then be expected to provide a positive signal to encourage demand side responses of various types over time and provide a stronger business case for more DS investments.

In the same timeframe, the EUAA under an AusIndustry Grant, is developing a set of case studies to start the process to address the second point. There is a long way to go with this process as most consumers (even quite large consumers who have been operating in the retail market for a more

than 5 years) are unaware that participation in DSR can create further benefit. This is despite the fact that they are familiar with the sale and purchase of other products / commodities through other markets.

These two actions are expected to add value to each other. For example, creating awareness of the benefits of DSR without a mechanism to realise those benefits may frustrate consumers who will by then have recognised the benefits from DSR.

Network DSR (Sect 2.2.2) - The EUAA Trial provided an opportunity for retailers and distributors to price the value of DSR to them through each of the test scenarios. The Discussion Paper indicates that the “prices offered by the distributors were generally considered to be unrealistically low”. We do not believe this was the case with 2 of the distributors in the Trial. However, the ensuing discussion about the prices in the Trial highlighted that it is important to have a reliable DSR mechanism available to the network owners and operators. The network owners and operators need a clear financial incentive to use reliable DSR instead of continuing to be reimbursed by consumers for inefficient spending of capital to provide the last few per cent of capacity which is rarely ever used. We support changes / strengthening of the regulated pricing arrangements to achieve this outcome and have some views on how this could be achieved and would be happy to discuss them.

The ‘free-rider’ issue (Sect 2.2.2) is of concern as it restricts the ability to obtain sufficient value for the DSR participating parties (the DSR providers, participating retailers, etc, and the aggregator) who have created the benefit which flows through to all consumers. Therefore, some component of the free-rider value created needs to be captured and shared with the DSR participating parties. Capturing a small amount of the benefit flowing to all consumers would fairly support those providing the DSR. We have some detailed views on how this could be undertaken and would be happy to discuss them.

Comments on Issues for Consultation (Sect 5)

General comments:

- the NEM has not developed an effective DSR after 5 years of operation
- it is widely agreed that an effective DSR is an essential component of the NEM
- the absence of strong customer involvement in DSR (NEM only half a market) was the reason to design and test a prototype DSR mechanism
- the next steps required include 2 main streams of activity, viz: customer awareness and establishing a commercial mechanism based on the tested aggregation prototype to produce an effective DSR which suits the Australian NEM.

5.1 Demand Side Response Market Mechanisms

The discussion outlined a number of issues facing the CoAG Review ‘pay-as-bid’ proposal. What solutions might overcome these design and implementation problems?

This approach (as discussed in the paper) is not market based and has not been tested. It is our view that it would take some considerable time to analyse and consult on how the Pay-as-Bid mechanism would work in detail. We also would expect that it has the potential to result in other changes to the NEM which may reduce the market efficiency improvements and hence benefits for end users.

Is there scope to consider improvements to existing mechanisms for physical market participation by end users (i.e. as scheduled or market loads)?

These physical mechanisms have been available since the NEM was implemented and very few consumers have chosen to participate. A notable exception is Yamasa Australia. Yamasa have participated as a market customer and bought at spot prices using their ability to significantly modify their demand in response to forecast high prices. Yamasa would only do this for their own commercial benefit.

There is a substantial difference between the average spot price and retail energy prices. A major factor which contributes to the size of this difference is the cost to the retailer of managing the risk of price volatility. Even so, very few consumers have chosen to take up this approach.

The independent assessment of the EUAA Trial has shown that by being able to efficiently coordinate and aggregate relatively small quantities of DSR from a range of consumers, a 'firm' quantity of DSR can be organised with minimal impost of any of the participating consumers. This is especially important as consumers need to keep their main business processes operating and they also have obligations to maintain site health and safety. The aggregation process also limits the 'burden' of having to provide DSR too often. While the consumers can set their own price (called more / less often), the DSR pool would be larger than the demand response required to address most events.

Do stakeholders regard the aggregation facility as a viable mechanism to stimulate dispatch of otherwise untapped demand side response?

Yes (Refer Independent Assessment of EUAA DSR Trial)

Discussion by Energy Response with several major electricity retailers has found that retailers see value in using an independent aggregating mechanism to gain access to DSR from smaller and smaller consumers. Their current processes for arranging DSR are very hands on / labour intensive so are limited to larger consumers.

Is the suggested scope of government involvement with the aggregation facility sufficient to define an appropriate role for government? If not, what other issues warrant consideration?

Governments through an appropriate agency should establish a process to capture a small share of the benefits which will flow through to all consumers from an effective DSR aggregation process and which would be made available to those consumers and others participating in the provision of DSR.

Eventually, as the cost of remote communications and control technology is reduced, the opportunity for all consumers to participate in DSR would mean that this mechanism is unlikely to be still required.

Are there any overseas demand side bidding models that can be usefully applied in the National Electricity Market?

Our consideration of these are that, while some could be adapted to undertake this task, the commercialisation of the prototype software used in the Trial to form one nationally accessible secondary market is not a large cost, would be Australian owned and would be expected to be cheaper to commercialise than searching for and having to adapt other alternatives.

What are the most appropriate mechanisms for developing and implementing an end user education campaign to facilitate demand side commercial skills?

The EUAA are currently developing a set of industry case studies (4 different industries) which will provide education to the members of these industries by showing them the potential DSR they each have, how to use it with minimum impact and maximum direct financial benefit for their own business and the estimated indirect benefits which would flow to all consumers (including them) from a fully effective DSR.

The four industry associations have been keen to support the case studies and identify and share the benefits with their members. This process is expected to prove to be a good first step in educating consumers.

These cases studies have been kept reasonably simple to understand and could be reasonably easily applied to other industries throughout Australia.

The software tested in the EUAA Trial was designed to fit the Australian NEM with its high price volatility and increasingly peaky consumer demand on most networks. A component could be built into this software to enable consumers to undertake a realistic self-test of their own capability to provide DSR, and the impact and financial benefits they could expect from participating in DSR.

What solutions (regulatory and other) might address the market impediments to enhance user participation? Specifically options addressing property rights, market based price signals, customer awareness, and technology.

Regulatory:

- Need to provide a strong financial incentive for network owners and operators to use a reliable source of DSR instead of additional capital to provide the last few % of peak capacity. The financial benefits would need to flow to the local DSR providers, the DB itself and other consumers.
- Support for the development of an aggregation process, eg, through a mechanism to capture a small amount of the overall (free-rider) benefit for fair distribution to the DSR providers, market participants and the aggregator who create the benefit. This may only be required for up to say 5 or more years until DSR is well recognised. One mechanism which exists which could be used is the NEM Customer Advocacy Fund although the definition of advocacy may need to be broadened.

Customer / Industry representative groups:

- Financially support the roll out of a simple but effective customer awareness program such as has been commenced with a small quantity of AusIndustry funds through the EUAA.

Private sector:

- The private sector should be given the opportunity to develop and operate and provide DSR services through using an aggregation process. The support for this process could be provided through clear policy and regulatory action as described above.