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### **Review of Reliability and Emergency Reserve Trader – REL0041**

Thank you for the opportunity to provide comments in response to the Australian Energy Market Commission's (AEMC) review of the Reliability and Emergency Reserve Trader (RERT). With our global experience as the world's largest provider of commercial and industrial Demand Side Response (DSR), and local presence through our operations in Western Australia (WA), we hope the AEMC finds our insights on the RERT and DSR market participation to be valuable.

#### Reliability Panel Recommendations

In the Draft Report, the AEMC Reliability Panel (Panel) explains that the RERT should be allowed to expire on 30 June 2013 as it will not be needed to be maintained in the longer term in order to provide reliability and/or opportunities for DSR in the NEM. While EnerNOC recognises that the Panel is proposing extending the RERT for an additional year beyond the original expiration date, we believe that the recommendations pertaining to the future need for the RERT beyond that point in time are based on flawed assumptions relating to supply procurement as well as opportunities for DSR in the NEM.

#### Market Incentives for Supply Resources

EnerNOC respectfully challenges the Panel's assumption that the energy-only mechanisms of the NEM are sufficient to ensure necessary amounts of supply in order to maintain reliability. The NEM's inability to attract new capacity is well known. In fact, *The Australian* reported this week that "investment in new generators is fast becoming a critical matter in the NEM" and that extra investments are forecasted to be needed in Queensland by 2013-14, in South Australia by 2015-16, and in New South Wales by 2016-17.<sup>1</sup> This is not necessarily a new challenge either. A 2009 paper on energy and capacity market designs written by the Brattle Group, a staunch supporter of energy-only markets like the NEM, explains that while significant amounts of new capacity entered the NEM in the first few years of the market, it has since plateaued, in part because the NEM's market incentives have been insufficient:

"These capacity investments, however, are not solely the result of a well-designed energy-only market. Government-owned and government-controlled assets represent 63 percent of the total installed capacity in the NEM and government ownership and public-private partnerships appear to have accounted for much of the capacity additions during that period. We believe that government ownership meant that sub-commercial returns on investments have been accepted on both existing and new capacity. If government investments are made despite low rates of return from energy-only markets, then the ability of energy-only markets to attract private investment will be undermined and private investors will fare poorly."<sup>2</sup>

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<sup>1</sup> "Burn-out for populist power plays," Annabel Hepworth, *The Australia*, 7 February 2011.

<sup>2</sup> "A comparison of PJM's RPM with Alternative Energy and Capacity Market Designs," September 2009, the Brattle Group (Johannes Pfeifenberger, Kathleen Spees, Adam Schumacher) page 25.

Moreover, the Panel's own defense of energy-only market mechanisms in this Draft Report appears to fail to recognise the near-term reliability implications of depending on such limited incentives to spur investment in supply. In reference to a "short notice closure of a major power station units," the Draft Report explains that "in the event of such a closure the supply shortfall would lead to an increase in the spot market price and other plants, such as a peaking plant, would likely increase output. Over time, this increase in the spot market price would provide a signal for additional generation investment."<sup>3</sup> While the spike in market prices may encourage investment in the future, it does not necessarily address the supply shortfall at the time it occurs. The Panel seems to assume that there will always be sufficient excess capacity from other generation units to make up for any units that are offline with little to no notice. This assumption has potentially serious reliability implications, because if there is no additional output available from generation units, spot market price increases will not deliver any more supply. Without an emergency reserve resource, such as the RERT, the AEMO will have no way of mitigating the shortfall and preventing loss of service to customers.

This is not simply a thought experiment. Consider the recent events in the Electric Reliability Council of Texas (ERCOT) market in the United States. The most laissez-faire electricity market in the US, ERCOT is a pure energy-only market like the NEM. The first week of February 2011 saw rolling blackouts occur throughout ERCOT as a winter storm precipitated a string of generation outages that resulted in a grid emergency lasting several days, despite significant increases in the energy prices that were about 30 times higher than average<sup>4</sup>. Already, regulators and market participants are examining the development of a capacity market mechanism to ensure sufficient supply now that it is clear there were not the proper incentives through the energy-only market to invest at the level of reliability customers expect over the long term.<sup>5</sup> It is also important to note that unlike the NEM, ERCOT has a robust DSR programme in place, but even combined with more than 4 GW of forced load shedding by distributors, it was not enough to fully avert the surprise loss of more than 7 GW of generation. In light of these events, it can hardly be viewed as surprising that capacity mechanisms are now being seriously considered in ERCOT.

This is not an issue confined to ERCOT; other energy-only markets have already deployed DSR programmes or begun to consider the implementation of capacity mechanisms to ensure reliability. In Ontario, Canada, the Independent Electricity System Operator (IESO) and the Ontario Power Authority (OPA) launched a large scale DSR programme (DR3) in 2007 to provide additional capacity to the market and avoid shortfalls due to planned retirement of power plants in the province. In the United Kingdom, the Department of Energy and Climate Change (DECC) is currently spearheading the development of a capacity mechanism to ensure proper investment signals to power plant developers and DSR providers in light of the planned retirement of 19 GW of generating units.<sup>6</sup> Without the development of a capacity mechanism or the existence of a robust DSR programme, the NEM is a clear outlier among its energy-only market peers.

### DSR in the NEM

In the Draft Report, the Panel also advocates for the retirement of the RERT because of assumptions surrounding future opportunities for DSR. EnerNOC contends that these assumptions are not only unrealistic, but concerning when viewed in light of the current level of DSP in the NEM today, even with the RERT. As the AEMC explained previously in its Review of Demand Side Participation in the NEM, the demand-side is under-

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<sup>3</sup> "Draft Report: Review of the Reliability and Emergency Reserve Trader (RERT)," Australian Energy Market Commission Reliability Panel, 24 December 2010.

<sup>4</sup> "Rolling blackouts caused by a trio of events, ERCOT says," Restructuring Today, 8 February 2011.

<sup>5</sup> "Storm might bring winds of change to ERCOT," Platts Electric Power Daily, 8 February 2011.

<sup>6</sup> "Press Release: Coalition announces transformation of power market," Department of Energy and Climate Change, 16 December 2010.

represented in the market.<sup>7</sup> This stands in stark contrast to other systems, such as the neighboring WEM in Western Australia where DSR represents about 7.5% of the contracted capacity in 2012/2013.<sup>8</sup>

While there are today opportunities for large customers to engage in passive market participation by avoiding consumption during periods of high market prices, such customers can not be counted on to provide capacity during an emergency as they may already be offline due to cost of power, or decide to continue using power since they are not subject to any mandatory DSR programme. Furthermore, while there is additional DSR in the NEM through bilateral contracts with retailers, their interests do not necessarily align with the AEMO, and are more focused on energy hedging and arbitrage and not primarily ensuring reliability. The same is true for any limited DSR deployments by Distribution Network Service Providers (DNSPs) who are only likely to contract for DSR in specific locations and don't necessarily have the ability, or interest, to utilise their DSR in a period of market-wide supply shortfall or other contingencies.

Specifically, the Panel argues in the Draft Report that ongoing DSR work programmes should provide additional avenues for DSR in the NEM and eliminate the need for the RERT after such work is completed. Yet, the programmes cited are not DSR programmes but rather the National Smart Meter Program and the Smart Grid Smart City Initiative, neither of which can be counted on to provide additional DSR to the NEM. Residential customers with smart meters are unlikely to be exposed to real-time rates in which fluctuations in market price would lead to voluntary changes in consumption. While commercial and industrial (C&I) customers may have the ability to be exposed to such volatile pricing, the installation of metering equipment alone does not constitute a DSR opportunity. The varied and specialised equipment found at C&I sites must be enabled to respond to a pricing signal from a smart meter, and with no certainty of the economic opportunity of voluntary DSR due to the energy-only market construct, C&I end-users cannot be reasonably expected to invest in the costly installation of the load control equipment necessary to curtail consumption in their facilities. Moreover, in the preceding RERT Issues paper, the Panel cited not only smart meters, but the roll out of electric vehicles, as an example of expanded opportunities in the future for demand side participation in the NEM.<sup>9</sup> At the very minimum, such forecasts could be described as overly optimistic, and surely cannot be deemed a serious attempt to foster opportunities for DSR in lieu of the RERT.

The lack of a functioning DSR mechanism in the NEM is problematic. As the Brattle Group wrote in its aforementioned paper, this could lead to a dangerous reality in terms of resource adequacy and the ability to ensure system reliability:

"The concept of energy-only markets becomes more complicated when applied to today's typical power markets that do not have significant demand response...Without demand response, a shortage condition will not induce load reductions, no matter how high prices rise. Because market forces will not be able to bring supply and demand into equilibrium during scarcity events, a regulatory solution for 'scarcity pricing' and involuntary load reductions must be implemented to avoid uncontrolled blackouts."<sup>10</sup>

<sup>7</sup> "Final Report: Review of Demand-Side Participation in the National Electricity Market," 27 November 2009.

<sup>8</sup> "Summary of Capacity Credits assigned by Facility for the 2010 Reserve Capacity Cycle," Independent Market Operator, 31 December 2010.

<sup>9</sup> "Review of the Reliability and Emergency Reserve Trader, Issues Paper," AEMC Reliability Panel, 3 August 2010, pg 8.

<sup>10</sup> "A comparison of PJM's RPM with Alternative Energy and Capacity Market Designs," September 2009, the Brattle Group (Johannes Pfeifenberger, Kathleen Spees, Adam Schumacher) page 21.

### Recommendations

With the demonstrated inability for energy-only markets to send sufficient investment signals to attract new supply, as well as the lack of real opportunities for DSR in the NEM, the proposed retirement of the RERT is problematic. Yet, the RERT in its current form does not sufficiently attract additional resources to the NEM, whether traditional supply or DSR, as both the Panel and other stakeholders have noted. EnerNOC shares this view and believes the primary culprit is the lead time, and duration, of RERT contracts. The Panel writes in the Draft Report that it is likely that the RERT does not attract supply side capacity because the AEMO is only permitted to contract for reserves nine months in advance, and thus considers it unlikely that the RERT would be available to provide additional incentives for supply side resources. While that amount of lead time may be more amenable to DSR, the duration of the RERT contracts (as well as the historical pricing) are not. With contract duration lasting for less than a year, it is unlikely that DSR providers could recoup the investments made to recruit and enable DSR capacity for the RERT, especially considering the lack of other market mechanisms to monetise such DSR capacity after the conclusion of the RERT contract. As such, **the AEMC must either reform the RERT to address these flaws, or allow the RERT to retire as planned and create a new market mechanism that can appropriately attract investment and participation in new generation and DSR resources.**

There are a variety of market mechanisms that could be employed by the AEMC, ranging from strict resource adequacy requirements that target both supply-side and demand-side resources, to reserve and forward capacity markets, to stand-alone DSR programmes and markets. EnerNOC has significant experience providing DSR capacity through a variety of different mechanisms and would welcome the opportunity to share our views with the AEMC as to relative strengths and weaknesses of these various mechanisms if that would be valuable to the Panel.

Thank you again for the opportunity to comment on this Draft Report. We very much look forward to the forthcoming Public Meeting and Final Report, and to continued engagement with the AEMC as it proceeds with important market reforms to improve the NEM for all stakeholders.

Sincerely,



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