Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Submitted via www.aemc.gov.au

3 December 2015

Dear Mr Pierce,

Demand side obligation to bid into central dispatch – ERC0189

EnerNOC is grateful for the opportunity to comment on this important topic. We hope that our comments will be useful to the Commission.

EnerNOC is a leading provider of energy intelligence software (EIS) and services to utilities and enterprise customers. EnerNOC's EIS solutions for enterprise customers help inform energy purchase decisions, provide advanced visibility into electricity usage patterns, and optimise when it is used. These tools help them engage with demand response and demand management opportunities.

Based on EnerNOC's experience interacting with customers in the NEM and in comparable global electricity markets, the implementation of this rule change will lead to large loads choosing not to provide any demand response, and revert to being totally inelastic. This would have a direct impact on the level of competition in the NEM – particularly during periods of high spot-price events.

This submission describes these concerns in detail, and then discusses a number of solutions that would better achieve a better outcome.

1   Purpose of the electricity industry

The purpose of the electricity industry is to enable loads to consume electricity. It is therefore quite reasonable for the electricity industry to have different requirements on generators that are not relevant to load.

Unlike generators, industrial loads are not there to participate in the electricity industry; they exist to make product(s). Conversely, it is necessary for a Scheduled Generator to interact with the market; it is a core part of their business, and they will have a have dedicated operations and a trading team to manage this participation.

In EnerNOC's opinion, the introduction of obligations on the demand side to bid into central dispatch questions the foundational principle of customer sovereignty in electricity markets.

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2 Scheduling load is not compatible with NEM dispatch

Much of the load on an industrial site cannot be controlled without causing serious disruption, and may be difficult to forecast with any degree of precision.

The loads that can be controlled (the ones that are possible to use for DR), can be difficult to predict, and have limitations such as notice period requirements, limited dispatch duration, consecutive dispatch etc.

Of the loads that can be controlled, only a tiny proportion can be dispatched to an arbitrary MW level. There are many processes that need to be either fully on or fully off. This isn't compatible with NEM dispatch, in which AEMO partly dispatches marginal resources. Almost all loads are unable to comply with such dispatch instructions, which is a contributing reason to the extremely low levels of scheduled load in the market.

As noted in a recent Brattle report for the AEMC, This phenomenon is also apparent in other comparable global electricity markets[1].

Even if it were deemed to be technically feasible for large numbers of industrial load to be scheduled, the added requirement to monitor dispatch signals and employ a dedicated trading team would impose a significant overhead on these large industrial loads.

This otherwise unneeded service would be a deadweight cost on the economy.

3 An assessment of the costs and likely benefits from introducing the rule change

Consider the following: if it is accepted that large customers (~>30MW) (a) would be able to comply with scheduling requirements — i.e. they would accurately represent in the market what they were going to consume under various different price scenarios, and would be physically capable of responding to dispatch instructions perfectly , and (b) are the only possible source of unscheduled price-responsiveness, then the merits of the rule change could be argued on the following basis: the system would become much more predictable for *generators* — they'd only have to ponder *each others'* rebids, rather than about customer responsiveness.

It is clear that proposition (a) is false. However, even if (a) was accepted as being plausible, then (b) means that the market would incur all of the costs and yet receive essentially none of the benefits[2].

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[1] http://aemc.gov.au/getattachment/9207cd67-c244-46eb-9af4-9885822cefbe/%E2%80%A2The-Brattle-Group%E2%80%99s-International-Review-of-Dema.aspx, accessed 30-Nov-2015

[2] Unless all demand side reforms fail, there will be much more price responsiveness in total, yet only a very small proportion will be coming from the loads that are captured in Snowy's proposal. In EnerNOC's opinion, the rule-change is trying to solve a problem that will become irrelevant. Market reviews and advances in the distribution segment reinforce this view.

The right way to solve the problem of unpredictable price responsiveness is to design mechanisms that encourage all sorts of price responsive load into schemes which provide visibility and predictability.

The as-proposed DRM would be great improvement on the status quo.

4   The Demand Response Mechanism is a far better solution

The DRM design provides better real-time visibility than unscheduled generation. It also provides much better after-the-fact visibility, modellability and predictability) than general spot exposure, behind-the-meter generation and retailers' own DR programme). This is because the proposed design would require demand response load to signal their load curtailment actions to the market[3].

EnerNOC expects that many of the largest loads will choose to participate in the DRM, and that this will extend to smaller (large[4]) customers.

In our opinion, the DRM would go a long way towards solving the stated problem (of not knowing what response there will be to high forecast prices); enthusiastic uptake of a scheduled variant of the DRM would completely solve it.

However, in order to achieve this outcome, the 5/30 minute issue would need to be fixed, as the impact is more severe on demand response aggregators as opposed to peaking generators. Additionally, the NEM would need to arrive at a workable Scheduling solution for <u>load reduction.</u>

5   Fixing scheduling to accommodate different technologies is not new

To deal with the inability to hit exact MW numbers, it would make sense to introduce an arrangement analogous to the semi-scheduled arrangements for intermittent renewables: whereas under semi-scheduling, resources can generate at any level up to the specified level, it would make sense for DRM dispatches to require delivery of at least a specified level. As with semi-scheduled, this is a sensible accommodation of the physical limitations of particular resources, giving AEMO as much control as possible.

I would be happy to provide further detail on these comments, if that would be helpful.

Yours sincerely,

Mottel Gestetner
Senior Manager, Regulatory Affairs

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[3]   AEMO's detailed design on the DRM includes this information.
[4]   In accordance with the NEM's definition of large load