

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

Submitted via www.aemc.gov.au

9 October 2014

Dear Mr Pierce,

Submission on demand-side participation information (ERC0174)

EnerNOC is grateful for the opportunity to comment on this proposed rule change.

1 Yes, there should be obligations to provide information

We agree that all participants should be obliged to provide to AEMO information on activities related to demand-side activities.

The less accurate the demand forecasts, the less efficient the market will be, both in terms of short-term dispatch and long-term investment decisions. If information is withheld by some participants, as we understand it is at present, then the demand forecasts will be needlessly inaccurate and the market needlessly inefficient.

While this issue has been manageable so far, if demand-side participation in the NEM is to grow from the current very low levels, it is important to get this right, so as to avoid the accuracy of forecasts deteriorating significantly.

2 Taxonomy of demand-side participation

The taxonomy of demand-side participation (DSP) in the consultation paper seems incomplete. We would suggest that it is worth considering what information can be gathered about four broad classes of DSP:

1. Wholesale, contracted – this could include either load curtailment or unscheduled generation, and could be contracted by a retailer (possibly with the involvement of a specialist third-party aggregator), a Small Generator Aggregator (SGA), or, after the implementation of the proposed Demand Response Mechanism (DRM), a Demand Response Aggregator

(DRA). For this category, it is the retailer, aggregator, SGA, or DRA that decides when the DSP should be dispatched, in response to wholesale market price signals.

2. Wholesale, uncontracted – where the customer is exposed to spot prices either directly by being a Market Customer, or (more commonly) through a spot price passthrough arrangement with a retailer.¹ In this case, it is the customer that decides if and when to respond to price signals.
3. Network, contracted – again, this could be generation or load. It could be contracted directly by a Distribution or Transmission Network Service Provider (DNSP or TNSP), or by a specialist third-party aggregator² under contract to an NSP.
4. Network, uncontracted – where the customer is subject to a network tariff with particularly strong, targeted price signals, such as a critical peak demand tariff, such that they are heavily incentivised to respond when given notice by the NSP.

Each of these categories of participation could have significant effects on regional demand, and so should be taken into account in demand forecasts.

3 Information and sources

For wholesale DSP, the obvious source of information is the Financially Responsible Market Participant (FRMP) – i.e. the retailer, SGA, or DRA. It would make sense for them to be required to disclose to AEMO, in confidence, the existence, size, and likely trigger conditions of programmes under which customers are contracted to provide DSP, along with the NMIs of participating customers so that their response can be modelled.

Note that, under the proposed DRM, much of this information will be available to AEMO directly. Where a third-party aggregator is acting as a subcontractor to a retailer, rather than being a FRMP, they could also provide information to AEMO if their contract with the retailer permits them to do so. Care will be needed to avoid double counting; specifying the NMIs involved will allow this.

For uncontracted wholesale DSP, the FRMP should simply disclose the NMIs of all customers with such arrangements, so that AEMO can monitor and model their response. It is not reasonable to extend the information provision obligations to end users, or to expect a retailer to predict a customer's uncontracted, voluntary actions.

¹ SGAs and DRAs could conceivably also contract in such a way.

² Or, conceivably, a retailer, although retailers don't seem interested in doing this.

For network DSP, the obvious source of information is the NSP, who should readily be able to disclose to AEMO the existence, size, and trigger conditions of contracted DSP, and the participating NMIs. Where a third-party aggregator is involved, they could be a useful second source of information.

It is important that NMIs be disclosed to AEMO because many customers may provide both wholesale and network DSP, or network DSP both to a DNSP and to a TNSP, so AEMO must be able to understand the overlaps, so as to avoid double counting.

NSPs should also be able to tell AEMO which network tariff codes correspond to tariffs with critical peak elements, and the conditions under which the strong price signals will be triggered. AEMO can then deduce the affected NMIs from standing data.

Many network DSP programmes – whether contracted or tariff-based – provide day-ahead (or at least a few hours ahead) notification to customers of dispatch events (or high price periods, for tariff-based programmes). AEMO should also receive such notifications, so that they can incorporate the expected response into their short-term demand forecasts.

4 Limitations of modelling

Access to this information should allow AEMO to improve its demand forecasts considerably. However, it is important to realise that there are limits to how well these kinds of unscheduled DSP can be incorporated into forecasts.

Contracted network DSP is straightforward to model: it should provide a predictable reduction in demand in a particular network area when demand would otherwise exceed some threshold. The only complication is that some network support programmes may address local constraints which are not well correlated with regional demand. Responses to network tariffs are a bit less certain, but should be relatively straightforward to model once the effect of any particular tariff structure has been observed for a while.

In contrast, unscheduled wholesale DSP is extremely challenging to model because it is responsive to price, rather than to demand. Since the supply curve of generator offers is sometimes extremely steep, small changes in demand can cause great changes in price, which will in turn affect demand. We should not kid ourselves that AEMO will be able to model this accurately when there is large-scale unscheduled real-time participation.

We believe that the only viable approach for the long term is for DSP to be fully integrated into the wholesale market. The proposed DRM is an essential first step towards this, which should be followed by improvements to the NEM's scheduling

and dispatch arrangements so that it becomes attractive for customers to participate in a scheduled – and hence easily predictable – manner.

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

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Paul Troughton', with a long horizontal flourish extending to the right.

Dr Paul Troughton
Director of Regulatory Affairs