

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

11 December 2015

Dear Mr Pierce,

This brief submission regards the proposed demand response mechanism (DRM) component of rule change request ERC0186. Issues regarding the proposed ancillary services unbundling is not addressed here, and any moves to unbundle the provision of these services from the trade in energy are supported in general.

To begin, the benefits of incorporating demand response into dispatch processes in the NEM are not in question, nor is the latent supply of price-responsive demand available in doubt.

However, the conception of the DRM and the detailed design drafted by AEMO contains some features that may limit its ability to contribute effectively to the achievement of the National Electricity Objective *over the long term*. Two key problematic elements are worth noting.

First, there is no clear technical constraint that is being addressed by the proposed DRM, and the introduction of a new market participant, the demand response aggregator (DRA). This stands in contradistinction to the ancillary services market mechanisms for FCAS and NCAS, which are constructed to address specific technical requirements of power systems operation.

In particular, if the goal of the DRM is to better balance supply and demand, as indicated by reduced market price volatility, then the ideal policy response is to directly address sources of such price volatility. For example, strong incentives could be constructed for retailers and other market loads to supply the NEMDE with bids representing the intentions of their price-responsive loads, in order to improve the wholesale market price determination process and dispatch efficiency. A second example is the development market mechanisms that use flexible loads to reduce the chance of ramping constraints on low-cost thermal generators binding and more costly plant being dispatched, which would in turn reduce the occurrence of market price spikes. Both of these examples have clear objectives in terms of the dispatch optimisation.

Second, the proposed load classification and accreditation design appears to have several shortcomings. In particular:

- The requirement that a load at a National Meter Identifier is predictable is a bias towards those customers and technologies with such load characteristics. It is entirely possible that a load that varies considerably day to day or even hour to hour can provide demand response. However, such loads would be barred from participation from the DRM as proposed. An example of such a load is air conditioning, which undoubtedly contributes to system peaks and their associated price spikes, but which may not be sufficiently predictable to fit the DRM to its correlation with exogenous factors (i.e. weather).

- Any baselining procedure seems fraught with additional sources of error, or even the opportunity for outright misrepresentation or gaming.
- The baselining and accreditation of new loads participating in the DRM will act as a costly barrier to entry to the DRM, as noted in the rule change documentation.

Since this proposal is cast as a transitional arrangement, it is hoped that such an accreditation and baselining requirements are relaxed or removed in future, or that the DRM is broadened to include loads with different characteristics. However, the proposed structure, absent details of baseline methodologies, is still problematic.

Specifically, the underlying issue that is ostensibly addressed by the proposed DRM relates to the limited ability of the demand side to influence prices in the NEM. In particular, it is widely acknowledged that much of the value added by retailers to the energy supplied from the NEM is via their risk-management activities, which limit the exposure of end users to wholesale market volatility. Under current market arrangements, retailers have little incentive to encourage demand response actions by the loads they purchase energy on behalf of, or to report the existence of (potentially) price-responsive loads to the dispatch processes as demand bids. This is noted by several market participants that contributed to the preparation of the cost benefit analysis, acknowledged in the rule change request documentation, and also highlighted in Snowy Hydro's rule change request on demand side obligations to bid into central dispatch (ref ERC0189).

This feature of the demand side of the NEM's market structure stands in stark contrast to scheduled generators' obligations. On the supply side, generators are compelled to comply with dispatch instructions, or risk penalties. On the demand side, demand forecasts are provided by AEMO. This was not an unreasonable approach in earlier times when the technology required to make loads price-responsive were not available.

Nonetheless, retailers themselves are almost surely better informed about the level, variability, and price-responsiveness of their own tier one and two loads at any given time, yet they currently have no incentive to share this information with AEMO to aid the price determination processes and ensure efficient dispatch. The proposed rule change does nothing to address this information asymmetry.

More generally, the NEM dispatch protocol's bias towards supply is an outcome of the historical supply-following-demand operational paradigm. These processes will come under increasing pressure from technological change as more loads come under active control of potentially price-responsive end users, and as more intermittent renewable generation is added to the NEM. As such, the proposed rule change will not provide a lasting solution to the challenge of integrating DR into dispatch processes (nor the problems highlighted in the rule change request on demand side obligations to bid into central dispatch).

Finally, and notwithstanding the undeniable market benefits of demand response to the NEM, the current DRM rule change proposal can be seen as a transitional arrangement only, which may limit the long-term benefits flowing to participating retailers and as such, may hinder its uptake under a voluntary, staged approach.

If you have any queries about the submission or require further information, please contact me at archie.chapman@sydney.edu.au or on 02 8627 0386.

Yours sincerely,



Dr Archie Chapman
Research Fellow
Centre for Future Energy Networks
University of Sydney