IES
Intelligent Energy Systems

20 September 2019

Mr Declan Kelly
Project Leader, Wholesale Demand Response Mechanism
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Late submission by email

Dear Mr Kelly

**AEMC Ref: ERC0247: Wholesale Demand Response Mechanism, Draft Determination**

Intelligent Energy Systems (IES) welcomes this opportunity to comment on the AEMC Draft Determination and specifically the questions raised by Director Mollard in her email of 6 September 2019. Although this submission is late according to the Draft Determination timeline, we have responded to Director Mollard's suggestion to submit anyway and so request that it be published.

IES is an Australian consulting and software company that has supported market reform in Australia since the mid-1980s. IES staff members (and, specifically, the author of this submission) have advised on and modelled market design options since prior to market start.

**AEMC Response to IES's Proposed Alternative Mechanism**

In our submission to this Rile Change Consultation, we made the following key points:

- Except in special cases, the use of baselines to measure wholesale demand response is problematic.
- The requirement to sign up to an aggregator and to be scheduled dilutes the rewards available to wholesale responders.
- Aggregated or not, the requirement that demand responders be scheduled and follow a linear trajectory within a dispatch interval along with other obligations is likely to choke of a substantial part of the potential response pool. System security and robust pricing can be achieved in other ways.
- We proposed an alternative mechanism that does not require baselines and which exposes responders to wholesale prices in a manageable way.

The Commission summarised its view of the IES proposal in its summary of issues raised in submissions section (pp200-201). It gave reasons for setting it aside. Our comment on the reasons given are tabulated in the Appendix.

Given AEMC's and AEMO's clear commitment to baselines and scheduling, the IES proposal might be more easily treated as complementary rather than competitive to a baseline approach, more suitable for more agile retailers and aggregators working with retail customers.

**Responses to Director Mollard's Five Questions in her Email of 6 September**

1. **Systems changes** – Would systems changes be needed, and if so, what systems would participants need to change to accommodate the draft rule? What would these changes entail, both in terms of time and resources?

   ***IES Comment***

   IES offers no comment on the systems changes required to implement the draft rule change. However, noting the lengthy time expected for AEMO's implementation, we suggest the following:

   - The intervening period could be used to undertake a trial of this approach, using more quickly developed, possibly less robust settlement and information flow tools. Lessons for the trial could inform and improved final implementation.
   - Longer term, an independent distribution market operator may be better placed to manage and settle demand-side responses targeting not only wholesale energy, but also various aspects within distribution networks.

2. **Small customers** – Putting aside the question of consumer protections, we are interested in views on the practicality of extending the mechanism to small customers, in terms of implementation challenges and whether any variations to the design of the mechanism would be needed.

   ***IES Comment***

   We note that the current draft determination targets large customers and, furthermore, explicitly acknowledges that the mechanism is only likely to be viable for occasional use, at time of very tight supply. Further, the requirement for scheduling (and the obligations that go with it) will likely discourage many potential providers and the need to work with an aggregator/service provider will dilute the customer benefit.

   Small customers would better respond to a different approach, either as an alternative or as an option. That approach would avoid a requirement to be scheduled, but would provide ample ex post information about the nature of a customer's price sensitivity. AEMO would need to allow for price sensitivity in its load forecasts, but that sensitivity would be far more controlled and predictable than it is now. All customers on this arrangement would need to be sensitive to their impact on frequency.

   With such an alternative approach, as outlined in IES's original submission, for more short term load flexibility within a secure envelope can be made available to meet the increasing demands of semi-scheduled generation.

3. **Reimbursement rate** – Do you agree with the objective of the reimbursement rate (to allow retailers to recover hedging costs and avoid more significant systems changes)? If not, what else should it be? Does the proposal for calculating the reimbursement rate in the draft rule meet that objective? If not, how could it be improved?

***IES Comment***

We offer no specific comment on this, other than this element seems arbitrary.

4. **Information provision** – We have heard from a range of parties (including DNSPs, retailers & generators) that they consider they need more information than the draft rule currently provides for. Could parties provide specific examples of what information they need both in real time and historic information, and why this information is needed?

   ***IES Response***

   We would like to see a survey of large customers indicating the degree of interest in participating in this style of mechanism. Even better, a practical trial should be conducted of this and alternate mechanisms.

5. **Baselines** – Does the approach to baseline compliance and additionally minimise concerns about baselines? Do you have any suggested improvements to these provisions?

   ***IES Response***

   As our original submission has emphasised, we believe that sole reliance on a baseline approach, along with the requirement for aggregation and scheduling, is likely to limit participation in the mechanism. Alternative mechanisms should also be allowed.

Yours sincerely

Hugh Bannister
CEO, IES
habannister@iesys.com
0411 408 086

## Appendix: AEMC Comment on IES Proposal and IES Response

| No | AEMC Comment | IES Response |
|---|---|---|
| 1. | The draft rule has not implemented the proposal set out in the IES submission.<br><br>The Commission thanks IES for developing and submitting an alternative proposal for consideration. | AEMC does not seem to have considered alternatives to baselines, load aggregation and generator-like scheduling, or the likely outcome of that approach. There will likely be some large load response, enough to temper peak prices and improve reliability a little. This is all that AEMC seems to expect as baselines only work effectively when calls on load reduction are unusual. |
| 2 | The proposal put forward by IES would provide an avenue for consumers to respond to price signals in the wholesale market and would not necessarily require the engagement of the retailer to do so. | Correct. The retailer would effectively see a flat price in each broad period for the customer load after the proposed hedge contract is in place. This is relatively easy to hedge. |
| 3 | However, the proposal does not inherently encourage wholesale demand response. For example, if the period under which this swap operated was at market price cap the whole time, there would be no incentive for the consumer to respond because the average price would be the same as the dispatch prices. | This is true, but such a scenario in the NEM is barely conceivable. Extreme prices very rarely occur over more than a few dispatch intervals, and extreme prices over a period of hours are rare. Analysis can confirm this fact but AEMC did not do it. Discarding the IES approach on that basis, or even partially on that basis, seems unwarranted. |
| 4 | Instead, the proposal incentivises arbitrage of price differentials within the swap period. Therefore, the proposal would indirectly encourage the consumer to respond to wholesale price but predominantly in periods of volatility and opposed to adjusting demand in peak conditions. | This statement is hard to follow. The approach would encourage arbitrage – a Good Thing. The meaning of "indirectly encourage" a price response is unclear. The argument seems to me that periods of high price and high demand are unrelated.<br><br>The implicit concern here seems to be that the load would not be scheduled and so would benefit from arbitrage without lowering the requirement to schedule plant. But there are solutions to this involving deviation pricing. Certainly, AEMO would have to get used to price elasticity in demand but, if harnessed properly, such flexibility will be helpful, not harmful. |

| No | AEMC Comment | IES Response |
|---|---|---|
| 5 | It is also reliant on consumers forming an expectation regarding the average spot price to inform real time consumption decisions and informing the duration of the swap-style arrangement. | This statement also seems ill-considered. All a customer has to do is respond to price variations. A customer does NOT need to guess the average spot price. A little modelling of some typical cases would resolve this issue. Specifically, even if surprised by some event, most if not all loads could do a fair job under this arrangement. |
| 6 | The Commission was not convinced that this model would not introduce additional risks for retailers in managing their exposure to the wholesale market. | For this load, a retailer would initially be faced with costs from a variable load and a volatile spot price, which it would have to manage in some way.<br><br>With the proposed swap contract in place, the effect on the retailer would be that it must now manage a price which is volatile but flat over, say, peak, shoulder and off-peak periods. This seems an easier task than the first case.<br><br>The basis for the AEMC's statement is unclear. |
| 7 | As such, the Commission has decided to not introduce this proposal in the draft rule. | The IES proposal should be given more serious consideration for application to smaller retail customers. For such customers, scheduling will be even more difficult than for large customers, but their responses can be managed beneficially with suitable deviation pricing.<br><br>From the current Frequency Control Rule Changes, it is now evident that beneficial frequency response is acceptable if it comes from generators. The same rule should also apply to loads. |