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Re: Response to **Wholesale demand response mechanism Draft Determination**

Infigen Energy (Infigen) welcomes the opportunity to make a submission. Infigen owns portfolio of wind and firming capacity across New South Wales, South Australia, Victoria and Western Australia. Our portfolio includes 670 MW of vertically integrated wind plus Infigen has entered into PPAs to provide c90 MW of capacity in Victoria and is seeking PPAs in other regions. Infigen also owns and operates a portfolio of firming capacity, including a 123 MW open cycle gas turbine in NSW, a 25 MW / 52 MWh battery in SA (under construction), and will soon take ownership of 120 MW of dual fuel peaking capacity in SA. Our development pipeline has projects at differing stages of development covering wind, solar and batteries.

Overview

We consider that retailers are best placed to manage demand response from customers, as retailers have are naturally exposed to the wholesale price and have direct incentives to seek opportunities to reduce load at peak times, where efficient to do so. Infigen actively engages with customers to develop flexible retail contracts that best suit their customer needs, including options that expose them to the wholesale market price.

The mechanism proposed in the Draft Determination represents a distortion of the energy market. In general, we consider baselines challenging to implement effectively, increasing the complexity of hedging for retailers and the risk of gaming by demand response providers (as discussed below).

However, the mechanism proposed in the Draft Determination is reasonably successful at minimising the implementation costs (particularly to retailer settlement and billing systems), and may provide further insight and transparency into costs, benefits and uptake of demand response. In particular, the reimbursement rate framework is a novel and effective approach to addressing issues raised by stakeholders.

Infigen supports:

- Requiring Demand Response Service Providers (DRSPs) to bid their response into AEMO's central dispatch, improving transparency, efficiency and controllability of distributed resources;
- Treating DRSPs as similarly to generators as possible, including compliance with dispatch instructions, bidding in good faith requirements, and FCAS causer pays costs;
- Requiring DRSP offers to AEMO to be relative to "current" load (therefore providing an appropriate lever to AEMO, and minimising opportunities for gaming), with baselines only used for settlement;
- Settling customers based on actual usage, with a separate make-good component mediated by AEMO; and
- A requirement for loads/baseline methodologies to meet a minimum level of forecasting accuracy.

Some additional suggestions are provided below.

Reimbursement of retailers

Infigen considers that the reimbursement rate should be determined based on transparent metrics that approximate, as reasonably as possible, the tariff that a prudent retailer would have offered the customer. It is therefore necessarily a forward looking pricing mechanism.

We consider that historical spot prices are not representative of future contracting costs (which typically feed into pricing of retail contracts). Furthermore, a straight time average will not represent the typical load shape of many customers. We suggest that a more reasonable approach would be to use ASX peak futures contracts, that might better capture how customers are priced. The reimbursement rate could then be calculated as the average of the daily futures price over a fixed period, nominally the 12 months prior to the current quarter. While imperfect, this might better capture price and market driver relevant at the time.

Settlement for retailers should be conducted as quickly as possible,

Pool price pass through customers and other contracted demand response

We note that the currently proposed framework appears incompatible with pool price pass-through customers, which agree to be exposed to the wholesale price for some or all of their load in exchange for lower tariffs. For example, a pool price pass-through customer with a DRSP who switches off completely during a high price event would have no obligation to the retailer, while the retailer would then be exposed to the spot price. For example, a 10 MW price pass through customer whose DRSP activates 10 MW of demand response would have no retail bill for that period, while the *retailer* would be fully exposed to the wholesale price. Other types of bespoke demand response options with retailers may also be incompatible or require more complex solutions.

We note that this could be managed through contracting arrangements, but this would increase settlement complexity for retailers (requiring changes to billing systems to incorporate baseline settlement amounts). Alternatively, retailers could make certain offers contingent on the customer not having a third-party DRSP; it may be helpful for the AEMC to explicitly note this in their Final Determination.

Information availability

Baseline methodologies represent a potential source of gaming. For example, DRSPs could choose to offer a (small) response only when their resource was already below the baseline, thereby increasing settlement for no benefit. That is, a load that happens to be 10 MW below their baseline (due to the inaccuracy of the baseline) could be activated by a further 1 MW and be settled for 11 MW. Conversely, whenever the load was above the baseline, it might not be activated at all.

The AER should be seeking to detect and discourage such behaviour. It would be prudent to create explicit obligations in the Rules for these types of checks and balances, and appropriate responses. For example, the AER should ensure that accepted offers (i.e., the response offered to AEMO) and average settled quantities (i.e., the difference between actual load and the baseline) are equal on average – a separate test to the forecastability of the baselines.

Furthermore, the NEM's open access approach to data has enabled significant transparency to date, allowing both regulators and academic/industry groups to undertake analysis of the efficiency of the market and potential opportunities for improvement. Therefore, Infigen recommends that both the offered quantity *and* the settled quantity be made publicly available for each demand response activation (on a DRSP basis per trading interval). This is symmetrical with ability for anyone to calculate generator settlements from publicly available data (i.e., offers & bids, dispatched quantity, and settled quantity for each unit).

Without this information, market modellers, analysts and public think tanks will be unable to fully analyse the settlement outcomes around each trading interval (e.g., total load being settled, actual revenue earned by each participant including DRSPs, etc.) – this would be a step back from the status quo. This will also allow support retailers and potential new DRSPs to analyse and audit the performance of existing DRSPs.

DRSP bidding and settlement

Further clarification is needed on how DRSPs will bid the response from multiple customers in a region: will each customer be in a separate bid with AEMO, or are they aggregated? If aggregated, appropriate systems will be required to communicate to AEMO which specific resource will be/was activated. We expect that baselining should be applied only to that specific resource(s) (therefore minimising the number of affected retailers, and opportunity for gaming).



Negative price events

The controllability of DER is critical for system operation not only at times of high prices but also at times of negative prices. Allowing DRSPs to also bid in a controlled *increase* in net load could deliver significant value and improve system operation. Responses could include load shifting (e.g., pre-chilling of freezers) or charging of batteries.

This would appear to be a relatively minor change to the framework, allowing DRSPs to bid in either positive or negative response; settlement would remain unchanged (with a “negative” response (increase in load) multiplied by a negative price to again yield a positive settlement).

Conclusion

We look forward to the opportunity to continue to engage with the AEMC. If you would like to discuss this submission, please contact Dr Joel Gilmore (Regulator Affairs Manager) on joel.gilmore@infigenenergy.com or 0411 267 044.

Yours sincerely

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