



15 November 2023

Terry Niemeier, Director – Program and Market Development – Safeguard
NSW Office of Energy and Climate

Dear Sir/Madam,

Peak Demand Reduction Scheme – Rule change 2 consultation paper

Origin Energy Limited (Origin) welcomes the opportunity to provide comments on the Peak Demand Reduction Scheme – Rule change 2 consultation paper.

Origin is a large Australian integrated energy company with activities in energy retailing, power generation, natural gas production and LNG export. Origin also has recent experience in exploring new product offerings and has focused on areas such as solar and storage, connected homes, electric vehicles (EVs) and future fuels including hydrogen.

We have developed a proprietary Virtual Power Plant (VPP) platform to connect and use artificial intelligence to orchestrate distributed assets. Assets connected to the VPP have grown to over 1 GW, including an increasing variety of distributed energy and Internet of Things (IoT) devices. These devices include hot water systems, solar, batteries, EVs and various industrial assets, which are aggregated, controlled, and dispatched in response to market and portfolio positions, creating value for both Origin and customers through a lower cost of energy. Origin views the integration of these devices as a key long-term reform.

Origin supports the intent of the NSW Peak Demand Reduction Scheme (PDRS) and is pleased to see the new demand response activities that have been proposed in this consultation process, which includes the orchestration of residential batteries and commercial and industrial (C&I) loads. We support further activities being added over time and encourage the NSW Government to continue evaluating some of the activities listed later in the paper, including electric vehicle charging and commercial and industrial batteries.

Our key points on this consultation include:

- **Residential batteries** – we support the approach to BESS1, which provides an upfront subsidy for installing new batteries. We also support BESS2 which creates an incentive for the ongoing orchestration of residential batteries by aggregators. We support a streamlined approach to verifying that this capacity is available each year.
- **Commercial and industrial customer demand response** – we support C&I loads being part of the scheme and believe they have potential to provide significant demand response capacity in NSW at peak times. However, we question whether participation through the Wholesale Demand Response Mechanism (WDRM) should be required. Many C&I customers have demand response contracts directly with retailers and aggregators and also have the required metering arrangements to show how these have provided capacity.

- **Future activities** – we support further activities being added to the scheme over time and encourage the NSW Government to continue evaluating some of the activities listed later in the consultation paper, including electric vehicle charging and commercial and industrial batteries. We do not believe the NSW Government needs to wait for another year to include these.

Residential batteries

We support the inclusion of residential batteries in the scheme. We understand that there are two proposed rules regarding residential batteries:

- BESS1 for installation of new eligible residential batteries – this is a familiar approach which deems a certain proportion of demand response capacity over a number of years to provide an up-front subsidy. We support this simple approach and expect it could prove attractive to new customers.
- BESS2 for the orchestration of demand response under a contract – we support the inclusion of orchestration activities through aggregators such as VPPs and understand why the scheme requires this capacity to be verified annually. We believe that verification can be conducted remotely in a fairly simple and low-cost way. We encourage the NSW Government to keep any reporting of this verification relatively streamlined so that it does not erode potential value from this activity.

Commercial and industrial demand response

Demand response from C&I customers can provide significant potential capacity in NSW at peak times. We are pleased that demand response from C&I customers has been proposed as an eligible activity in the scheme. We currently have demand response contracts with a diverse range of customers, including cement manufacturing, data centres, higher education and water utilities. We expect these customers would also be interested in participating in the PDRS.

However, we question whether participation through the Wholesale Demand Response Mechanism (WDRM) should be required as a criteria for participating in the PDRS. We understand that the NSW Government is proposing to use the WDRM to help verify the capacity for the purposes of the PDRS. However, there are other ways to measure and verify this capacity.

The WDRM has not proved popular with customers for a range of commercial, compliance and technical reasons. Instead, many C&I customers will contract directly with retailers or aggregators to earn value from their demand response capacity. This involves the retailer assessing site eligibility to participate in their demand response program either via automated asset control or manual load reduction upon receipt of notifications. Performance in events is then assessed against a baseline. Baselines vary from provider to provider but usually strike a balance between performance against event day load shape and the average load shape over a preceding time period.

All retailers and aggregators are required to submit their demand response load details to AEMO via the Demand Side Participant Information Portal. This may represent an alternative set of criteria to assess the eligibility of possible load for the PDRS. We would be pleased to provide further information about baselines to the NSW Government to assist in the development of this proposed rule.

Future activities

We support further activities being added to the scheme over time and encourage the NSW Government to continue evaluating some of the activities listed later in the consultation paper. This includes:

- Electric vehicle (EV) charging – whilst loads from EV charging are currently relatively small, they are growing quickly and it is important that the correct incentives are encouraged now to help manage the grid. We suggest that the orchestration of EV charging be added as a priority.
- Commercial and industrial batteries – we suggest that C&I batteries could be added into the currently proposed demand response activity (proposed WARM).

Whilst we understand the WDRM provides a mechanism for verifying capacity under the PDRS, similarly to our comments about C&I demand response, we believe there are alternative ways to verify the capacity offered by C&I batteries. C&I battery customers do not find the WDRM appealing for reasons listed above and so we have been enrolling these assets into Origin's VPP to monitor and control. The control methodology implemented by Origin optimises for customer network tariff, FCAS participation and wholesale costs, which typically seeks to shift customer load out of peak times between 2:30-8:30pm. Similar to the option described for C&I demand response, we can use site meter data to show the peak demand reduction capacity of the C&I battery system. The capacity could be demonstrated through a specific demand reduction test where the result is compared against a baseline. We would be pleased to provide further information about baselines to the NSW Government to assist in the development of this proposed rule.

Overall, we are pleased to see the proposed new activities for the PDRS and support the NSW Government adding these in a timely and streamlined manner.

Yours sincerely



Matthew Kaspura
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