

9 April 2021

Vince Duffy, Executive Director
Department for Energy and Mining

Lodged via email: dem.smartappliances@sa.gov.au

Dear Mr Duffy

CONSULTATION PAPER ON APPLIANCE STANDARDS IN SOUTH AUSTRALIA

Origin Energy Limited (Origin) welcomes the opportunity to provide comments on the proposed amendments to appliance energy efficiency standards. We agree with the importance of encouraging consumers to be responsive to the energy market but consider that the approach outlined is likely to raise consumer costs and hinder innovation from industry.

Origin is a large Australian integrated energy company with activities in energy retailing, power generation and natural gas production. Origin also has recent experience in exploring new product offerings and has focused on areas such as solar & storage and connected homes. We currently have over 85 MW of demand response capability and have just launched a new residential demand response app called Spike. We are also a registered agent for the purposes of South Australia's regulatory changes for smarter homes. We view the integration of DER as a key long-term reform to benefit both consumers and the wider electricity system.

South Australia should encourage a national policy response

The capability of consumers to respond to the market is under review through a variety of national policy mechanisms. The South Australian Government should continue to work with other jurisdictions through the Energy National Cabinet Reform Committee to maintain consistency in the national approach to policies relating to customer responsiveness to the energy market.

If the Department considers that the national policy framework is not developing quickly enough, then the focus should be on encouraging rapid implementation of responsive technologies and products. The Department could work with the supply chain (ie equipment manufacturers, electricity networks, retailers and consumer representatives) to determine what products and services can be trialled and supported in the state quickly to manage emerging energy market issues.

State specific obligations will likely lead to raised appliance costs for SA consumers as manufacturers would be required to engineer products for a specific small market. This may have knock on effects on customers in other jurisdictions, as Australia is generally an importer of these appliances.

Policy focus should be on households and not individual appliances

Active consumer participation is best encouraged through implementing appropriate market structures rather than prescribing technical obligations. Consumers will choose to proactively engage with the market when they face incentives that encourage their participation. Such an approach involves partnering with a retailer or aggregator to maximise the value from responding to appropriate tariff or market signals. When faced by the relevant market signals, one customer may choose to respond with their air conditioner, while another may instead choose to respond with an EV.

Industry and government understanding of technology along with customer behaviour is still being developed. Locking in specific response obligations that are referenced in standards for appliances

may be unhelpful in developing products that meet the needs of consumers and the wider energy system.

The increasing penetration of battery systems will also have an impact on consumers' capability to provide demand response, which should be considered as part of any policy design. With a battery optimising the import/export ('time shifting') of energy, customers will be more likely to use their appliances as they wish to maximise comfort and utility.

Electric Vehicle customers should be encouraged to use smart chargers

The biggest facilitator for EV participation in electricity markets is the installation of smart chargers at consumers' premises or business. An EV can be charged without a smart charger but doing so removes much of the capability for it to positively interact with the grid. As such we highly recommend government support to encourage the roll-out of smart chargers. We are concerned that the proposed requirements for DR obligations for smart EV chargers could increase their cost and potentially take control away from the consumer, lowering their uptake and working against the overall policy goal of better integration with the market.

Properly managing the impact of EV charging on the energy market, in line with customer preferences requires a much greater level of sophistication than the Standard's Demand Response Modes. For example, optimising vehicle charging needs to consider loads across multiple chargers in a locality as well as the state of charge of a customer's vehicle and how soon they need to use it again.

The best methods to coordinate EVs with the wider market is being examined through numerous research projects. We are leading an ARENA backed trial to roll out 150 smart chargers to EV owners and fleets. The smart chargers will connect to Origin's Virtual Power Plant (VPP) platform, which enables multiple devices to be orchestrated remotely using artificial intelligence with benefits for customers, such as lower running costs, as well as for wholesale energy markets and distribution networks more broadly.

Response modes for air conditioners should take into account consumer preferences

The Demand Response Modes under AS/NZS 4755 are simple and limited (on, off, run at 50% or 75% capacity and 'turn on, store energy'). In our experience using the AS/NZS 4755 approach for air conditioning pervasively extracts the greatest demand response from those customers whose comfort will be most negatively impacted.

In terms of customer uptake and participation, the AS/NZS 4755 controlled device compares unfavourably to an 'Internet of Things' device that gives customers much greater control, including the ability to override external triggers. Our customer testing indicates that customers will prioritise comfort over cost and are reluctant to join a demand response program if they do not retain an 'override' capability.

Should you have any questions or wish to discuss this submission further, please contact Alex Fattal via email alex.fattal@originenergy.com.au or phone, on (02) 9375 5640.

Yours sincerely



Keith Robertson
General Manager, Regulatory Policy