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Mr. Craig Walker

Senior Policy Officer, Energy and Technical Regulation

Department of Energy and Mining

Government of South Australia

Submitted by email to: **dem.smartappliances@sa.gov.au**

9 April 2021

Dear Mr Walker

Consultation on Proposed Demand Response Capabilities for Selected Appliances in South Australia and Proposed Amendments to Local Energy Performance Requirements for Water Heaters

AGL Energy (**AGL**) welcomes the opportunity to respond to the South Australian (**SA**) Government's Consultation on Proposed Demand Response Capabilities for Selected Appliances in South Australia and Proposed Amendments to Local Energy Performance Requirements for Water Heaters (**Consultation Paper**).

AGL is one of Australia's leading integrated energy companies and one of the largest ASX listed owner, operator, and developer of renewable generation. AGL is also a significant retailer of energy and telecommunications with 4.5 million customer accounts across Australia and around 488,000 energy customers in SA. AGL is a market leader in the development of innovative products and services that enable consumers to make informed decisions on how and when to use their distributed energy resource (**DER**) assets to optimise their energy load profile and better manage their energy costs. AGL launched its Virtual Power Plant (**VPP**) in SA in 2016, partnering with ARENA to deliver the sale, installation and orchestration of 1,000 energy storage systems installed behind-the-meter in homes and small businesses.[1] AGL has since expanded its VPP by enabling customers in NSW, Queensland, SA and Victoria to bring their own battery to AGL's VPP, and for customers in SA to purchase a battery through AGL.[2] Through our Electric Vehicle (**EV**) Orchestration Trial, we are also seeking to understand how EVs could help the wider energy system by 'orchestrating' vehicle charging through smart chargers, Vehicle to Grid chargers and API technology.[3]

Our feedback on the Consultation Paper is based on our experience in DER products and services and ongoing engagement in regulatory design for DER.

[1] For further information regarding AGL's ARENA SA VPP program, including the two milestone reports published to date, please refer to https://arena.gov.au/projects/agl-virtual-power-plant/.
[2] For further information regarding AGL's Virtual Power Plant, please refer to https://www.agl.com.au/solar-renewables/solar-energy/bring-your-own-battery?cide=sem-r&gclid=EAIaIQobChMIicjKmKuP5wIVyjUrCh2eXwvVEAAYASAAEgLZRPD_BwE&gclsrc=aw.ds.
[3] See further, AGL Electric Vehicle Orchestration Trial, available at https://arena.gov.au/projects/agl-electric-vehicle-orchestrationtrial/.

AGL's position on the proposal

AGL acknowledges the SA Government's desire to realise the benefits of a common, open technical standards framework for demand response (**DR**) capability sooner by accelerating the implementation of a modification of the Energy Ministers' 2019 decision to introduce DR capability requirements for air conditioners, EV chargers, pool pump controllers and electric resistive storage water heaters (**Energy Ministers' Decision**).

While we understand the nature of the emerging challenges associated with DER customer connections and the risks associated with minimum net demand in SA, we believe the immediate system security concerns can be effectively managed through the SA Government's Remote Disconnect and Reconnection of electricity generating plants technical standard that came into effect on 28 September 2020.

The SA Government's focus should be on aligning the regulatory framework with the broader transition of the NEM towards a two-side market through the development of fit-for-purpose and nationally harmonised rules and technical standards to facilitate the growth of DR. This is so that consumers as owners of DER assets can not only improve the affordability of their energy use through lowering their energy reliance on centrally supplied energy, but also be rewarded for offering up their DER assets for wider network and wholesale market-based services.

We consider that promoting interoperability through technical standards will be a key enabler for the optimisation of distributed energy resources across Australia's energy markets. Nevertheless, we believe substantial work remains to develop Australia's technical standards framework in alignment with international standards that are considered best practice.

AGL has been actively involved in the development of a range of technical standards applicable to distributed energy and DR. AGL represents the Australian Energy Council (**AEC**) membership on the EL-54 Standards Australia Committee. The AEC brought forward the proposal for the creation of AS 4755.2 *Demand response framework and requirements for communication between remote agents and electrical products* that is currently in development by the Committee. We are also engaged in the South Australian Office of the Technical Regulator's (**OTR**) Dynamic Export Limits Committee.

To realise the full value of DR to consumers and Australia's broader energy system whilst mitigating cost to consumers, the SA Government's policy approach should consider:

- The practical issues associated with the application of the Demand Response Enabling Device (**DRED**) control methodology specified in AS4755;[4]
- The ongoing work of the EL-54 Standards Australia Committee that is intended to create an enhanced DR standards framework that would increase flexibility, reduce cost and improve customers' experience in the delivery of DR services;
- The desirability of competitive-based mechanisms to incentivise and empower consumers to actively participate and support the wider electricity system reliability over technical standard approaches that risk increasing the payback period for DER asset investment; and

[4] We elaborated on the many practical issues related to the DRED control methodology specified in AS4755 in our 2019 knowledge sharing in the context of our ARENA NSW Demand Response Trial, Available at https://arena.gov.au/assets/2018/09/agl-nsw-demand-response-report-october-2019.pdf.

- The suitability of a product-based technical standard solution (as specified in AS4755) versus a nationally harmonised technical communications protocol that could better serve the needs of the market by facilitating a mass market response to support system reliability.

Recommendations

Having regard to the considerations above, AGL recommends the SA Government:

1. Support the development of a nationally harmonised technical communications protocol as a higher priority policy objective to the accelerated implementation of the Energy Ministers' Decision.
2. In considering the accelerated implementation of the EV charger standard requirement in the Energy Ministers' Decision, establish a technical committee that reports to the OTR comprised of industry representatives to determine an appropriate timeframe to develop a technical standards framework and execute that program through appropriate industry consultation.

We provide more detailed responses to the Consultation Paper in the **Attachment**.

Should you have any questions in relation to this submission, please contact Kurt Winter, Regulatory Strategy Manager, on 03 8633 7204 or KWinter@agl.com.au.

Yours sincerely

Elizabeth Molyneux

GM Policy and Markets Regulation

ATTACHMENT

1. Air conditioners

We note the preferred Option 3 to bring forward the wireless-only (e.g. remote) requirement in the Energy Ministers' Decision by two years for air conditioners sold in SA, with compliance to commence from 1 July 2023, with AS/NZS 4755.2 and DRMs 1,2 and 3 (when published) for all air conditioner types that are subject to GEMS (excluding portable air conditioners), up to a cooling capacity of 19kW inclusive.

Whilst we acknowledge the work being progressed by the EL-54 Committee with the creation of AS/NZS 4755.2, it is important not to overstate the ability of this standard to support demand response activities in Australia's energy markets, given that 4755 is a product-based technical standard solution rather than a nationally harmonised technical communications protocol. AS4755.2 was not intended to be a specified communications protocol. Rather, the framework would permit the use of any protocol (international or national, public domain or proprietary) which can be demonstrated to meet, but not limited to, the minimum specified functional requirements of the demand response system.

In order to facilitate a mass market response to support system reliability, we would recommend the SA Government also consider the need for a nationally harmonised technical communications protocol. We note this has been a topic of substantial discussion in the OTR's Dynamic Export Limits Committee. We consider it will be critical that the underpinning technical communications protocol adopted:

- Promotes customer choice and enable customer participation by aligning with internationally accepted standards, where consistent with Australian energy market structures;
- Enables access to secure and open IT platforms as well as technical DER device capabilities; and
- Aligns with the current national policy programs to develop a market-based framework to allow customers to engage and share in DER value, including the Energy Security Board's (**ESB**) Post-2025 Market Design Program and the Australian Energy Market Operator's (AEMO) Project EDGE.[5]

Accordingly, we would recommend the SA Government support cross-government collaboration with other state governments and the AER to establish an effective national communications protocol, to ensure consistent consumer outcomes.

2. EV chargers

We note the SA Government's alternative preferred option that brings forward the EV charger standard requirement in the Energy Ministers' Decision by two years, with all EV chargers supplied or offered for supply from 1 July 2024 required to comply with AS/NZS 4755.3.4 (when published), or AS/NZS 4755.2 (when published) or an equivalent international standard if determined by the SA OTR.

We believe EV chargers could play an important role alongside other DER in optimising Australia's energy markets to the benefit of consumers, as we are beginning to test through our EV Orchestration Trial[6].

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5 Project EDGE (Energy Demand and Generation Exchange) seeks to demonstrate an off-market, proof-of-concept Distributed Energy Resource (DER) Marketplace that efficiently operates DER to provide both wholesale and local network services within the constraints of the distribution network. See further AEMO, Project EDGE, Available at https://aemo.com.au/en/initiatives/major-programs/nemdistributed-energy-resources-der-program/der-demonstrations/project-edge.

6 See further, AGL Electric Vehicle Orchestration Trial, available at https://arena.gov.au/projects/agl-electric-vehicle-orchestrationtrial/.

However, given that the EV charging sector is its early stages of development both in Australia and internationally, we would caution against mandating a standardised approach that risks stifling innovation and consumer value. It is also worth noting that AGL's Orchestration Trial, as well as other industry EV trials that are being progressed, do not rely upon a product-based technical standard solution (as specified in AS4755) but instead utilise a technical communications protocol.

Into the future, we would support a coordinated industry approach to developing technical standards for smart EV charging to facilitate interoperability for consumers between physical and commercial systems. Developing an appropriate standard will require careful consideration of a range complex matters, including but not limited to:

- Ascertaining the minimum 'smart' technical requirements for EV charge points necessary to facilitate the management of electricity network capacity and energy availability. This may encompass the charge point being able to:
    - Receive and process information provided;
    - React to information received (adjusting the rate or charge/ discharge); and
    - Monitor and record energy consumption and being able to transmit this.
- Aligning data communications arrangements with international standards and protocols, including the Open Charge Point Protocol (OCPP);
- Developing appropriate cyber security controls to ensure that communications are exchanged in a secure manner with an appropriate level of encryption to protect against cyber-attack; and
- Facilitating transactional traceability for consumers to enable them to see their transactions with EV chargers (including time of charge, duration and cost).

Accordingly, we would recommend the SA Government establish a technical committee that reports to the OTR comprised of industry representatives to determine an appropriate timeframe to develop a technical standards framework and execute that program through appropriate industry consultation. Such a committee could helpfully inform the OTR's consideration of the OCPP approach as an alternative to the product-based technical standard solution (as reflected in 4755), thereby enabling the establishment of a regulatory framework that aligns with international best practice.