AGL Energy Limited
ABN: 74 115 061 375
Level 24, 200 George St
Sydney NSW 2000
Locked Bag 1837
St Leonards NSW 2065
t: 02 9921 2999
f: 02 9921 2552
agl.com.au

Rebecca Knights

Director, Energy Policy and Programs

Department of Energy and Mining

SA Government

Submitted by email to: ETRConsultations@sa.gov.au

10 July 2020

Dear Rebecca

South Australia Consultation on Regulatory Changes for Smarter Homes, June 2020

AGL Energy (**AGL**) welcomes the opportunity to respond to the South Australian Government's five Smarter Homes Consultation papers.

AGL is one of Australia's largest integrated energy companies and the largest ASX listed owner, operator, and developer of renewable generation. AGL is also a significant retailer of energy, providing energy solutions to around 3.72 million customers throughout eastern Australia and around 488,000 customers in SA. AGL is a market leader in trials and projects that draw upon customers' distributed energy resources (**DER**). AGL launched its Virtual Power Plant (**VPP**) in South Australia 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] In 2020, we enrolled our VPP in the AEMO VPP Demonstrations to test accessing and sharing in wholesale (FCAS) value.[3]

Our feedback on the Smarter Homes Consultations is based on our SA VPP experience noted above as well as learnings from other DER products and services that we offer across the NEM.

Strategic direction

AGL in principle supports the SA Government's intention to introduce a range of new technical standards and incentive structures to address the risks associated with the emerging challenge of minimum net demand. We believe the proposals contained in the Consultation Papers need to provide further clarity to ensure the final measures adopted fulfil their intended policy outcome without any negative or unintended consumer, market or industry participant consequences, including that:

- Risks are managed by the party best able to manage them;

[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 AEMO VPP Demonstrations, Available at https://aemo.com.au/en/initiatives/major-programs/nem-distributed-energy-resources-der-program/pilots-and-trials/virtual-power-plant-vpp-demonstrations.

- Solutions focus on competitive market incentives and consumer outcomes to support continued consumer trust and uptake of DER;
- Complementary reforms are sufficiently considered to deal with legacy network operating issues so that the burden of the transition is not borne by customers alone; and
- Implementation timeframes are appropriately sequenced with national reforms to reduce compliance cost and complexity for businesses operating across Australia's energy markets.

Key recommendations

AGL recommends the following be considered further:

1. The proposed technical standard for remote disconnection and reconnection should be operationalised through SA Power Networks (**SAPN**), rather than agents registered with the Technical Regulator, with appropriate safeguards to ensure it is only used in emergency circumstances. Remote disconnections should not be exercised to manage network constraints more broadly. Rather, financial incentives should be established to manage curtailment of solar generation to support the ongoing security of the grid prior to any emergency scenario unfolding.
2. The commencement date for the following proposed technical standards should be revised to 1 July 2021 to provide adequate notice for industry to meet the proposed specifications and to mitigate any impact to consumers who have already contracted for the installation of new solar generation:
    - Proposed Remote Disconnection and Reconnection Requirements for Distributed Solar Generating Plants;
    - Proposed Export Limit Requirements for Distributed Solar Generating Plants;
    - Proposed New Low Voltage Ride-Through Requirements for Smart Inverters; and
    - Proposed Smart Meter Minimum Technical Standards.
3. The appropriateness of the regulatory framework in supporting network businesses implementing a range of measure to address sustained overvoltage issues due to historic circumstances of distribution network operation.
4. The necessity of the requirement for regulating the Standing Offer tariff structure. Although AGL would already satisfy the intent of this proposed requirement, if this requirement was introduced, AGL would highlight that the wording of such a regulation should not be prescriptive about its naming conventions and should not affect current processes for the application of Standing Offer tariffs.

We elaborate our feedback 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

Con Hristodoulidis

Senior Manager, Regulatory Strategy

ATTACHMENT

1. Proposed Remote Disconnection and Reconnection Requirements for Distributed Solar Generating Plants

AGL supports the establishment of the proposed remote disconnection and reconnection capability to support the maintenance of a secure power system in an emergency circumstance. We note the analysis undertaken by the Australian Energy Market Operator (**AEMO**) through its Renewable Integration Study, that underscores the risk of increasing amounts of distributed solar generation to AEMO's management of contingency events in the power system.

We believe the technical standard should be operationalised through SAPN, rather than agents registered with the Technical Regulator, to remotely disconnect and reconnect distributed solar generation where lawfully directed in emergency circumstances. In our view, this approach would enable SAPN to deal with an emergency direction expeditiously and effectively through a uniform compliance pathway rather than relying upon a large volume of intermediaries with potentially varying compliance approaches, which is likely to incur higher compliance and monitoring costs. We understand that this could be implemented through SAPN's connection agreements.

Appropriate safeguards can then be articulated in the technical standard and associated regulations to ensure that SAPN can only remotely disconnect solar generation for the purpose of system security in emergency circumstances.

We do not consider that remote disconnections should be exercised to manage network constraints more broadly. Rather, as the Smarter Homes Consultation observes, financial incentives should be established to manage curtailment of solar generation to support the ongoing security of the grid prior to any emergency scenario unfolding. In AGL's view, DER customers should be afforded a level of investment certainty through their network. Network access arrangements should therefore empower customers to engage in a range of competitive retail offers to realise greater value on their investment, for example by participating in innovative energy services such as orchestration to support the grid in times of need. We note there are a range of network access and pricing regulatory reforms currently on the horizon that would seek to improve DER customers' level of access and investment certainty.[4]

In terms of implementation for the proposed remote disconnection and reconnection technical standard, we would recommend a 1 July 2021 commencement date for the following reasons:

- This timeframe would enable SAPN to incorporate remote disconnections into their flexible export limit operational capabilities and reflect that authority in individual connection agreements by July 2021.
- A 12-month implementation timeframe would align with the risk outlook forecasted by AEMO, that minimum net demand could reach zero in South Australia within the next 1-3 years.

2. Proposed Export Limit Requirements for Distributed Solar Generating Plants

AGL in principle supports the transition towards dynamic export limits, provided it enables more transparent management of network constraints and provides DER customers with greater access than would otherwise be possible with fixed limits on the size or export limits of the system.

[4] AGL is member of the Distributed Energy Integration Program (**DEIP**) Network Access and Pricing Reference Group and provided regular feedback on the development of a fit-for-purpose regulatory framework to support DER integration.

In our view, this will require a greater level of regulatory scrutiny from the Australian Energy Regulator (**AER**) over distribution networks' expenditure proposals to ensure network investment facilitates the interaction of DER with the broader energy market system.[5] To ensure consistent customer outcomes, the AER's assessment of dynamic export operating envelopes will need to be informed by an established customer export value methodology that appropriately values customer impacts and differentiates between historic circumstances of distribution network operation and issues associated with higher DER penetration.

Through AGL's SA VPP, we have been able to draw upon operational data to develop a range of important insights into the interaction of DER with the low voltage distribution network, including on voltage management.[6] Among a range of insights, we have observed that voltage levels across the grid are generally high, regardless of whether customers are exporting solar. We note that the ESB and AER's commissioned UNSW report,[7] also found that high voltages are due to a range of factors, especially historic circumstances of distribution network operation, with implications for compliance and consumer losses. Accordingly, we support network businesses' approach to engaging with the overvoltage issue and seek to understand a range of potential solutions that support customer value.

We also consider that dynamic export limits should not be permitted to enable distribution networks' mandating the provision of network support services from DER assets, such as power quality response modes, in the absence of a market-based mechanism that incentives customers. As we recently observed to the Australian Energy Market Commission (**AEMC**) and AEMO[8], we believe that further reform is required to develop a market-based framework to allow customers to engage and share in DER value. We consider that further work is required to test a market-based framework that, among other things, opens the network value pool to the competitive market for the benefit of all consumers.

In terms of implementation for the proposed export limit requirements, we would recommend a commencement date of 1 July 2021 for the following reasons:

- The technical standard adopted in SA should be informed by a harmonised national approach, to reduce cost and complexity for businesses operating across Australia's energy markets and maximise the potential for all manufacturers to comply. There are a range of national regulatory reforms currently underway to establish standardised communications protocols and technical standards capabilities for DER, including the rule change proposal currently before the AEMC to establish a framework for setting technical standards for DER and the ongoing work of the Distributed Energy Integration Program (**DEIP**) Working Groups and DER Integration API Technical Group. Until these national standards and protocols are established, there is risk that all manufacturers may not be able to comply with the SA technical standard and therefore slowing down the sale and uptake of solar in the SA market.
- Further work is also required to test the operation of dynamic export limits to mitigate any negative customer impacts and ensure appropriate cyber security arrangements are established prior to their introduction. We understand that SAPN have been undertaking a 12-month trial of dynamic export limits in partnership with Tesla that is funded through the Australian Renewable Energy Agency (**ARENA**) that

[5] See further AGL submission in response to the AER on assessing distribution energy integration expenditure (20 January 2020), Available at https://thehub.agl.com.au/articles/2020/01/submission-to-aer-on-assessing-distributed-energy-integration-expenditure.
[6] 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/.
[7] 2ESB cover note on UNSW voltage report: https://prodenergycouncil.energy.slicedtech.com.au/sites/prod.energycouncil/files/200502%20ESB%20cover%20note%20on%20UNSW%20Voltage%20 Report.pdf.
[8] See further AGL submission to the 2020 Electricity network regulatory framework review, (6 July 2020), Available at https://thehub.agl.com.au/articles/2020/07/submission-in-response-to-the-2020-electricity-network-framework-review; AGL submission to AEMO's Renewable Integration Study (8 July 2020), Available at https://thehub.agl.com.au/articles/2020/07/agls-submission-to-aemos-renewable-integration-study.

is due to conclude in late 2020[9]. Insight from this trial should inform the technical capabilities specified in the SA technical standard.

- Implementation from 1 July 2021 would still align with SAPN's implementation timeline for dynamic export limits and the policy intent to enable dynamic export limits.

While we appreciate that the implementation of dynamic export limits is SAPN's preferred approach to support DER integration, we believe that network businesses need to consider a range of solutions to address sustained overvoltage issues. This is particularly so given that DER is typically not the sole cause of the problem.

3. Proposed New Low Voltage Ride-Through Requirements for Smart Inverters

AGL supports the establishment of low voltage ride-through requirements for smart inverters. We note the analysis presented by AEMO on the risks associated with inverter disconnections in South Australia during disturbances which resulted in brief low voltage excursions.

Nevertheless, we would recommend a commencement date of 1 July 2021 for the following reasons:

- We note AEMO's intention to establish a compliance test that specifically determines whether an inverter can meet the existing defined voltage ride-through provisions in AS/NZS 4777.2:2015, industry should be provided with sufficient notice to enable compliance and mitigate any impact to South Australian consumers who have already contracted for the installation on new solar generation. We consider that a minimum of 12-month notice is appropriate.

- The commencement date should also align with SAPN's connection approval process, with SAPN not approving any applications that do not comply with this technical standard upon its commencement. Prior to 1 July 2021, customers who have already been approved for connection should not be impacted by the proposed new technical standard.

4. Proposed Smart Meter Minimum Technical Standards

AGL supports the proposed smart meter minimum technical standards. We agree that smart meters are likely to be a cost-effective option to support management of minimum operational demand as smart meters are in the process of being rolled out to small customers in South Australia who purchase solar, and more generally to all energy consumers.

We note the SA Government's intention to introduce a technology neutral technical standard for remote disconnection and reconnection alongside smart meter minimum technical standards. We consider that the

[9] See further SA Power Networks, Advanced VPP Grid Integration Project, ARENA, Available at https://arena.gov.au/projects/advanced-vpp-grid-integration/.

Technical Regulator's ability to deem certain technical solutions will also support new approaches into the future, as industry develops innovative solutions to manage DER.

In addition to the benefits identified with flexible smart meter configurations, we consider the proposed smart meter minimum technical standards will better facilitate network support payments as the distribution market matures. Into the future, we anticipate that DER customers could provide important network support services for the benefit of all consumers through broader reforms to the distribution market and network access and pricing arrangements.[10]

In the case of customers with general load, controlled load and solar generation, we would support a minimum requirement for a three element three contactor smart meter wired in accordance with the Technical Regulator guideline. Nevertheless, we anticipate that this requirement may require greater lead time to ensure metering providers can meet the requirements.

We would recommend a commencement date of 1 July 2021 for the proposed smart meter minimum technical standards. While we note that two element two contactor smart meters are already available in the SA market, this technology may not be provided across the metering provider market. In the case of the three element three contactor smart meter requirement, we would recommend a longer lead time of 6 to 12 months.

5. Proposed Tariffs to Incentivise Energy Use in Low Demand Periods in South Australia

Although AGL understands the SA Government's desire to see retail tariffs that incentivise customers electricity consumption in low demand periods, we do not support this new requirement. AGL believes that:

- In principle, any regulation of retail tariffs is detrimental to a competitive retail market, including regulation of the structure of the retail tariffs. In this case, it is likely to constrain the products and offers made available to customers as retailers will be to comply with the regulation;

- The requirement will have a very limited impact on South Australian electricity demand in the short term as it will only apply to standing offer customers with interval meters. Less than 20 percent of residential customers in South Australia have interval meters and only a small percentage of these remain on standing offers. There is no incentive for the rapid introduction of this regulation; and

- It is unnecessary. The introduction of this requirement anticipates that retailers will not be offering these cost reflective tariff structures. Prior to the release of this Consultation Paper, AGL had already published a standing offer tariff that utilises the structure of the SA Power Networks residential time of use tariff. This will commence from 1 August 2020[11] and AGL will also be introducing a market offer in the future.

Although AGL would already satisfy the intent of this proposed requirement, we are concerned that the proposed regulation may be prescriptive, have unintended consequences and complicate our processes and increase our costs of compliance.

[10] See further AGL submission to the 2020 Electricity network regulatory framework review, (6 July 2020), Available at https://thehub.agl.com.au/articles/2020/07/submission-in-response-to-the-2020-electricity-network-framework-review.

[11] AGL's Standing Retail Contract Rates at https://www.agl.com.au/-/media/aglmedia/documents/help/rates-contracts/market-contracts/2020/07/2020-my-pcp---agl-sa-elec-website-pricing-v7.pdf

For example, AGL has been able to quickly introduce its Time of Use standing offer in South Australia by utilising the current naming conventions of peak, shoulder and off-peak that exist in its systems. If the regulation was to specify different terminology such as the use of 'Solar Sponge' then AGL would require several months of development to produce a compliant offer.

Similarly, the Consultation Paper suggest that the regulation will require all small customers with interval meter to be on a standing offer with the prescribed tariff structure. To be clear, this will only occur when a customer moves onto the SA Power Network's relevant cost reflective network charge. For example, when an existing customer initiates an upgrade to their connection and is assigned to the default tariff for interval meters. For the regulation to suggest otherwise would require significant process changes and manual intervention.

AGL therefore recommends the SA Government postpone the introduction of this regulation until it can review the retail prices, for both standing and market products, that retailers are offering in South Australia as a result of SA Power Networks new network tariff structures.