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**Essential Services Commission of South Australia**  
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**31 January 2018**

AGL Energy (**AGL**) welcomes the opportunity to respond to the Essential Services Commission of South Australia (**ESCOSA**) SA Power Networks 2020 Reliability Standards Review (**Reliability Standards Review**).

AGL is one of Australia's leading integrated energy companies and the largest ASX listed owner, operator and developer of renewable generation. Our diverse power generation portfolio includes base, peaking and intermediate generation plants, spread across traditional thermal generation as well as renewable sources. AGL is also a significant retailer of energy, providing energy solutions to over 3.7 million customers throughout eastern Australia.

In addition, AGL is continually innovating our suite of distributed energy services and solutions for customers of all sizes (residential, business and networks). These behind the meter (**BTM**) energy solutions involve new and emerging technologies such as energy storage, electric vehicles, solar PV systems, digital meters, and home energy management services delivered through digital applications.

The network reliability standard is a key market setting to encourage efficient network investment and operational productivity to meet customers' basic energy needs. AGL strongly supports the effective operation of the four main elements of the scheme: the average reliability targets, customer service targets, the Guaranteed Service Level (**GSL**) scheme, and monitoring and reporting requirements.

AGL supports amendments to regulation that support system security and reliability and drive more efficient outcomes in network planning and investment. However, we also consider that competitive markets and innovation in the delivery of new energy products and services for customers should not be stifled through restrictions on BTM assets. Network settings must strike a balance between driving the development of a competitive market for innovative products and services that meet customers' energy service needs, while also promoting improved network efficiency and productivity to manage the cost of reliable distribution services. Our submission is based on these fundamental principles.

### **Grid Modernisation**

AGL believes that the future of the grid will be as a gateway to multiple competitive platforms that enable a range of markets for customers.

The distribution network will increasingly become the platform across which customers expect to be able to connect and transact. Competing energy service providers are already trialling and offering innovative products and services that leverage the grid to provide customers with access to other markets and value streams.



Rather than simply enabling the consumption of electricity delivered from centralised plant, the grid will have an increasingly important role facilitating a range of other service markets. These include markets for grid stability services (frequency and voltage), markets for services which support the network in constraint conditions, markets for wholesale demand response at times of tight supply, and 'peer-to-peer' energy trading.

There will not be a single business or delivery model to enable these mixed interactions and respond to the broad spectrum of customer needs and preferences. Reflective of the heterogeneity of customer needs and preferences, AGL expects product and service offerings from a broad mix of energy service providers to be similarly heterogeneous. The grid should provide a two-way energy platform upon which competing energy service providers can build their product and service offerings.

The distributed energy ecosystem of the future may involve multiple distributed markets and service platforms co-existing and interacting. Energy service providers will invest, test, learn and innovate their offerings, and bear the risks and rewards associated with these endeavours. The development of a reliability standard should consider this emerging paradigm and inevitable energy market transformation.

By modifying the overall volume and shape of demand, DER can be deployed and operated to avoid or delay more expensive augmentations to the network. Further, smart inverters and local sensing devices can enable the provision of voltage and frequency services back to the distribution network and is an associated benefit of DER. At a distribution system level, we consider that optimised DER will perform a key role in maintaining local system reliability and security in the future, and will be a key provider of grid stability services.

### **Distributed Energy Resources**

However, a network support or grid stability service might only be required on a limited number of occasions per year, and this is similarly the case with demand response to meet supply constraints. The remainder and majority of the time, customer-owned DER installed BTM is likely to be employed directly for meeting the comfort and consumption needs of the customer. Accordingly, an efficient deployment and use of DER will enable co-optimisation across these multiple uses and value streams. It will also recognise that it is ultimately a customer's choice as to how their BTM resources are deployed and what compensation or reward they expect for participating in different service markets (including providing network support). The value that customers place on reliability will similarly be driven by customer choice in accordance with their own needs.

AGL sees competition and innovation in technology and business models as the primary means for meeting this co-optimisation challenge and aligning the interests of energy service providers with those of the customers they serve. To enable efficient 'value stacking' requires the need for the location and size of grid support services and their value to the network to be made explicit, so that products and services can be designed by competing energy service providers to address these and build those values into the commercial model.

In our view, some care needs to be taken with the way that the evolution of new products and services may be constrained through network restrictions and standards that are based on the reliability standard. In some instances, networks may impose unnecessarily harsh technical requirements or standards on retailers or customers, on the basis of mandatory network configurations that are required to meet reliability. While we understand the importance of maintaining technical standards and overall system security and reliability, we consider that the range of options for energy services provided by DER should, as much as possible, not be



constrained by network directions where a customer has made an informed choice regarding how they want to source and use their energy. In some instances, customers may choose to offset reliability for other benefits, such as price. In other instances, where customers value reliability more highly, they may be willing to pay a premium for additional energy services to ensure their connection is maintained. These considerations may be even more pronounced in rural areas where reliability standards may generally be set lower and customers may place differing values on reliable supply.

In developing network investment settings such as the reliability standard, consideration of the changing nature of DER will directly benefit customers investing in DER by ensuring the least cost deployment and highest value use of those assets are made, and by promoting the availability of a range of retail offers and bundled products to meet distinct customer preferences. Importantly, it will indirectly benefit all customers by ensuring investment in assets or services which support reliable network operation are efficient, thereby ensuring the efficiency of overall network costs.

### **Network investment efficiency**

Rapid technological advancements, increased availability and declining costs associated with DER may mean that, over time, non-network solutions increasingly become more suitable investments than further network investments. Indeed, the market inception of DER-related services and solutions will make future patterns of network demand uncertain. Assumptions that non-network solutions will not be suited to particular applications may, in time, be challenged by these developments.

Networks operate monopoly infrastructure and are the monopoly purchasers of demand response and other non-network solutions. Therefore, it will be critical to maintain a clear focus on the role of distribution businesses through the grid modernisation process.

While we understand the need for and strongly support a network reliability standard that adequately values network reliability, the way that networks meet this standard could be improved. In AGL's view, network businesses should be required to test the competitive market for the provision of demand response and other non-network solutions before developing their own programs or directly investing in distributed energy technologies and including such expenditure in the regulated asset base. To this end, reliability should be driven through efficient investment and not merely through inefficient and excessive capital expenditure.

Further, network businesses must demonstrate greater value to customers prior to proceeding with network based solutions. To facilitate the development of viable competitive products which address network needs, network businesses should also make available sufficient and useful data about the characteristics and location of those network needs and the costs of alternative network investments

### **Customer-focused reliability standard**

There is a natural requirement on businesses operating in the competitive market to maintain a definite customer focus in the products and services they develop, and to innovate and extract efficiencies and additional values where possible, so that the product delivered to the end-customer addresses their needs and preferences while being price competitive. Without this competitive discipline and with a singular focus on network benefits, programs delivered directly by distribution businesses are unlikely to result in the most efficient deployment of distributed energy technologies.

However, the current regulatory framework does not require network businesses to draw on competitive markets to deliver network support and demand management solutions. Instead network monopolies can



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(and are sometimes encouraged to) directly invest in technologies installed BTM provided this is ostensibly to assist in the management of the network. This creates a barrier to the development of well-functioning markets in products and services enabled by distributed energy technologies, including demand management programs. Without effective competition in the delivery of such services, the efficiency of network spending, customer choice and innovation will all be negatively impacted.

Care in the design of network cost-recovery and pricing frameworks is key to driving efficient network utilisation, efficient adoption of distributed energy technologies and mitigating potential equity issues that arise where those without the ability to adopt distributed generation technologies are left to bear a disproportionate share of remaining network costs. Distribution businesses are currently introducing more cost reflective network tariffs to support the achievement of these outcomes. However, with overall declining grid utilisation and spare capacity in many networks, there is a question as to whether the policy intent behind the introduction of cost-reflective pricing can be achieved without a clear policy on the treatment of the existing regulated asset base.

An adequate reliability setting is a formative input for network investment, and should be considered in the context of the above. We therefore urge ESCOSA to consider grid modernisation and the customer-led energy market transformation in its review of a new standard. Indeed, any estimation of customer willingness to pay for reliability improvements must be viewed in the context of the competing ability for this reliability to be sourced from other non-network solutions. Additionally, cost information from SA Power Networks that will be sourced to make a reasonable calculation should incorporate the changing energy services paradigm so as to best ensure network costs remain efficient, customer choice is promoted, and an adequate standard for reliability is met.

If you have any questions regarding this submission, please feel free to contact Aleks Smits, Manager Policy and Research, on 03 8633 7146 or myself on 03 8633 6836.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Stephanie Bashir', written in a cursive style.

**Stephanie Bashir**

Senior Director, Public Policy