

19th October 2020

Dr Kerry Schott
Independent Chair, Energy Security Board
Level 15, 60 Castlereagh St
Sydney NSW 2000
info@esb.org.au

Dear Dr Schott,

SA Water Response to P2025 Market Design Consultation Paper

Thank you for the opportunity to comment on the Energy Security Board's Post 2025 Market Design consultation paper.

SA Water is South Australia's leading provider of water and sewage services, providing regulated water and wastewater services to more than 1.7 million people throughout the state. Wholly owned by the Government of South Australia, we have been working to ensure a reliable supply of safe, clean water and a dependable sewerage system for more than 160 years.

To support the provision of these services, SA Water is one of the largest individual users of electricity in South Australia, operating facilities across more than 1,800 connection points across a wide spectrum of electricity loads. The combination of high energy usage required to provide water and wastewater services and the large geographical spread of our customer base mean that SA Water has been dependent on, and will continue to be reliant on the efficient operation of the National Electricity Market (NEM) to support the delivery of essential services to our customers at the lowest possible price.

Our unique position as an essential but flexible consumer of electricity has driven us to innovative approaches to securing a low cost electricity supply over the last decade, resulting in SA Water taking spot exposure via a retail arrangement in 2013 before becoming a full market customer in 2017. As such, we are now a leader in demand management and deliver significant cost reductions through scheduling our consumption of electricity at times when generation is abundant relative to demand and prices are therefore low.

Our Zero Cost Energy Future initiative, investing over \$300 million in solar photovoltaic panels and energy storage to keep water service charges as low and stable as possible, further ties SA Water to the ongoing efficient future of the NEM. Through this strategic generation investment we have sought to reduce our net electricity costs, generating electricity to meet the needs of our major sites and selling any excess electricity into the market to offset electricity purchases at other sites and purchases at times where our generation assets are unable to support our full demand.

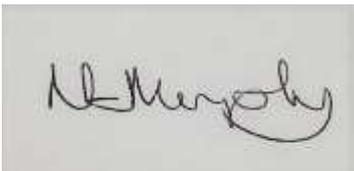
Given the criticality of the electricity market to our ongoing delivery of affordable and essential services for our customers, we greatly appreciate the opportunity to contribute to the future design and direction of Australian Electricity Markets. Detailed responses to the questions asked in the consultation paper are included in the attachment to this letter, however our key points for your consideration are:

- The introduction of the Retailer Reliability Obligation (RRO) has effectively disincentivised demand response, failing to appropriately recognise the capacity of consumers to respond to short term market signals and reduce their market loads. Any expansion of the RRO would continue to inhibit signals for demand management, forcing users or their retailers to take contracted positions that increase the overall cost. We strongly support the winding back of the RRO and the move to a separate capacity market.

- Inertia and System Security services have been undervalued and are increasingly significantly lacking, with AEMO directions in the NEM leading to significant distortions of pricing and increased customer costs. We believe development of inertia and other additional markets to better manage frequency and support system strength should be a high priority activity for the ESB and strongly support development of models that co-optimize system services and other energy markets.
- Increasing demand response will lead to more efficient utilisation of existing infrastructure over time, lowering the overall cost of electricity. It also better moves towards a user-pays model that better allocates the cost of providing peak capacity to consumers who are unable or unwilling to respond. At the same time, SA Water recognises the importance of protecting vulnerable customers and encourages the development of appropriate safeguards to ensure they are adequately protected.
- Many of the challenges identified in this consultation are already emerging problems and may be well entrenched by 2025. We would welcome bringing forward mechanisms where possible to address these challenges earlier than the current proposed timeframes.

If you have any queries about these comments, please contact Mr Andrew Wilkins, Energy Lead at andrew.wilkins@sawater.com.au or (08) 7424 1877.

Kind regards,

A rectangular box containing a handwritten signature in black ink. The signature appears to read 'Nicola Murphy' in a cursive style.

Nicola Murphy
Senior Manager Supply Chain and Zero Cost Energy Future

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Attachment – Responses to Questions for stakeholders

Section 1	
1	No comment
2	We believe many of the challenges identified in this consultation are already emerging problems and may be well entrenched by 2025. We recognise that several activities are already underway to alleviate these issues, but would welcome bringing forward mechanisms where possible, particularly the investigations into capacity and inertia markets and UCS+ options. While we are keen to ensure issues are addressed in a timely manner, we prefer that once designed market changes are implemented over time, allowing opportunity to assess the cumulative impact and make any adjustments to ensure they achieve the original goals set.
3	SA Water would like to see a shift away from the treatment of market participants that promotes traditional retailers as having a primary role in the market. Instead we view that the market needs to enable end customers to be sophisticated consumers who may have market intermediaries that act in the market on their behalf. Regardless of any changes, we recognise that any market changes will result in some market participants being better off while others are worse off and encourage the development of protections as part of the market reforms to avoid large price shocks to customers.
4	No comment

Section 4	
1	<p>Existing mechanisms are not providing the right incentives to invest in the flexible capacity required to support the NEM. We view that the consultation paper's premise that participants choose to contract on the financial contracts market to reduce cashflow implications is flawed. The market has already seen significant transitions away from consumers having fixed consumption profiles and taking prices to smart consumers who time their entry to the market based on generation availability and pool pricing. The recent introduction of the RRO has effectively disincentivised these consumer behaviours, and in doing so will artificially increase costs for consumers in the medium term.</p> <p>While the current price signal does provide short-term incentive for further investment in generation capacity, these signals are also insufficiently stable to provide a clear enough signal for the returns over the long term needed to support the required capital investment associated with generation infrastructure. As such, new pricing signals that reflect the long-term capacity are needed to support long term investment. We view that a re-design of the market is needed to provide these mechanisms, to continue to reward short term curtailment and demand flexibility during extreme demand while allowing for longer term capacity investments for the underlying market and deliver the lowest cost to consumers overall.</p>

Section 4	
2	While an operating reserve will provide some short-term capacity during extreme price events it may not be sufficient to provide the long-term investment signals required, predominantly due to the lack of stability in the market pricing over the longer term. Additionally, where the market is already suffering shortfalls in reserves during peak demands, an operating reserve may not provide any material additional signal on its own. We view that the creation of an operating reserve market would be marginally beneficial to available capacity and curtailment over the short to medium term and is unlikely to cause significant harm to the market.
3	A capacity market would better provide for the incentives needed to support a modern NEM than an expanded RRO. We view that an expanded RRO would continue to inhibit signals for demand management, forcing users or their retailers to take contracted positions that increase the overall cost to consumers. By contrast a well-structured separate capacity market with appropriate liquidity would provide a long-term signal for investment while still providing for demand response to increases in the wholesale price. The limitations on the capacity available in regions and the lack of liquidity in other markets should be factored into any market designs.
4	An Operating reserve mechanism would likely displace the need for some RERT capacity as this is effectively procured through each trading interval. By contrast an expanded RRO would still require a complimentary RERT to cover shortfalls caused by inadequately contracted positions. When such a shortfall occurs, the costs of activating the RERT could be allocated to the causer rather than being borne by the market more generally.
5	As far as possible jurisdictional differences should be reduced.

Section 5	
1	This is covered in Section 6 but the transition away from thermal generation could introduce the loss of system inertia which is currently an externality provided extensively by thermal generators.
2	These risks are no more material than any other transition event in the market.
3	Ensuring these factors are adequately factored in when undertaking the other Market Design Initiatives should manage these risks effectively.
4	No, however the previously identified risks of Thermal Generation Exit should be explicitly considered when developing other mechanisms.

Section 6	
1	We are broadly supportive of providing an operating reserve through spot market provision. This mechanism may reduce the need for procurement of RERT to the same extent and could lower overall cost. It is not evident that during times of high demand (when it is most needed) there will be sufficient capacity available to procure operating reserve.

Section 6	
2	We support the development of additional markets to better manage frequency and support system strength within the NEM. It is essential that these markets are developed in a manner that is independent of the source of the service, allowing demand management and other innovative products the opportunity to compete in these marketplaces.
3	Inertia and System Security services have been undervalued and are increasingly significantly lacking predominantly due to the structural transitions already occurring in the electricity market. The short-term response by AEMO in directing the energy market in South Australia to maintain minimum levels of synchronous generation has already led to distortions of energy market pricing and increased customer costs. The lack of these services is best addressed through the creation of new markets, either via spot or structured procurement. We do not believe that generator access standards are an appropriate mechanism for securing sufficient inertial or system strength to support the NEM due to the inefficient cost of providing these services distributed across generation units. As such, we believe development of inertia markets or structured procurement mechanisms should be a high priority activity for the ESB.
4	We support the continued use of limited technology trials to test innovative products and services, outside of market rules. Where trials demonstrate the efficacy of a product or service change, we would support providing AEMO with some flexibility to expedite adjustments without requiring full regulatory change processes.

Section 7	
1	No Comment on additional options. We support investigation of enhancements to predispatch systems that support voluntary participation for demand side and in particular would support further development of the Option 3 mechanism.
2	We see value in the enhancements that UCS would offer for the management of shortfalls and interventions. However, we strongly support the development of the Option 3 UCS+ ahead markets and see particular value in the co-optimisation of system services and the energy markets along with the creation of an ahead market for energy.
3	Changes in bidding behaviours and a much tighter supply-demand balance where small adjustments in demand or generation drive large price changes are possible causes of differences between the actual and forecast prices.

Section 8	
1	Increasing demand response will lead to more efficient utilisation of existing infrastructure over time, lowering the overall cost of electricity. It also better moves towards a user-pays model that better allocates the cost of providing peak capacity to consumers who are unable or unwilling to respond. However, this must be balanced against externalities in the marketplace such as price security for vulnerable electricity consumers – mechanisms developed to support increasing demand response must include provisions that allow for these services to continue to be provided.
2	Barriers include the complexity and scale needed to participate in demand response, noting that demand response aggregation services will facilitate the lowering of this barrier. For essential public service providers such as water utilities, there is always a need to balance business continuity with the benefits of demand response. The loss of end user control that would occur through participation in the central dispatch process is seen as a significant barrier to entry and SA Water would not support any market modifications that forced large loads to participate in the dispatch process involuntarily.
3	No comment
4	As discussed above, the reliability of electricity supplies that enables the provision of essential services and the ability to protect vulnerable customers who are unable or should be protected from participating in demand side activities are typically externalities that arise from current arrangements (e.g. there are positive public health outcomes associated with elderly and critical customers having access to reliable electricity during hot weather). While these customers could financially benefit from demand management arrangements, protections need to be put in place that preserve these important public services.
5	We support allowing the market to develop more sophisticated approaches as it becomes ready through provisions for trials or proof of concept approaches that may be outside the current scope of rules.
6	No comment

Section 9	
1	With DER's primary benefits flowing to behind the meter consumption, it appears the challenge of balancing unscheduled demand and DER availability at a consumer level is understated.
2	The major barrier to market integration for DER will be communications and control infrastructure. Development of a low-cost system that provide for adequate integration and meet system requirements (e.g. security) requires at least proof of concept before further development of market mechanisms is warranted.

Section 9	
3	Creating effective price signals that drive behaviour will to some extent assist owners to optimise the benefits from their assets. This is counteracted by existing signals from prior investment programs that entrench behaviour that leads to lower value outcomes. Given the 30 year + life of DER assets, consideration should be given to the long-term implications of signals and possible future state of the market where these signals may no longer be fit for purpose. Existing network tariff arrangements and connection processes also disincentivise participation and reforms and should be factored as part of the market review.

Section 10	
1	No comment
2	No comment
3	No comment
4	We support the principle of marginal locational pricing and FTRs, particularly where the revenue raised is directed towards projects that would alleviate congestion. The effective design of the marginal locations and FTR markets is needed to ensure they are precisely located.
5	No comment
6	Locational signalling is currently insufficient to support an effective free-flowing market. We believe ongoing development of mechanisms that allow for the true functioning of the regional markets in the NEM is a critical activity. Improving the signals for investment would help to avoid stranded network assets and would help to shift the burden for these costs away from consumers. We would support further consideration of the linkages between transmission congestion and distribution capacity limits as these appear to be two sides of the same coin of ensuring network asset investment is efficient and produces the lowest overall cost for consumers.