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Essential Services Commission of South Australia
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Dear Commissioners

Inquiry into the licensing arrangements for generators in South Australia – Draft Report April 2017

EnergyAustralia is one of Australia's largest energy companies with over 2.5 million electricity and gas accounts in New South Wales, Victoria, Queensland, South Australia, and the Australian Capital Territory.

We also own and operate a multi-billion dollar energy generation portfolio across Australia, including coal, gas, and wind assets with control of over 4,500MW of generation in the National Electricity Market (NEM). In South Australia alone, our generation assets include Cathedral Rocks Wind Farm (66MW) and Hallett Power Station (220MW) and we are actively progressing other development opportunities in the state. We also provide asset management services for the Waterloo Wind Farm (131MW).

We welcome the opportunity to provide comment on the Commission's proposed amendments to the licensing arrangements for generators in South Australia and recognise the significant work completed by the Commission in conjunction with the Australian Energy Market Operator (AEMO) in review of the technical standards. As it is AEMO's stated intention to submit a rule change with the Australian Energy Market Commission (AEMC) proposing revisions to generator performance standards consistent with its recommendations, this inquiry is important not only for South Australia but also the broader market.

The events of September 2016 highlighted the fragility of the power system as we transition away from one that is centrally managed and dominated by large thermal generation, to a system that is more dynamic and complex and supported by a variety of generation technologies of both utility and household scale – including higher volumes of non-synchronous renewable generation. This transition is rightly forecast to continue as the market seeks to meet future renewable energy targets and we see further reductions in the costs of these technologies.

With this change brings challenges, and we are therefore broadly supportive of the Commission's efforts to amend the technical standards for generators operating in South Australia to better align with the evolving characteristics of generation technologies. We agree that any changes adopted should be technology neutral – avoiding perceived bias towards any one technology type and potential barriers to investment and/or market

entry – and be capable of being delivered in a cost effective manner to minimise any potential impacts to customers. For new developments, many of the proposed standards may be budgeted for and built into the original generator design and may be subsequently assessed as part of the standard connection and registration procedures by ElectraNet and AEMO.

However, while we are generally supportive, we have several concerns regarding the recommended amendments, including their consistency with current arrangements, and importantly their application to existing, new entrant or generation in development. Further, it appears that outcomes from the Commission's inquiry are predetermined with the proposed amendments already adopted (if only in draft form) and applicable to South Australian generation developments. These requirements are detailed in the Draft Generator Development Approval Procedure recently released by the Office of the Technical Regulator. Failing to adopt a rigorous regulatory change process can lead to various issues for investors in South Australia. The inclusion of badly thought out or overly prescriptive requirements may lead to inefficient market responses. Any adverse impacts will eventually be borne by consumers as generators seek to recover the costs associated with meeting their compliance obligations.

Finally, we recognise the Commission's inquiry is proceeding during a period in which the market is already debating various structural and technical changes through market reviews or rule changes – the majority of which remain open. For example, the Finkel Review seeks to provide a blueprint for national reform of the sector with a significant focus on ensuring security and reliability of the system. The outcomes of these reviews and rule changes will impact the future operation of the power system and have implications for market participants in South Australia. Pre-empting the outcomes of such reviews will likely result in a disjointed response to correcting perceived market or system issues and may lead to additional costs in both the short and long term.

We explore these areas and others in further detail below.

Proposed licence conditions

Setting appropriate technical standards across multiple generation technologies is a difficult task. Any conditions placed on a generator before connecting to the network need to be appropriately prescribed with credible ways to measure or track performance and compliance. These conditions need to be complimentary to the broader market conditions including the requirements of network service providers in planning and operating their network.

Where possible, any proposed amendments to generator licensing conditions should align with the requirements of the rules. We consider this would avoid unnecessary regulatory burden for market participants while still achieving the desired outcomes for the market (particularly in light of ongoing reviews and rule changes).

We note for the majority of its recommendations, AEMO has set technical standards and the ways in which these are to be measured and tracked. In certain instances however these recommendations are inconsistent in their description with existing requirements or leave open the risk of future non-compliance by a participant.

Any requirement to meet future standards aimed at maintaining system strength can expose a generator to risks beyond its control. For example, should a network service

provider take out a line resulting in a fundamental change in the system strength, a generator may not be able to meet this standard as it is not sufficiently capable of responding to the change (nor should be expected to respond). While a range of short circuit ratios may be agreed with a network service provider as part of a connection agreement, in our experience, appropriately accounting for this interplay between network and generator operations tends to become ambiguous, making such negotiation difficult.

Further, we note AEMO's recommendation to introduce voltage control obligations for generators in managing multiple contingency events would be an unprecedented step. It is also above and beyond the current requirements of network services providers in planning (and operating) their own network.

Finally, AEMO's recommendation to introduce a limit on the rate of increase and/or decrease of active power output from new generators to 20% of rated capacity per minute could unfairly penalise new entrants and their ability to respond to price events in the market. Existing registered participants are eligible to ramp output (up or down) from their facilities, subject to prevailing constraints on the network, at their maximum ramp rates registered with AEMO. In certain cases, including for various wind farms, these rates are greater than their rated capacity. While we understand the need to prevent frequency excursions due to price response, this proposed restriction level appears to be arbitrarily set and is inconsistent with the conditions placed on existing generators. We request that AEMO conduct further modelling to determine limits that will minimise step changes whilst allowing new entrants to respond to price events in the market.

Application to existing generators

We have serious concerns with any retrospective application of the proposed amendments to licence conditions on existing generators. Generator connection within the NEM has, until now, been predicated on meeting standards set at the time of connection. Changing this principle represents a sovereign risk for those participants who have already committed to investing in the state.

Further it raises additional questions in relation to who would be responsible for recovering these additional costs. For example, the proposed amendments outlined may require changes to individual generator performance standards in accordance with Rule 5.3.9. To do so will lead to additional modelling (R1) and validation (R2) of a generator's Registered Data with ElectraNet and AEMO – both of which can be very costly and time consuming without an exemption.

Should the Commission proceed to retrospectively apply the recommended conditions, we urge the Commission to consult further on the details of the proposed methodology, assessment criteria and approach. Examples of some of the questions the consultation should cover include:

- What conditions are to be applied to existing generators and when?
- What are the potential physical limitations considered?
- How costs and benefits are to be assessed?
- What period of response is given to participants in order to meet amended licence conditions?

In cases where the decision is made to impose additional licence conditions on existing generators, the Commission should ensure that affected participants are given the opportunity to meet new conditions on the most cost-effective basis to reduce the price impacts on consumers. This may be through allowing a suitable transitional period to the new conditions, providing the best opportunity to implement the changes at least cost.

Cost benefits analysis

AEMO, in conducting its review, has sought to ensure its recommendations are consistent with the objective of the Commission in meeting the long term interests of South Australian customers – including minimisation of regulatory costs where possible. However, AEMO has not stated quantitatively what the assessed costs and benefits of its recommendations are. It is therefore difficult to distinguish the full implications to the market of amending the licence conditions.

At a minimum, the proposed recommendations will likely add to new generation costs in the state as developers look to meet more stringent requirements. These costs are in addition to the regulatory burden which already exists from having jurisdictional licence obligations as opposed to a national unified framework. For existing generators, these costs may be higher as developers look to retrospectively apply equipment to their facilities in order to achieve the required standards.

We consider completion of a cost benefit analysis a critical step as part of the Commission's inquiry. Understanding the potential costs relative to the modelled benefits of maintaining system security will allow the Commission to optimise any proposed amendments without unduly burdening participants (and ultimately consumers) with additional costs. A cost benefit analysis is also important should AEMO proceed with its plans to submit a proposed rule change request with the AEMC supporting similar changes to generator performance standards.

Where appropriate, this analysis should account for the potential changes resulting from the ongoing market reviews and rule changes. It is possible these reviews / rule changes will lead to fundamental changes in the operation of the market and therefore in potential costs and benefits associated with AEMO's recommendations. Further, the analysis must recognise the difference in costs for new versus existing generators in meeting these standards and the potential benefits which may be derived.

Reviews and rule changes

The Commission's inquiry into the licensing arrangements for generators in South Australia comes at a time where various aspects of the markets operation are under significant review. AEMO, ElectraNet, AEMC, and the Council of Australian Governments each have open (or recently completed) reviews focused on future system security. In addition to these broader reviews, multiple system security rule change proposals are before the AEMC or have been recently finalised – including the South Australian government's proposal for an Emergency Frequency Control Scheme.

In previous submissions to the AEMC[1] and AEMO[2] we have expressed our concerns surrounding the potential for inconsistent messaging to participants about threats to

[1] Submission to AEMC Consultation Paper: System Security Market Frameworks Review, 20 October 2016
http://www.aemc.gov.au/Markets-Reviews-Advice/System-Security-Market-Frameworks-Review

[2] Submission to AEMO: Future Power System Security, 16 September 2016
https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/FPSSP-Reports-and-Analysis

system security. Clarity is required to minimise confusion and reduce the likelihood of poor decisions being made due to not fully understanding the risks and consequences of system security issues and the available solutions.

As outlined above, the South Australian Office of the Technical Regulator has recently released a Draft Generator Development Approval Procedure that builds on the existing licencing conditions and references the work of the Commission and AEMO as part of this inquiry to which we are currently responding. The release of such procedures, even in draft form, prior to this inquiry (and the AEMC's review) being finalised only adds to the confusion in the market regarding future requirements. It also raises serious concerns regarding the efficacy of the Commission's consultation should the proposed amendments already be adopted and applicable for generation developed in the state.

All open, but not yet approved, project development approvals will have to meet these requirements. The approval procedure also proposes Inertia and Fast Frequency Response (FFR) requirements that new proposed generating plant must achieve – areas which are currently the subject of review as part of the AEMC System Security Market Review.

Conclusion

Given the volume of work underway we are concerned that any proposed amendments pre-empting the recommendations from these reviews or outcomes from rule change proceedings may undermine their findings and/or lead to sub-optimal (short term) outcomes for the market and South Australia moving forward – for example where lower cost alternatives are available including potential requirements on network service providers.

The proposed amendments as drafted are likely to have significant cost implications for both new and existing generation. Inconsistency or potential overlap in the findings or recommendations may result in additional costs which may have otherwise been avoidable.

Finally, we consider it appropriate to allow the market to deliver potential solutions in meeting future system performance requirements as opposed to mandating specific licence conditions or any one particular solution. This is timely as we see new technologies come to market capable of delivering the requisite technical solutions. Establishing additional conditions on new (and existing) generators may inhibit future innovation and lead to otherwise inefficient market outcomes.

EnergyAustralia are keen to continue engaging with the Commission on this issue to ensure the best outcome for South Australian customers. If you would like to discuss this submission please contact me on 03 8628 1393.

Regards

Chris Streets
Industry Regulation Lead