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James Hyatt

Australian Energy Market Commission

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17 June 2021

Dear James,

Efficient management of system strength on the power system

AGL Energy (AGL) welcomes the opportunity to comment on the Australian Energy Market Commission (AEMC) investigation into system strength frameworks in the National Electricity Market (NEM) discussion paper.

AGL is a leading integrated essential service provider, with a proud 184-year history of innovation and a passionate belief in progress – human and technological. We deliver 4.2 million gas, electricity, and telecommunications services to our residential, small and large business, and wholesale customers across Australia. We operate Australia's largest electricity generation portfolio, with an operated generation capacity of 11,208 MW, which accounts for approximately 20% of the total generation capacity within Australia's National Electricity Market.

AGL broadly supports the draft rule determination for the efficient management of system strength in the NEM. We appreciate having had the opportunity of an AGL representative on the System Strength Technical Working Group and thank the AEMC for the flexible collaborative approach they have taken in engaging with this group.

The new system strength standard for TNSPs

AGL agrees with the AEMC determination to evolve the existing 'minimum system strength' framework (where AEMO identifies shortfalls of system strength and TNSPs then work to address these expected shortfalls) into a broad system strength standard. As outlined in our 20 August 2020 submission to the AEMC System services rule changes consultation paper, we consider the blocky local nature of system strength makes it unsuitable for provision through a decentralised market which relies on the forces of demand and supply to determine prices, and we therefore support the proposed centrally co-ordinated model for the provision of system strength.

We agree that AEMO is the most suitable party to determine the location of the system strength nodes, the minimum fault level required, and to forecast likely future network connections. We consider the requirement that the TNSP be required to undertake joint planning exercises with AEMO and other network service providers, when developing solutions to meet the system strength standard to be important as it ensures oversight in a role in which a TNSP might have a conflict of interest, since they will sometimes be able to remedy the system strength shortfall through network investment. We also support the decision to make the proposed solutions to be subject to the RIT-T process for the same reason.

While the procurement will be subject to the RIT-T, we also suggest that the TNSPs be required to conduct a transparent competitive procurement process to obtain tenders from market participants with proposed remediation solutions to address the identified system strength shortfall (in all jurisdictions rather than just in Victoria as the draft determination suggests), so that the different options available for remediation are determined by the market rather than just by the TNSP. Ideally the procurement process would be technologically neutral, and therefore it would define the system strength shortfall without mandating the technology required to remedy it.

We note that system strength when provided by synchronous generators is a by-products of energy production and is therefore compensated jointly with energy in ordinary spot market dispatch (i.e. when directions are not required), and that this should be considered in determining the appropriate compensation for providers of system strength. This will be particularly important when the procurement process is not competitive due to one party having a significant advantage in the ability to provide the service due to the local blocky nature of system strength.

We agree with the AEMC determination that TNSPs should procure all the system strength services that may be required, rather than just the expected shortfall that may occur after accounting for synchronous generators being otherwise dispatched for the provision of energy. Since this will ensure that the procurement of system strength will provide an efficient market signal for plant to enter, exit, or remain in the market, and lead to a reduced reliance on the use of directions for system strength. We note that when directions have been required for system strength generator compensation has often excluded the opportunity cost of fuel and an allocation for scarcity pricing, which has undermined the efficiency of market signals for this service. We also consider that a default position of utilising directions on an enduring basis for managing system strength is a misuse of a power of last resort. Whatever mechanism is finalised through this process should be the primary process for meeting minimum system strength requirements, and TNSPs should not be able to rely on AEMO directing units on, given the distortions outlined above.

The two new generator access standards

The first new generator access standards require asynchronous generating units, inverter based loads, and MNSPs to have plant capability sufficient to meet its performance standards at a short circuit ratio of 3.0 and design capability to remain stable during steady state operation. The second, requires asynchronous generating units to not include any vector shift or similar relay or protective function that acts upon voltage phase angle which might operate for phase angle changes less than 20 degrees at the connection point. While certain inverter based plant may have an issue with a short circuit ratio of 3.0 (in particular the units electrically furthest from the connection point of large highly dispersed wind farms), AGL agrees with the introduction of these standards as it will ensure an adequate base level of performance for all connecting units which will reduce the level of system strength that might otherwise need to be required. We consider these standards are appropriately defined and not too onerous since they have been an Essential Services Commission of South Australia requirement since 2017.

The System Strength Mitigation Requirement

We support the proposed introduction of the System Strength Mitigation Requirement (SSMR) and the retention of the option for connecting generators to remediate their own system strength impact as is currently required under the existing ‘do no harm’ obligation. While the ‘do no harm’

requirement has led to poorly coordinated system strength remediation outcomes with uncertain costs and timeframes, we support its retention as an option since it provides flexibility for connecting generators who are best placed to determine the most efficient approach for their connection. With both options available we would expect that a generator would only choose the option of the SSMR charge if it led to lower costs, and this would therefore mean that overall the new framework should lead to a reduction in average costs required to mitigate system strength. We would expect that at most system strength nodes there would be an oversupply of system strength and therefore the price would be very low.

Typically applying a new charge for new entrants only would risk stalling investment by raising barriers to entry, since the charge is a sunk cost not incurred by incumbents. However, given recent new entrants were required to do no harm and most other generators did no harm by virtue of being synchronous, we do not consider that the new framework will raise barriers to entry. Nevertheless, we suggest the AEMC be mindful of potential impact on barriers to entry and ensure the new framework in no way slows the entry of new asynchronous generators in the NEM.

Implementation

AGL strongly supports the implementation of the new rules as quickly as possible given the inefficiency, costs, and delays which have occurred and the existing system strength framework. Nevertheless, we accept the rationale behind the staged approach to implementation where the TNSPs must first commence planning to meet the standard (commencing in September 2022) prior to new connecting generators being able to pay the system strength mitigation requirement (commencing in March 2023). We do however suggest that the AEMC explore opportunities to bring the decisions on the pricing methodologies forward if possible, so that prospective connecting generators are informed as early as possible as to the cost of the SSMR to ensure that new entrants aren't discouraged by increased costs due to the risk and uncertainty of the SSMR charge. We also suggest the AEMC ensure that the determination of pricing methodologies be as transparent as possible and subject to industry consultation.

If you have any queries about this submission, please contact Anton King on (03) 8633 6102 or aking6@agl.com.au.

Yours sincerely,

Chris Streets

Senior Manager Wholesale Markets Regulation