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Lodged electronically: www.aemc.gov.au

RE: Generator Technical Performance Standards – Draft Rule Determination (ERC0222)

AGL Energy (AGL) appreciates the opportunity to comment on the Australian Energy Market Commission's (AEMC) Generator Technical Performance Standards (GTPS rule) draft rule determination (the Determination) and draft rule.

AGL is one of Australia's largest integrated energy companies and the largest ASX listed owner, operator and developer of renewable generation. Our diverse power generation portfolio includes baseload, peaking and intermittent generation plants, spread across traditional thermal generation, battery storage and renewable sources. AGL is also a significant retailer of energy, providing energy solutions to approximately 3.6 million retail customers throughout the National Electricity Market (NEM), and also provides demand responses services via our orchestration model.

We appreciate the efforts of the AEMC throughout the GTPS rule change process to understand the details of this technical issue and engage impacted stakeholders, noting that GTPS changes have a fundamental impact on the operation of the NEM.

While we acknowledge that the market is undergoing a significant shift, driven by an array of factors including technology advancements, a transforming generation mix, and a realignment of energy and climate policy objectives, we strongly caution against piecemeal policy and regulatory assessment without a strong economic case. Doing so risks increasing the regulatory and commercial pressures felt by market participants and will inevitably result in greater pass-through costs placed on consumers at a time when the industry is under increasing Government and consumer scrutiny.

AGL notes that a number of other high-level processes are currently ongoing¹, all of which interact with the GTPS rule, and have the ability to alter the NEM landscape significantly. We strongly encourage the AEMC to ensure that a coordinated approach is taken to bring together coherent, practical and evidenced-based market changes, which appropriately assign risks to those best placed to manage them, whilst balancing reliability and system security issues with commercial considerations.

¹ Related processes include the AEMC's Frequency Control Frameworks Review, Reliability Frameworks Review and Coordination of Generation and Transmission Review. The COAG Energy Council is also seeking to finalise its National Energy Guarantee policy and AEMO are due to publish their first Integrated System Plan shortly.



Overall, AGL supports aspects of the Draft Determination, but still believes that further assessment is required on certain technical standards, including those related to Continuous Uninterrupted Operation (CUO). We remain of the view that adequate information to evidence the proposed access standard changes has not been provided, and in some instances may contradict existing regulatory directions². Enforcing standards which apply greater stringency on generators than is necessary under existing market conditions will result in unnecessary gold-plating activities. It may also undermine the AEMC's approach to transmission policy by requiring generators to meet standards which go beyond the 'do no harm' principle, thereby potentially misplacing commercial and operational risk and introducing performance issues to neighbouring generation plants.

Where technical standards are to be introduced or revised, we suggest the AEMC closely consider the appropriate balance between generator response speed and plant stability when setting the parameters. The assessment should also consider the interdependences between standards.

Finally, AGL has concerns on the practicality of model validation testing for some of the proposed technical standards such as CUO³, where many of the plant and network characteristics cannot be practically or directly tested & validated under current commissioning testing methodology in the real world. This significantly increases the risk of low level of confidence in Electro-Magnetic Transient (EMT) analysis using unvalidated model parameters, and subsequent implications on the technical assessment and commercial consideration of future new generator projects.

Negotiating Framework

AGL welcomes the proposed increase in framework transparency, clarity in counterparty roles and the emphasis on information requirements. We agree that generators wishing to agree a negotiated standard with their local Network Service Provider (NSP), should also be expected to demonstrate its appropriateness, but only where an identified system security or local quality of supply issue exists. This would require the NSP and/or the Australian Energy Market Operator (AEMO) flagging this risk, with supporting evidence, upfront in the negotiation process.

We believe that requiring generators to provide supporting evidence every time it proposes a negotiated standard would unnecessarily increase project costs, resources and time delays. These impacts would likely affect the commerciality of the project and could contradict the National Electricity Objective by eroding customer value. AGL also encourages the AEMC to clarify the level and type of evidence that would be required to demonstrate a negotiated standard to better balance the negotiating power of counterparties and improving transparency.

The Draft Determination proposes enabling the NSP and/or AEMO to reject a proposed negotiated access standard or seek further evidence from the connecting generator. While AGL accepts this function, we believe its scope should be limited only to evidenced circumstances that, as above, impact on system

² For example, some AEMO procedural documents including the System Security Guidelines.

³ Other examples may include full range testing of Reactive Current Response (S5.2.5.5) and High Voltage Ride Through (S5.2.5.4).



security or local quality of supply issues. We encourage the AEMC to clearly set out how this ability should be implemented by NSPs and/or AEMO, ensuring that it is applied in a consistent manner. Further, we encourage the AEMC to consider how better to balance decision making and dispute management within the negotiation framework. As a suggestion, AGL believes extending the scope of the recently enforced 'Independent Engineer' function⁴ to include verification of NSP/AEMO technical connection-related decisions, would address this concern. We do not believe changes to existing governance mechanisms related to this function would be necessary.

Technical Standards

AGL supports the AEMC's position on system strength and agrees that a specific technical standard is not necessary, noting the recent rule amendments to address this issue. We agree future consideration is best assessed through the Coordination of Generation and Transmission Investment review. AGL also broadly accepts the AEMC's preferred approach with respect to the proposed automatic and minimum access standards for Active Power Control (S5.2.5.14), Reactive Power Capability (S5.2.5.1), Reactive Power Control (S5.2.5.13), Reactive Current Response⁵ (S5.2.5.5) and Partial Load Rejection (S5.2.5.7)⁶.

However, AGL does not support the change in definition of CUO and the broad amendments proposed to disturbance management. These changes set out parameters which in theory are plausible, but in practical operation are both difficult to test, prove and/or maintain across all possible scenarios, and may therefore be economically and technical ill-feasible. For example, the proposed changes to voltage disturbance, including the requirement to ride through up to 15 disturbances over a five minute interval, would place significant strain on generation assets without consideration on whether local network infrastructure and the wider grid are equally capable of withstanding these conditions and cushioning some of the impact. It is impracticable to obligate generators to withstand fault conditions that could result in damage to their equipment (i.e. non-credible contingencies⁷). Generators must retain their ability to disconnect from the grid under specific circumstances to protect their commercial investments. Similarly, the 90-110% continuous operation is ambiguous with respect to status of the grid. It is unclear in the Draft rule if this obligation would apply to steady-state or a Low Voltage Ride-Through response. AGL notes that if sections of the grid, including the local NSPs assets, shut down, steady-state is lost, making it incredibly difficult for an impacted generator to meet the parameters of CUO.

In addition, AGL does not support the proposed changes to Frequency Response modes (S5.2.5.11), including setting a mandatory requirement that generators provide capability to operate and provide frequency response services. This decision pre-empts decisions being considered by the AEMC's

⁴ In force from 1 July 2018 and set out in rule 5.4 and related clauses of the National Electricity Rules.

⁵ AGL note that the reactive absorption requirements under the automatic standard will be difficult to achieve for the majority of generating systems/units. In addition, clarity on the point of capability assessment is necessary. We recommend that the connection point is most appropriate, although some parameters such as the percentage of reactive current injection may need to be revised. Regarding response speed and duration, we note that there is a fine balance between speed and provision of system security, with the former not always guaranteeing the later due to, for example, frequency and/or voltage transient overshoot etc.

⁶ AGL is unclear on the benefits of extending this standard to asynchronous systems, noting that it was originally developed and most applicable to coupled (i.e. synchronous) systems. This may add additional project and operation cost for minimal benefit.

⁷ AGL considers this to contradict the fundamental principles behind the AEMC's transmission policy and Chapter 5 of the NER.



Frequency Control Frameworks Review, unnecessarily increases generator costs, and may override the commercials of some projects where frequency service provision is not economical. AGL remains of the view that the market is best placed to incentivise cost-efficient frequency control services (such as the creation of additional ancillary service markets or NSP-procured voltage support).

Consequential Changes

AGL supports the AEMC's assessment of the additional arrangements necessary to complement a robust connections regime. While we appreciate the proposed flexibilities provided to generators to commence renegotiation of performance standards where standard equipment has been altered/replaced, we seek clarification on whether this is a firm obligation.

AGL encourages the AEMC to explore whether generators would be exposed to unfavourable negotiating situations where their current performance standard sits in between the revised automatic and minimum access standard, and as a result of the rule, a generator's negotiating range is reduced.

Transitional Arrangements

AGL is cognisant of the risks that the AEMC foreshadow with a long transitional period, where a final rule is made. However, we believe that the proposed transitional window of eight weeks from publication of the final rule is too short and does not sufficiently balance regulatory and operational market risks with the commercial risks faced by connecting generators. In our view, retaining a short lead-in period would penalise generators actively engaged in the access standard negotiation process and introduce real commercial risks which could render projects uneconomic.

It is important to note that recent procedural changes introduced by AEMO have already increased the degree of technical modelling and network studies required by generators engaged in the negotiation framework. These processes, in addition to some related commercial processes, are largely outside of the generator's direct control because they rely on the support, progress and resourcing of other third parties (including the NSP, AEMO and independent expert modelling businesses⁸).

AGL therefore strongly encourages the AEMC to review its position on transition as set out in the Draft Determination, to ensure that generators at an advanced stage of negotiation are able to achieve their connection without being unfairly penalised, while also providing suitable time for other generators to reassess the economics of their projects in light of the new framework.

AGL recommends an implementation date of 1 February 2019,⁹ with a two-step process as follows:

⁸ AGL points out that there is a limited pool of experts that can undertake these activities, which could bottleneck negotiations.

⁹ Assuming the final rule is made as proposed on 2 October 2018. If there is a delay to the final rule, AGL propose a minimum notice period of 6 months to industry before the rule takes effect.



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- projects without a majority of agreed access standards (i.e. less than 50% of the GTPS agreed and finalised) are captured by the new negotiation framework and the revised technical access standards would apply; however
 - projects with a majority of agreed standards (i.e. more than 50% of the GTPS agreed¹⁰ and finalised) are granted a limited period of 6 months to finalise their outstanding standards. Generators who fail to obtain a full suite of access standards in good faith, by the end of this limited period may then also be captured by the new negotiation framework, at the discretion of the NSP.

Lastly, where the NSP and/or AEMO have granted conditional approval on a set of access standards, AGL would appreciate clarity on how an 'applicable time period to resolve' is to be decided. Specifically, we welcome further guidance on whether a conditional date is set as part of negotiations between counterparties, or if it is the AEMC's intention to leave this to the discretion of the NSP.

Should you wish to discuss our submission in further detail, please contact Dan Mascarenhas on 03 8633 7874 or at DMascare@agl.com.

Yours Sincerely

Chris Streets

Senior Manager, Wholesale Markets Regulation

¹⁰ AGL note that per Figure 1.1 of the Draft Determination, there are eleven technical access standards. Therefore, more than 50% would denote that at least six access standards have been finalised by the generator, NSP and AEMO.