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Improving security frameworks for the energy transition

AGL Energy (AGL) welcomes the opportunity to respond to the Australian Energy Market Commission (AEMC) *Improving security frameworks for the energy transition* directions paper.

About AGL

Proudly Australian for more than 185 years, AGL supplies around 4.3 million energy and telecommunications customer services. AGL is committed to providing our customers simple, fair and accessible essential services as they decarbonise and electrify the way they live, work and move.

AGL operates Australia's largest private electricity generation portfolio within the National Electricity Market, comprising coal and gas-fired generation, renewable energy sources such as wind, hydro and solar, batteries and other firming technology, and gas production and storage assets. We are building on our history as one of Australia's leading private investors in renewable energy to now lead the business of transition to a lower emissions, affordable and smart energy future in line with the goals of our Climate Transition Action Plan.

Improvements to existing system security frameworks

AGL generally supports the improvements to system security frameworks proposed in this consultation for the reasons discussed in our response to the consultation questions below. Nevertheless, we are very disappointed the AEMC has delayed its consideration of the Australian Energy Council's proposed inertia market until after this consultation and we request the AEMC reverse this decision and proceed with consideration of an inertia market immediately.

Even with the proposed improvements, the current inertia framework will not provide adequate incentives for providers of inertia to remain or enter the market since it only provides for procurement of inertia when a shortfall is predicted, and it does not explicitly value and provide for the procurement of the inertia required during normal operation. In contrast, an inertia market could dynamically procure all the inertia required by the system and respond in operational timeframes to the constant variations in the volume and nature of generation, load, and network capacity. By varying with the supply-demand balance in this way, the investment signal provided by an inertia market would be as accurate as possible, and crucially would be able to provide a scarcity price signal to drive rapid investment in the event of an undersupply.

Introducing an inertia floor for the mainland NEM for interconnected operation

- Do stakeholders support the Commission's proposal to introduce an inertia floor for the mainland NEM?
- Do stakeholders consider that the allocation of proportions of the floor across the NEM would promote balanced and proactive procurement?

AGL supports the proposal to introduce a mainland inertia floor so that AEMO can engage in more distributed inertia procurement rather than just procuring inertia for regions that are at risk of separation from the NEM. We strongly suggest that the mainland inertia floor requirements be fully transparent, and determined by the Reliability Panel, to ensure the appropriate investment signals exist.

Alignment of the inertia and system strength procurement timeframes

- Do stakeholders support the Commission's proposal to require AEMO to project inertia needs for all sub-networks every 10 years?
- Do stakeholders support requiring TNSPs to ensure that sufficient inertia is continuously available, based on the three-year compliance period?

We support the AEMC's proposal to align the inertia and system strength procurement timeframes (ten-year projections and three-year compliance period) from December 2024 with first procurement to meet the inertia floor from December 2027, provided the proposal in no way delays the implementation of an inertia market.

Widening the eligibility of units capable of providing inertia

- Do stakeholders agree with the Commission's proposal for TNSPs to be able to procure synthetic inertia to meet the minimum threshold level?
- Do stakeholders agree with the requirement for AEMO to consult on and publish a specification of synchronous and synthetic inertia?

Yes. We support the proposal to allow TNSPs to procure synthetic inertia to meet the minimum threshold as it will increase incentives for investment in the capability to provide inertia from inverter-based resources.

Removing the exclusion on inertia and system strength in the NSCAS framework

- Do stakeholders agree with the Commission's proposed approach to remove the current exclusion on inertia and system strength in the NSCAS framework?

We strongly support removing the exclusion on inertia and system strength in the NSCAS framework as this will decrease the overreliance on directions for the provision of these services.

RIT-T exemption (see section 3.6)

- Do stakeholders think a RIT-T exemption should apply to inertia and system strength services where a shortfall arises within 18 months?

We agree a RIT-T exemption is appropriate in these circumstances given the short timeframe (i.e. less than 18 months after a NSCAS gap is declared), provided the assessment of capital expenditure is still transparent, subject to AER review, and allows appropriate consideration of non-network options.

Commencement arrangements (see section 3.7)

- Do stakeholders agree with the proposed commencement arrangements?
- Are there extra factors that the Commission should consider in transitioning to the new inertia arrangements?

We support the proposed commencement arrangements (first NSCAS procurement of inertia December 2027), provided it does not lead to any delays in the implementation of an inertia market.

A new NMAS framework for transitional services

Need for, and design of, the transitional services framework

- Do stakeholders agree on the need for a transitional services framework?
- What are stakeholders' thoughts on the design of the transitional services framework?

We support the proposed implementation of a new Non-Market Ancillary Service transitional services framework with maximum three-year contracts as this will reduce the overreliance on directions.

While we accept that this will involve the procurement of unit configurations, we suggest that the introduction of this framework should also be accompanied with obligations (including specific milestones) on AEMO to move away from defining and meeting system service obligations through the use of unit configurations. Full transparency and delineation of the specific system services required is crucial to ensure that the appropriate

investments signals for providers to remain, enter, or exit the market are available. For the same reasons, and the reasons discussed above, we consider it crucial that this new framework does not in any way delay the implementation of an inertia market.

To facilitate AEMO's move away from relying on unit configurations, and to provide greater investment signals, we suggest that the proposed transparency requirements should be strengthened. While the AEMC intend that AEMO must indicate what system service they're primarily contracting for, we suggest that each specific system service the unit configuration is expected to assist with, in what periods, in what quantities, and for which areas should be provided. We also suggest that AEMO should be required to specify what other types of plant would be capable of meeting the need.

We also suggest the AEMC ensure that providers of transitional services receive fair value for their provision, including an allocation for scarcity, to ensure that the appropriate investment signals are provided.

Review and expiry arrangements of the framework
- Do stakeholders agree that a sunset clause is required?
- Is a 10-year expiry an appropriate timeframe?

We agree that a sunset clause is required and suggest six years (twice the maximum three-year contract) or less is an appropriate timeframe. We are concerned that a longer timeframe may delay AEMO's move away from relying on unit configurations and may also delay the implementation of new markets for system services, including inertia.

We suggest the rules should commence as soon as possible to reduce the current overreliance on directions.

Enablement of planning timeframe security contracts

Placing enablement responsibility on AEMO
- Do stakeholders support the Commission's proposal to place the responsibility of enabling inertia and system strength contracts on AEMO, with an ability to enable NSCAS and transitional services if it is beneficial?
- Are there any issues with split contracting and enablement responsibilities between TNSPs and AEMO that have not been outlined in section 5.3.3?

We consider the proposal to make AEMO responsible from 2 December 2025 for all enablement (i.e. decisions in operational timeframes about which participants would be online to meet security requirements, when, and for how long) less than 12 hours ahead, when spot outcomes are expected to lead to a system security gap, to be sensible. We agree it will be more efficient than the current situation where enablement is split between AEMO, TNSPs, and generators, especially since AEMO has better visibility over system security needs, including as required to support the dispatch of inverter-based resources.

Enablement levels to support system security (see section 5.4.2)
- Do stakeholders support that the Commission's proposed levels for enablement, including the enablement of system strength contracts to levels above the minimum requirement only if it would result in an overall increase in dispatched IBR?

Yes. We agree with the AEMC's suggestion that system strength should be enabled to host the level of inverter-based resources online unless this would result in dispatch outcomes that would not be practical or that would significantly compromise efficiency.

Enablement principles (see section 5.4.3)
- Do stakeholders consider the proposed enablement principles to be appropriate and adequate?

The proposed enablement principles seem appropriate at this stage but may require adjustment as these proposed rules are finalised or replaced.

Reporting requirements for enabling system security contracts (see section 5.4.5)

- Do stakeholders support the Commission's proposal for AEMO to:
  - publish an enablement guideline
  - provide daily information about the type, frequency and cost of enabled contracts
  - publish an annual enablement report?

We suggest the proposed reporting requirements should be strengthened to provide greater transparency and to drive AEMO's move away from their reliance on unit configurations.

Improvements to directions framework

Amending the basis of directions compensation to a benchmark-based framework

- Do stakeholders support the Commission's proposal to adopt the market suspension compensation framework and apply it to directions compensation?

The proposed framework is predicated on a key assumption that directions will return to being an extremely rare and infrequent event. However, whilst the proposed introduction of the NMAS framework will likely reduce the number of directions, given the significant uncertainty about the challenges we face through the energy transition to mainly variable energy resources, it is not certain that directions will return to this limited frequency.

With this in mind, we do not consider the proposed benchmark-based framework will lead to fair compensation.

The description of the framework errs in suggesting that compensation is based on the short-run marginal cost (SRMC) of each generator, but also explicitly excludes opportunity costs. The SRMC of generation is not static and must always include opportunity costs otherwise it is just a calculation of direct costs rather than the SRMC. If generation now precludes generation later at a higher price, then that opportunity cost must be compensated. Ignoring opportunity costs would lead to generators generating whenever they're able to without regard to likely future periods of high demand which would lead to undersupply in those high demand periods. And if generators were unable to adjust their SRMC because their fuel became more valuable on the open market then they would be incentivised to just sell their fuel rather than just reflecting this change in their SRMCs and their bids. Opportunity costs are an intrinsic component of SRMC and cannot be excluded if the compensation mechanism is to reflect the market reality. This applies to the opportunity cost of using scarce fuel which could be saved for higher priced periods (whether it be coal, gas, electric charge, or water) or any other circumstance where the choice to operate leads to forgone opportunity. The AEMC justify the exclusion of opportunity costs from directions compensation on the basis that 'participants should not view directions as a means to earn profitable revenue', but compensation towards costs (whether direct or opportunity) is not profit.

The proposed benchmark-based framework, like the current direction's framework, is also inadequate as it has no allocation for scarcity. If an undersupply of a particular generation type exists (as typically occurs when directions are required) then the price should rise above the SRMC (i.e. above direct costs plus opportunity costs) to reflect the supply demand balance. A scarcity price signal is necessary as an investor will only be driven to invest and address the undersupply if they expect returns above the SRMC, otherwise they will have no expectation of profits and would be better off not to invest. A payment to reflect scarcity would provide participants with the profitable revenue that the AEMC considers is inappropriate for a direction's framework, however this ignores the fact that it is precisely when an undersupply exists that the market requires the signal that profits are available to drive investment.

For the above reasons, we therefore suggest if any changes are made to the existing compensation framework, they should be targeted at ensuring both opportunity cost and scarcity price signals are explicitly included to ensure that compensation is equitable and that signals for investment exist.

Frequency and methodology of benchmark value calculation

- Do stakeholders agree with the proposal to include annual updates to the schedule of benchmark values for the proposed new directions compensation framework, noting this would also apply to the market suspension framework?

Since a generator's SRMC is not static we suggest the benchmark value should not be adopted, but if it is adopted, we suggest the benchmark value should be updated as frequently as possible and be paired with the appropriate consideration of opportunity costs and a scarcity price signal.

Directions compensation for energy storage systems

- Do stakeholders consider that an estimate of the value of storage should form part of the automatic compensation payable to directed hydro plants and batteries?
- If so, should a proxy value, such as a relevant gas benchmark value based on the capacity factor of the storage system, be used? Should an alternative approach to estimating the value of storage be adopted for batteries?

We do not support the benchmark value calculation for the reasons stated above and suggest these complications regarding storage make it even less viable. We also note that the opportunity cost of generation for non-storage assets can also often incur relatively high opportunity costs compared with their direct costs. For example, following the exit of the Hazelwood generator in Victoria the opportunity cost of burning black coal led to significant increases in the SRMC of generation for black coal-fired generators as they needed to ensure they had enough coal to meet demand in the following summer.

Improving market notices and directions reporting

- Do stakeholders support the Commission's proposal to require AEMO to publish market notices when issuing directions that indicate information about the direction and why it is needed?
- Do stakeholders support the Commission's proposal to replace the existing directions reporting requirements with a quarterly reporting requirement? Is the information that would be included in quarterly direction reports useful (or not) to stakeholders?

We support the AEMC's proposal to require AEMO to publish a market notice when issuing a direction which includes the identity of the directed participant, an outline of what the direction entailed (including the number of megawatts and details of future dispatch targets), a statement of the system security service need, and a description of the circumstances necessitating the direction. We expect this increased transparency will lead to clearer investment signals.

We also support the move from a requirement of a report for each direction event to quarterly directions reports that cover all the directions in that quarter and support the inclusion of information regarding directions forecasts and trends and a breakdown of the amount of compensation payable.

Energy spot market pricing during intervention events

In addition to the changes proposed to security frameworks under this rule change, and the urgent need to continue consideration of the implementation of an inertia market discussed above, AGL considers it crucial that amendments are also made to the framework for when intervention pricing is applied in relation to AEMO intervention events and we consider that this should occur as part of this rule change.

Currently, and under the proposed new framework, when AEMO intervenes in the market to ensure a system service of the type contemplated in this rule change is online intervention pricing does not apply (intervention pricing only applies where the direction is related to a market in which a spot price is determined, i.e. Energy and FCAS). This intervention leads to pricing which is not consistent with the actual supply demand balance. Instead, the intervention leads to units for system services dispatched at the market floor and this capacity displaces the highest bid capacity, leading to a reduction in the market price. This displacement occurs in the energy market where participants bid to supply energy and therefore any change in bids due to the supply of system services which are not explicitly valued in this market should not lead to a change in the

market price as the provision of energy in providing these services is often only a byproduct of the physical operation of the plant. The artificial reduction of the energy spot price in these circumstances leads to compensation which is below the efficient level and inadequate investment signals in all price periods when AEMO intervenes in the market for system services. This increases the risk of inadequate future supply generally and specifically increases the risk of inadequate future supply of the types of generation dispatched in price periods when AEMO intervenes, including the units dispatched to provide the system services.

While we are aware that the AEMC considered these issues in the 2019 Application of compensation in relation to AEMO interventions and Application of the Regional Reference Node Test to the Reliability and Emergency Reserve Trader rule changes (and our submissions to these rule changes provide further background) the result of those rule changes has led to prices below the efficient market price without compensation to the detriment of investment signals and we suggest that these issues must be reconsidered to ensure the new security frameworks meet their objective of providing appropriate investment signals.

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

Yours sincerely,

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