17 November 2022

Clare Stark
Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000

Dear Ms Stark,

**RE: Operational Security Mechanism**

Shell Energy Australia Pty Ltd (Shell Energy) welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC) Operational Security Mechanism (OSM) rule change draft determination.

## About Shell Energy in Australia

Shell Energy is Shell's renewables and energy solutions business in Australia, helping its customers to decarbonise and reduce their environmental footprint.

Shell Energy delivers business energy solutions and innovation across a portfolio of electricity, gas, environmental products and energy productivity for commercial and industrial customers, while our residential energy retailing business Powershop, acquired in 2022, serves more than 185,000 households and small business customers in Australia.

As the second largest electricity provider to commercial and industrial businesses in Australia[1], Shell Energy offers integrated solutions and market-leading[2] customer satisfaction, built on industry expertise and personalised relationships. The company's generation assets include 662 megawatts of gas-fired peaking power stations in Western Australia and Queensland, supporting the transition to renewables, and the 120 megawatt Gangarri solar energy development in Queensland.

Shell Energy Australia Pty Ltd and its subsidiaries trade as Shell Energy, while Powershop Australia Pty Ltd trades as Powershop. Further information about Shell Energy and our operations can be found on our website here.

## General comments

Shell Energy recognises the aims of the Operation Security Mechanism (OSM) to deliver the essential system services (ESS) necessary to maintain a reliable and secure energy system in a more efficient manner than the current ad hoc directions process. We acknowledge the current process provides little certainty to participants or AEMO that the ESS required for secure operation of the power system will be in-service and efficiently valued at the time it is required. Any proposed framework should ensure improvements in these areas. We also welcome the AEMC's longer term aim to individually identify and unbundle these ESS from electricity generation. As the National Electricity Market (NEM) transitions away from a grid underpinned by smaller numbers of large,

[1]By load, based on Shell Energy analysis of publicly available data.
[2] Utility Market Intelligence (UMI) survey of large commercial and industrial electricity customers of major electricity retailers, including ERM Power (now known as Shell Energy) by independent research company NTF Group in 2011-2021.



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synchronous generators, to one with a more diverse set of technologies including inverter-based resources incorporating variable output there is a need to value these kinds of system services that were typically delivered as a by-product of synchronous generation operation. Individually identifying and placing appropriate values on these critical ESS is crucial to provide a signal for both the provision of these services in the short term as well as the long-term investments in technologies that can deliver them into the future.

The OSM model set out in the AEMC's draft determination sets out to establish a market for ESS where possible, and efficiently unbundle ESS from energy generation. Shell Energy supports such an outcome, however, we have identified several flaws in the proposed design that we consider will make it unlikely that the OSM will lead to investment in new sources of ESS and may in fact deter generators from participating in the OSM and potentially system strength contracting by network service providers. Less competition for ESS is likely to deliver poorer results for consumers, who ultimately will be paying for these services.

Several changes are needed to the proposed design to encourage generators to participate in the OSM and reduce the need for AEMO to issue Directions.

For instance, the AEMC suggests that in the event of a region requiring a combination of three synchronous units online to maintain an ESS, in this case system strength, AEMO may require a third unit to be dispatched to come online through the OSM. Under the proposed framework, only the unit that is 'dispatched' through the OSM would then be paid for the OSM service it delivers. The remaining two units would receive no payment even though they also provide the required ESS. Yet, as three units are required to be online, there is a case that all three units should be paid for the system strength they provide under the OSM.

Under the AEMC's proposal there is a risk that once the third unit comes online, the regional reference prices may then fall to the point where one, or both, of the other two units required for the provision of system strength is not dispatched in the energy market. AEMO would then have to issue a Direction to the generator(s) that would otherwise go offline to keep it generating. Given that one of the aims of the OSM is to reduce the reliance on Directions, such an outcome appears counterproductive. In Shell Energy's view, all participants needed to deliver the system configuration required to deliver the required ESS should be paid a common clearing (marginal) price for that service rather than only the 'last' generator required. This would mirror the common clearing (marginal) price for provision of energy and frequency control ancillary services (FCAS) which would allow participants to efficiently co-optimise between provision on energy, FCAS and ESS at least cost to consumers.

Further, the dispatch of additional generation into the market from the OSM would also depress the spot and potentially FCAS market prices, as an equal volume of marginal price dispatched generation would need to come offline to match the volume of the generator being brought online (subject to changes in demand) to achieve the OSM dispatch requirements. Changing the spot price may deliver lower spot prices in the relevant trading intervals but this would have flow on impacts as other generators adjust their behaviour accordingly. There is an added risk that this affects the volume of hedging contracts that all generators make available due to the added uncertainty of dispatch volumes and prices as a result of the OSM. We note that lower spot prices may not necessarily feed through as lower retail prices for consumers given that contract market prices play an important part in retail pricing. The NEM is in a period of transition to low or no emissions technology and contract prices will need to reflect the long run costs of achieving this outcome, not merely the short run marginal costs of output. We consider more thorough analysis in this area is warranted.

In addition, the AEMC indicates that generators signalled as being required for OSM dispatch in the pre-dispatch period must adjust their bids in the energy market to ensure they are dispatched. The AEMC proposes that participants would be required to reflect their expected OSM enablement in pre-dispatch by bidding the quantity of energy required by the OSM into the energy market at negative prices. However, the AEMC's proposed design provides no guarantee to a generator that they will be dispatched until a yet to be determined time period beforehand. This creates a challenge for some generators (e.g. combined cycle gas turbines) who

may need to procure fuel and fuel transport arrangements to ensure they can deliver the service in advance but with no certainty that they will be dispatched. This same uncertainty of dispatch would apply to generating units with longer lead times to achieve start-up requirements.

We consider that a scenario where generators must rebid in the energy market on the assumption, but not guarantee, that they will be dispatched into the OSM, and incur costs in doing so creates a series of unmanageable risks. Generators may factor in the risk of not being dispatched but having to incur costs just in case, in future energy market and OSM bids. It could also lead to some potential suppliers of ESS choosing not to participate in the OSM or the network service providers' system strength contracting process, resulting in the continued use of Directions or lower competition in the OSM and for system strength contracts. The proposed framework also supplies no certainty to AEMO that ESS providers will maintain offers for OSM dispatch until the point in time that AEMO issues the dispatch instruction. We believe that all of these outcomes would result in poorer outcomes for consumers.

Instead, we recommend that potential suppliers of ESS be allowed to nominate a minimum notification period (e.g. 2 hours, 6 hours, 24 hours, etc.) alongside their bids for OSM market dispatch. AEMO would then need to assess the likelihood of an ESS being required at different timescales and compare the costs of each. This is similar to the current process for the Reserve and Emergency Reserve Trader (RERT) where AEMO may incur pre-activation costs for plant to prepare to be available if required. This would ensure certainty of dispatch of ESS for AEMO based on AEMO's assessment that dispatch of the ESS is required. At the very least, participants who AEMO have advised (pre-activated) may be dispatched in the OSM market should be able to recover any costs incurred in preparing to supply ESS, even if they are subsequently not dispatched in the final run.

We consider our recommended approach would allow AEMO the flexibility to balance the costs of delivering ESS at different timeframes in the pre-dispatch period and provide a higher level of certainty to AEMO that the required ESS will be there when required, while also protecting potential suppliers from incurring unnecessary and avoidable costs.

Discussion in the draft determination appears to reflect some of these concepts, with the AEMC stating that the "OSM's cut-off time would be the point at which a participant's OSM enablement for a specific block would bind" and that consideration needs to be given to providing participants with sufficient notice to ensure they are able to meet their OSM enablement.[3]

Requiring generators participating in the OSM to rebid in the pre-dispatch period of the energy spot market will also distort energy spot market outcomes as there will be additional volumes of energy bid in at negative price bands, likely the market floor price, in order to guarantee dispatch in the OSM market but with no guarantee that actual physical dispatch will actually occur at Dispatch. Such an outcome will result in ineffective and inefficient signals for spot market dispatch and could at times lead to significant fluctuations in spot price outcomes, in particular where an ultimately undispatched OSM market generator decommits close to Dispatch. This will have an impact on both future investments, as well as wider bidding strategies across the market. It is also unclear how this may then interact with any reforms associated with transmission access reform, which is designed to avoid generators bidding in at the price floor. Shell Energy would like to understand whether the AEMC has engaged with the Energy Security Board on how the OSM would interact with either the Congestion Relief Market (CRM) or Congestion Management Model (CMM).

We recommend that the proposed framework be amended to allow generators participating in the OSM market to reflect their cost of energy dispatch at the price at which they would be prepared to dispatch in the energy market. AEMO would then schedule and dispatch OSM providers at least cost, based on AEMO's

[3] AEMC, Operational security mechanism, Draft rule determination, 21 September 2022, p 66.

assessment of ESS requirements. To achieve such an outcome, we recommend a modification to subclause 3.8.6(e) of the National Electricity Rules as follows:

> A *Scheduled Generator's off-loading prices* ~~must~~ may be less than $0/MWh, that is, negative in sign and may not be less than the product of the *market floor price* multiplied by the relevant *intra-regional loss factor* at the *Scheduled Generator's* transmission network connection point for the *scheduled generating unit.*

Shell Energy opposes the AEMC's position that a generator may be required to pay back money to AEMO if energy prices at the time of OSM dispatch are higher than their OSM enablement bid. We consider that the most efficient outcome is where an OSM bid represents a floor and not a ceiling of funds that a generator requires to continue to operate during a Trading Interval to provide ESS. A generator would not earn any extra revenue if they were dispatched for OSM when the energy prices during the Trading Intervals for which an OSM dispatch instruction has been issued is higher than the OSM enablement amount. The proposed framework results in a generator being paid the net price between the RRP and the OSM bid price. As such, it would not create any additional costs for consumers than that which would have been incurred if the generating unit had been dispatched in the energy market in accordance with its preferred energy bid.

Our concern is that requiring generators to pay back money to AEMO under some situations because they were enabled for OSM services would distort outcomes in the spot market. Generators may also be reluctant to offer contracts into the wholesale financial market if they could not guarantee that they would receive sufficient revenue from the energy spot market to cover their contract for difference payment costs. Alternatively, generators may choose not to participate in OSM markets, thereby lessening competition for the provision of ESS. This could create a continued reliance on the use of Directions by AEMO, or higher costs to consumers from the OSM. Either situation would represent a poor outcome.

Proposed sub-clause 3.7G.3(f) indicates that AEMO may not enable a security service for the sole purpose of achieving and maintaining a reliable operating state. The sub-clause however does not prevent AEMO from including in the bundled unit configuration services that would normally be provided for in either the energy or FCAS markets. This could include headroom on units in the energy market to facilitate additional energy market dispatch capability or generating units to provide additional ramp rate capabilities. We consider that these services are most efficiently dispatched in the energy or FCAS markets. As such, to prevent distortion of the markets by opaque unit bundling requirements and OSM dispatch we propose the following additional sub-clause be included

> (g) *AEMO* must not enable a *security service* where the provision of that service is an alternative to or a substitute for a service that would otherwise be dispatched in the *spot market* or a *market ancillary service*

In addition to this, any report issued by AEMO associated with OSM dispatch should clearly detail what services or type of services were considered and included for in the assessment criteria and creation of all approved bundled unit configurations.

Shell Energy notes that the proposed framework allows for dispatch of OSM by AEMO if this derives a market benefit. We are concerned that in dispatching ESS via the OSM for market benefits, the dispatch of additional volume into the energy or FCAS markets due to the OSM dispatch could be calculated by AEMO as a market benefit. We consider this to be a distortion of the efficient dispatch of the energy and/or FCAS markets. We recommend that the final rules associated with the proposed framework make it clear that any impact on energy market or FCAS price outcomes due to the additional volume dispatched by the OSM facility be excluded from the market benefits calculation.

Shell Energy recommends that the AEMC consider greater flexibility in Clauses 3.7G.9 and 3.7G.10 to allow AEMO enhanced flexibility in the dispatch of ESS following any contingency or other unplanned power system

event. We are concerned that AEMO could following a contingency event resort to use of a direction(s) as opposed to dispatch of generating units that may remain available to quickly dispatch ESS. This could take the form of providing the ability for AEMO to issue a reserve or contingency unit dispatch instruction as part of the OSM dispatch process whereby a short notice (15 to 30 minutes) service provider could be issued an OSM dispatch instruction for ESS partway through an OSM dispatch block in the event that changed system conditions required this. It would also remove the need for AEMO to routinely dispatch the OSM on an N-1 contingency basis to cover a contingency event, reducing overall costs to consumers.

All told, the challenge in the proposed design is that we consider it is unlikely to drive participation for the provision of ESS in the short-term or investment in the medium- and long-term in the kinds of technologies that may provide these kinds of ESS. The OSM as described does not appear to create a stable or predictable market for providing services. It also does not provide the level of certainty for both participants and AEMO for the provision of ESS that were key criteria for this rule change process. As proposed, the OSM may provide some reward for fast-start technologies that can provide system services within a shorter notice period, but not a strong enough signal to facilitate participation by generators that require a longer notice period or to actually drive investments for provision of ESS in the future.

Finally, as it is unclear in the draft determinations, but was raised during the AEMC's consultation sessions, Shell Energy recommends that the OSM trading day align with the existing spot market trading day. That is, it should begin and ends at 4am Australian Eastern Standard Time. Alignment on start times is a logical approach given the aim for alignment between different markets where possible.

For more detail on this submission, please contact Ben Pryor, Regulatory Affairs Policy Adviser (0437 305 547 or ben.pryor@shellenergy.com.au).

Yours sincerely

[signed]

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