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Dear Commissioners

Operational Security Mechanism (ERC0290): Draft rule determination

We welcome the opportunity to comment on the Australian Energy Market Commission's (AEMC's) Draft Determination on the Operational Security Mechanism for the National Electricity Market (NEM).

EnergyAustralia (EA) is appreciative of the AEMC's efforts to investigate the future procurement, scheduling, and dispatch arrangements for Essential System Services (ESS). Ensuring these arrangements are fit for purpose, reflect locational signals and can be adjusted as the power system evolves will be vital enabler of a rapid and robust energy market transition.

About Us

EA is one of Australia's largest energy companies with around 2.4 million electricity and gas accounts in NSW, Victoria, Queensland, South Australia, and the Australian Capital Territory. EA owns, contracts, and operates a diversified energy generation portfolio spanning coal, gas, battery storage, demand response, solar, and wind assets. Combined, these assets comprise over 4.5GW of generation capacity.

Key Points

1. EA is concerned that the OSM, in the vague form that is proposed to be implemented, will become an unnecessary side step towards centralised operation of ESS, stalling or preventing the unbundling and development of integrated and fully co-optimised and competitive markets for these services. This must be avoided given the theoretical and practical deficiencies of centralised approaches and their incompatibility with the current NEM design.
    - We strongly support the ESB's long-term vision of unbundling and valuing ESS as quickly as possible. As such, EA considers that the proposed OSM framework is a considerable departure from this long-term vision and implementation of the proposed framework will erode significant market and customer benefits from the NEM.
    - In our view, the Draft Determination lacks the rigour of a comparator analysis to demonstrate why an OSM is better than other options given the proposed scope of the rule change request. We also believe that the Draft Rule seeks to deliver AEMO with operational certainty and more discretion than is

necessary, without setting up a clear pathway to defining and valuing system services. Minimal technical detail to support the ongoing development of specific ESS frameworks has been provided through this process. AEMO has set up its technical development vehicle through its Engineering Framework and this body of work must become much more central to the OSM's design and thinking.

- While EA acknowledges the complex and difficult task faced by the AEMC to develop a mechanism (or a range of mechanisms) to appropriately value and price ESS, development of an OSM framework should not be rushed, nor should it be implemented without a clear understanding (or a process to develop this understanding) of the ESS to be captured and their technical parameters (standards ands and operational metrics).

2. EA is strongly of the view that essential services that are ready to be incorporated into the spot market in real time (e.g. inertia) should not be procured through the OSM. In comparison to a market arrangement, the OSM is an inferior approach will be become increasingly inferior with every deviation taken from the design of the current spot markets – such as rebidding and gate closure time frames. Instead, rule change requests which have done much of the heaving lifting on technical and operational design of ESS spot markets, such as the Efficient provision of Inertia Rule change should be progressed for consideration.

3. However, subject to a cost-benefit analysis, EA acknowledges that the OSM could serve as a vehicle to operationalise system strength and other existing long-term network contractual arrangements.
    - As such, there is merit in refocusing efforts to implement and operationalise a purpose designed tool to coordinate the outputs of the system strength
    - Where this refocusing occurs, EA encourages the AEMC and AEMO to commit to developing and prototyping the mechanism to demonstrate value.

4. Should the AEMC intend to progress the Draft Rule as proposed without a change in course, EA considers that the OSM must be designed as a platform that can procure individual system security services, not dissimilar to and co-optimised with the energy and FCAS spot markets that all participants are familiar with.
    - If the OSM is not capable of doing that at the start, it must have sufficient capabilities built into it so it can transition to do so quickly. Once implemented, the OSM must then become the "driver of change" and an enabler of a rapid and robust energy market transition. To achieve this, we recommend that key OSM design features (such as the gate closure and OSM enablement block size) become reviewable OSM market settings that can be adjusted over time as part of an ongoing enhancements process.
    - The role of the OSM as a 'transitional platform' must be clearly reflected in the Rules and supported by robust and independent decision making and processes. This will ensure that the OSM design will, over time, progress towards the long-term vision.

5. Irrespective of the AEMC's decision, stronger governance frameworks are needed to underpin critical decision-making with respect to the status of individual ESS, within the OSM or as stand alone market services. To drive this governance forward, we recommend that the role of the Reliability Panel be extended to become a Reliability and System Security Panel (RSSP). The Panel would continue to comprise of AEMO and industry experts and refer to other governance forums

such as the NEMOC and its working groups, however specific to the OSM, the RSSP would be tasked to review and provide recommendations to the AEMC on:

a. the development of a biennial 'ESS unbundling review' which would include a timeline on when markets for each service should be developed, and where necessary, how the service could be best utilised in the OSM over an interim period;
b. AEMO's progress in establishing the technical parameters of ESS utilised in the OSM (including through their Engineering Framework); and
c. the operation of the OSM and improvements that can be made, both in the operational and the investment timeframe to balance economic, administrative and technical considerations.

Further discussion on these key themes is set out below in Attachment A.

We encourage the AEMC to take the necessary time to further investigate how requirements for the continuous improvements to the OSM and progressing it towards the long-term vision can be incorporated into the Rules. EA is ready and able to assist the AEMC in its endeavour of establishing a platform for unbundled essential system services in the spot market.

EA also welcomes the opportunity to discuss our submission further with you. Should you have any questions, please get in touch at dan.mascarenhas@energyaustralia.com.au.

Kind Regards

Dan Mascarenhas

Regulatory Affairs Lead

Attachment A

1. Overarching comments on the OSM design and the process to date

There is little debate among policy maker and industry stakeholders that a mechanism (or mechanisms) to appropriately value, schedule and coordinate the delivery of individual ESS is needed in the NEM to aid the energy transition. EA strongly agrees with the intent to establish such frameworks in the NEM.

Core to such mechanism/s includes providing valuable information to the market about the technical and operational needs of the power system and establishing clear real-time and forward signals to drive investment in ESS capability.

While we welcome the AEMC's preferred stance to try and drive the development of markets for ESS, EA is concerned that the proposed OSM fails to achieve these critical objectives and thus implementing the 'centralised' OSM solution will unlikely properly value ESS and therefore appears destined to become a costly mistake and a lost opportunity for the market and consumers. Moreover, establishing the OSM as proposed, will result in AEMO (rather than the market) deciding on important operational decisions and this will create a false sense of "policy achievement" which will not support the energy transition. Due to the opaque nature of the OSM, the lack of independent oversight and the inability for stakeholders to influence the proposed Security Services list, there are concerns that the inefficiencies of the OSM will be difficult to prove or overcome for a long time.

In some ways, the OSM, as described in the Draft Determination and Draft Rule, is akin to a centralised 'black box'. It enables AEMO to 'do what is necessary to achieve what it wants'. Crucial design principles that have contributed to the success of the NEM to date include providing the market with clear market signals ahead of dispatch and scarcity prices as a result of dispatch. Both important design principles appear absent in the proposed OSM design. Instead, signals are opaque and follow (rather than guide) the market outcomes. It is unclear exactly what the OSM is procuring – key questions therefore remain unaddressed such as:

- how the need for 'the service' was established?
- what was the level of competition in providing 'the service'?
- how the decision was made to procure 'the service'?
- what alternatives have been considered when making the decision to procure 'the service'? and
- what would the alternatives to the procurement of 'the service' costed?

In addition, we consider that the objectives of the OSM must be clearly defined and be converted into a clear mathematical objective function, similar to the NEMDE's objective function. For example, the OSM objective function may be to "Minimise system cost subject to satisfying system constraints". How this is then reconciled and co-optimised with the energy dispatch requires should drive consideration.

In the absence of this information being provided to market participants in a clear and succinct way using leading indicators (informed through AEMO's Engineering Framework), there is a risk that the OSM will become an expensive way to operationalise AEMO's current approach to managing system security without any clear advantage in terms of efficiency or investment signals.

Prior to settling on a design of a mechanism to procure system services, EA strongly encourages the AEMC to canvass a range of options which deliver on the intent of an OSM and undertake proper analysis to facilitate the decision-making on the final design

elements of the mechanism. We note that the process up to and including the Draft Determination has not included any analysis, modelling or even adequate detail as to how the proposed OSM compares to other options and thus why it is deemed the most efficient solution.

Additionally, outside of system strength, AEMO has failed to clearly articulate its problem definition and the services it considers should be captured by the mechanism. Whilst arguments have been made that the OSM is more efficient than continuing with ongoing Directions to resolve system strength shortfalls, no current analysis has been presented to support the OSM as more efficient than alternative options (or necessary noting recent downward trends in South Australia for system strength Directions), including with relation to other services (e.g. inertia).

In relation to specific ESS, EA has set out a proposed way forward summarised in the table below. These recommendations are further detailed and justified in the subsequent sections of this submission.

Table 1: Summary of EA's key recommendations relating to different essential system services

	Proposed way forward
Inertia	Due to the interlinkages through substitutability and complementarity between inertia, PFR, FFR, and FCAS, inertia services should be procured in the spot market in real-time. The Efficient Provision of Inertia Rule change request submitted by the AEC should be progressed. Trade-offs need to be made explicit between FFR and inertia. There are examples of overseas markets where this has been achieved. OSM is a retrograde step to procure inertia and should not be pursued for this purpose.
System strength	OSM may be an improvement relative to directions. Implementation should be subject to cost benefit analysis. The cost-benefit analysis supporting the implementation of OSM should stack up on system strength alone (relative to no OSM). If OSM is implemented for system strength, it should be subject to regular reviews to ensure its operational efficiency. A Panel comprising policy makers, industry experts and AEMO, should be established/tasked to set important OSM market parameters such as gate closure and enablement block as short as technically possible and efficient. That is, OSM market parameters should not be set in stone in the Rules. Instead, they should be kept to the minimum and reduced over time, based on independent review and recommendations of the Panel. The OSM should also include scarcity pricing of system services and all service providers that were required to achieve a secure operating state should be paid.
Other essential system services (voltage control, fault current, reactive power etc.)	Requires further consideration. AEMO must define technical parameters, any necessary operating margins and articulate the need for the service under various system conditions. AEMO should be required to progress this work further – to basically define the measures of the ESS and how much it is likely to procure to establish the 'buy' side of the market. The Engineering Framework work program could be an appropriate vehicle but these should be requirements put on AEMO to demonstrate progress according to set timeline. This work should be completed prior to 2025 to decide whether a spot market based or an OSM-based procurement is more appropriate.

2. **OSM should be reserved as a system strength long-term contract management platform, subject to cost-benefit analysis**

EA considers that there may be value in the OSM to schedule assets that have contracts with Transmission Network Service Providers (TNSPs) under the system strength planning framework. In the absence of a problem objective and other critical components deeming it necessary to create the OSM, there is merit in limiting the scope of the OSM framework to scheduled contracted system services only where it is proven that it can effectively and efficiently achieve system strength outcomes. AEMO has indicated that defining system configurations would most likely be a task delegated to TNSPs based on their role as System Strength Service Providers.

To meet this requirement, EA considers that the AEMC should undertake a cost-benefit analysis, prior to the OSM final determination, to establish that the costs of establishing the OSM are outweighed by the system strength-related benefits of the OSM (relative to status quo of no OSM and other options the AEMC considers relevant).

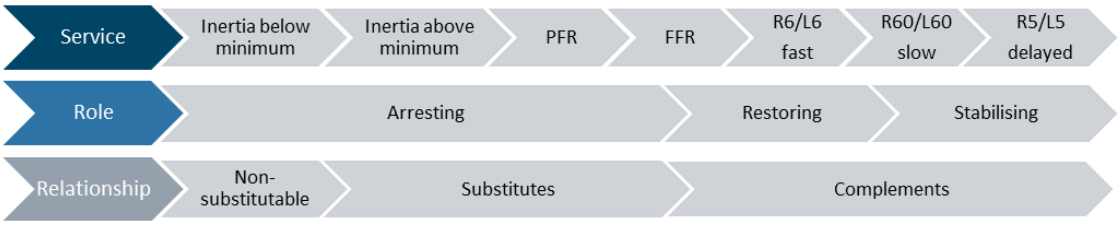
In addition, the final rule must include further details on how the OSM will interact with the provision of system strength through long-term contracts with TNSPs. The Draft Rules provide that those market participants that are party to such contracts will be required to bid into the OSM. However, there are several areas of this design which require further clarity on the nature of the exact requirements such as:

- would OSM service providers be required to place "any bid" in the OSM or would they be required to reflect their contractual prices in these bids? If their OSM prices do not need to reflect the prices they agreed to with the TNSPs then there is little confidence that the OSM will properly operationalise the agreements with the TNSPs. There could be complexities in assessing whether these participants' energy or OSM bids are in line with their contractual obligations.
- would those with long-term network contracts with TNSPs be prioritised when providing services in the OSM or would they have to compete to provide these services with other market participants?
- would long-term contracts with TNSPs be settled through the OSM or would they be settled through the TNSPs? If the latter, then is there a risk that OSM participants' OSM bids will not reflect their true costs and could be instead used to game the market? If the former is true, how does the OSM ensure that OSM service providers do not double dip by earning revenue through the OSM and, concurrently, through the long-term contracts with TNSPs?
- what is the process or path for an intending OSM market participant to understand whether their newly established asset will or is likely to become part of one or multiple system strength configurations? Will TNSPs be required to provide such information prior to the investment in the asset? What is the process of assessing and 'refreshing' system configurations in the OSM?

3. **Services that are better suited for spot market procurement should not be included in the OSM**

Inertia is a well-defined service, and its optimal provision is closely interlinked with the provision and delivery of primary frequency response (PFR), fast frequency response (FFR) and other frequency control ancillary services (FCAS). Due to the technical characteristics of inertia, it can have various relationships with different frequency control services, see Figure 1 below.

Figure 1: Inertia's relationship with different frequency control services



In its rule change request the Australian Energy Council (AEC) has demonstrated how inertia could be procured in the spot market and have also provided an analysis of how spot market procurement compares to other options, including ahead market commitments.[1] We consider that the proposed OSM is inferior to the integrated and fully co-optimised spot market mechanism advocated by the AEC in its rule change proposal. The AEC's proposed spot market mechanism is closely aligned with the ESB's vision of procuring individual services. For example, under spot market inertia procurement:

- inertia demand would be clearly articulated together with its relationship (substitute or complement) with other frequency control services by AEMO;
- inertia service providers would make inertia service price offers clearly visible to other market participants ahead of dispatch;
- inertia would be co-optimised with energy, FCAS, and FFR services in order to achieve the most efficient (least cost) dispatch;
- there would be a common-clearing price for inertia (for each region and under islanding, for each sub-region) to encourage participants to provide inertia on a voluntary decentralised basis; and
- inertia prices are based on supply-demand conditions and when inertia is scarce, the inertia price would reflect this scarcity.

Inertia has an intricate relationship with other frequency control services such as FFR and FCAS. The most efficient way to treat the interlinkages and substitutability between inertia and FFR is to concurrently consider their availability and prices in real time. This enables AEMO to most cost-effectively procure the right combination of inertia and FFR services. Pre-committing inertia provision through the OSM would result in a reduction of FFR volumes being procured, would undermine market signals of FFR relative to inertia, and would distort both inertia and FFR investment signals.

We, therefore, strongly encourage the AEMC to further consider establishing an integrated and fully co-optimised spot market for inertia provision.

4. The OSM must "drive the change" towards the long-term vision of unbundled services procured in the spot market

The ESB's long-term vision includes explicitly unbundling of ESS such that services can be individually valued, priced, and procured within the spot market. To meet the needs of the power system under this vision, the specific volumes and types of system services that are required must be clearly articulated by AEMO, and price signals must be based on the underlying supply-demand conditions of the system services.

[1] For details, see Efficient provision of inertia | AEMC

However, as a Draft Determination, the AEMC has signalled its preference to progress the OSM. Based on this view, and without further clarity from AEMO on the level (and type) of operability it intends to procure through the OSM, EA encourages the AEMC to strongly consider limiting the OSM to a paper trial only (without settlements) and/or operationalising system strength long-term service contracts with TNSPs where it is cost efficient. While we acknowledge the difficulties associated with defining services and service levels over the energy transition, implementing an open framework without clear direction and robust governance controls to protect consumers and drive market investment is not helpful.

The proposed OSM framework has several elements that represent departures from the ideal long-term outcome of how essential system services should be procured in the NEM.

- First, the OSM represents an opaque "bundled" approach to system services or service configurations. The more services that are included in the proposed OSM framework, the more opaque and 'bundled' it becomes.
- Second, the OSM only creates price signals that are 'after effect' and are specific to individual service providers. Hence the prices provide limited guidance about revenue-expectations to new entrants.
- Third, the OSM does not include scarcity pricing of ESS. This further erodes the accuracy and the value of price signals.
- Fourth, key features of the OSM includes 'ahead commitment' in 'OSM blocks' which are longer than individual dispatch intervals. This design feature and ahead commitment can lead to inefficient dispatch outcomes.

The following table summarises the key discrepancies between the OSM and the ESB's long-term vision for ESS.

Table 2: Key issues between the proposed OSM model and ESB's long term ESS vision

	OSM	Long-term vision
Services	Bundled system services procurement	Unbundled procurement of individual services
"Aheadness" (gate closure)	Yes	No aheadness, ongoing spot market procurement
Procurement interval	OSM blocks	Same as dispatch interval
Co-optimised	OSM decisions are based on discretion and forecast energy and FCAS prices and availability	Energy, FCAS, and other system services are fully co-optimised, based on spot prices
Price signals	Pay-as-bid prices unique to service providers, and locations	Service-based prices, possibly location and system condition specific

Scarcity pricing	No	Yes

EA strongly supports the ESB's long-term vision of truly unbundled essential system services and clear, dynamic price signals. If the OSM continues down its current development path, we believe that it should be a consistent 'stepping stone' rather than a 'side step' along the path to delivering this vision.

To achieve this EA proposes some key enhancements to the proposed OSM and a necessary governance structure to ensure that the OSM progresses over time along the desired path. Key enhancements should include:

i. Establish a System Security Panel (extending the Reliability Panel (RSSP)) tasked with determining OSM market services and setting parameters

The power system is undergoing a rapid change. The procurement, scheduling, and dispatch arrangements for system services must adjust as the power system technology evolves. A key input into this assessment includes the review of ESS to identify how best to unbundle them, whether they be unbundled completely or require structured procurement initially. Where the latter is required, the technical and operational parameters necessary as an OSM market service should be developed with current energy and FCAS markets in mind. Any changes should be minimised unless fully justified (such as rebid timeframes, etc) and co-ordinated with insights from other existing expert governance committees such as the NEMOC and its associated working groups.

Importantly, AEMO's Engineering Framework Report[2] has commenced this thought piece as a critical energy transition tool. Formalising the report as an ongoing arrangement and feeding its advice into the RSSP s assessment process provides a legitimate and transparent way to determine the forward pathway for the progression of ESS. As is currently the case with the Reliability Panel, key recommendations should be progressed through the AEMC rule change process to provide further transparency and rigorous assessment on the development of individual ESS arrangements before they are implemented.

In addition, to ensure the operational arrangements of the OSM remain fit for purpose, key OSM features such as gate closure and block sizes should be reviewed by the Panel on a regular basis, noting that these important design elements have significant implications for the operation of and the investment in system security. These features should not be set in stone and remain in place for a long time in spite of technological change. Such rigid design could prevent the market entry of service providers that may more efficiently provide system services. Instead, the design features should become OSM market settings that are adjusted and changed over time when it is deemed that procurement of system services in shorter blocks and closer to real-time better meets the needs of the power system. Initial OSM market settings parameters that could be considered by the RSSP are listed in the table below.

[2] AEMO | Engineering Framework

Table 3: Key OSM market setting parameters requiring on-going review by the RSSP

OSM market settings parameters
OSM market floor and ceiling price
Enablement block sizes
Gate closure ("aheadness")

For example, the OSM could include settings for various length of gate closure (e.g. 2 hours, 90 minutes, 60 minutes, 30 minutes, 15 minutes, 5 minutes etc) and various OSM block duration (4 hours, 2 hours, 1 hour, 30 minutes, 15 minutes, 5 minutes, etc) from the beginning as part of its system design. The RSSP would be tasked to set these 'OSM market settings' as short as possible by balancing economic efficiency considerations with the needs of the power system.[3] The length of OSM market settings could be reduced over time by the RSSP without any further Rules. There would be no need to change the OSM system as the various settings would have been incorporated into the design (and the computer system) from start. That is, decisions by the RSSP would be incorporated as simple changes in the settings menu.

While all NEM regions are expected to converge on the power system with similar technical characteristics, it may be the case that different NEM regions adopt a different technology mix and at a different pace. The differences in current and expected technology mix could justify different settings for different NEM regions. If it is deemed viable and desirable, the Panel may set appropriate region-specific OSM market setting parameters.

ii. Formally task AEMO to establish technical parameters of important ESS within the foreseeable future, through its Engineering Framework

A significant amount of work to translate fundamental power system requirements into individual system services has yet to occur. In order to enable future improvements to the procurement of individual system services, this technical work must progress and be expedited.

To its credit, AEMO has already pro-actively completed a large body of work as part of its Engineering Framework work program and has already commenced defining some of the system security services that are needed. EA is highly supportive of progressing this work further under a formal process, in consultation with stakeholders. Establishing the system services needs under different power system conditions and important technical parameters is a building block to achieve the future vision. The result of this work would need to be included in the planned improvements to the OSM over time.

Therefore, AEMO should be tasked to progress the Engineering Framework as a technical input into the recommendations of the RSSP. Doing so will allow for a faster, more consistent and transparent transition to an unbundled, services-based procurement.

EA has been engaged in AEMO's Engineering Framework consultations and has already contributed much to what it believes is required to enable the energy system transition. We suggest AEMO commence publishing and making transparent key power system and SCADA metrics – for example, locational bus voltages, fault levels, reactive margins, PV

[3] This is akin to the role that the Reliability Panel already have in balancing economic considerations and the value of reliability.

and QV curves, transmission and transformer power flows, regional reserve margins etc. EA is happy to provide further information on these issues as necessary.

iii. Conduct a periodic assessment of the OSM to be used as a learning tool along the path of realising the long-term vision

The OSM has the potential to provide important insights and learnings for the purpose of realising the ESB's long-term vision. Therefore, where a final determination is reached, we consider that the Rules should include requirements for an annual or bi-annual independent review of the OSM by the AEMC. This review should include both backward and forward looking assessments of the OSM.

- The backward looking assessment would consider whether:
    - the OSM is achieving the efficient procurement of system services at an operational timescale in the long-term interest of consumers, and
    - there are sufficient investments in system services.
- The forward looking assessment would consider whether the OSM is likely to continue to achieve these objectives under the forecast changes in technology and evolution of the power system.

Such periodic and independent reviews by the AEMC would help avoid a sub-optimal OSM design becoming a permanent feature of the NEM.

5. <u>The proposed OSM design violates important market design principles and these must be corrected to avoid significant unintended consequences</u>

We see some key market design principles being violated in the OSM design. These can have significant perverse implications for the operation of the OSM and the energy market. Importantly, the violation of these market principles could undermine rather than facilitate investment in system services. Key areas that require significant re-think are detailed below.

i. System security market outcomes are intended to be achieved through energy bids (rather than through system security bids and system security price signals)

Under the proposed OSM, system security services would be procured alongside energy. Market participants that are committed through the OSM based on their OSM fixed and variable bids, are required to change their energy market bids in order to reflect their OSM market commitments of providing system services. This requirement will lead to false and unreliable energy market bids and energy price signals. The proposed OSM bidding, pricing and settlement processes will make successful OSM market participants immune to energy market prices as they are 'made whole' even if energy prices become negative.

Therefore, OSM market participants that wish to provide the system services at the OSM prices will bid the market floor price. This will reduce energy market prices which will (falsely) signal an abundance of energy and distort energy market outcomes. Market participants with unvalued and unpaid system services may withdraw from the market. This can have significant implications at the operational and investment time horizon in both the energy and the system security markets.

ii. Service providers that are committed through the energy market are not valued equivalently to those that are committed through the OSM even if they provide equal value services

The lack of scarcity pricing of system services will incentivise service providers to monetise their services through the OSM. This will be achieved, for example, by market participants bidding in a way in the energy market that creates a need for system services which in turn will be procured through the OSM. The lack of payment to service providers that provide valuable services could be particularly problematic when the OSM is used to procure system configurations and some members of a system configuration are not being paid whereas other members of the same system configuration are being paid. Again, this will have implications at the operational and at the investment timeframe.

iii. Price signals must be stronger and clearer for the OSM to have a chance to drive investments

Whilst it is uncertain whether price signals created through market competition at an operational timeframe are, in and of itself, enough to drive efficient investment, it is certain that the lack of clear price signals will not drive efficient investment decisions. There are a few reasons for this:

First, the OSM is not a market but a 'mechanism'. It lacks important market features such as clear demand and supply signals. Second, price signals are clearly distorted by the presence of the opaque requirements of a monopsony buyer and the potential market power of some of the service providers. Third, services are priced through a pay-as-bid pricing. The bidding incentives under this pricing mechanism can distort price signals. We note that while pay-as-bid pricing may be practical for system configurations, adopting this approach to pricing as a general rule in the OSM could undermine the important role that price signals play in markets. This is further detailed below. The combination of these factors means that the "investment signal" provided through the OSM will be non-existent or limited at best.

Therefore, EA has significant concerns that the OSM will not provide adequate investment signals. OSM service providers will have an opportunity to bid their fixed and variable costs, but scarcity is not clearly priced through the proposed pay-as-bid pricing. There is no clearing price and the pay-as-bid pricing outcomes will reflect prices that could be obtained by OSM service providers under specific power system and competition outcomes. These prices will not provide guidance on revenue-expectations for new entrants.

iv. If pay-as-bid pricing is introduced, the OSM mechanism must achieve its intended outcome even if market participants' bids are profit seeking (not 'true cost')

The AEMC expects that competition would drive participants towards bidding at a level equal to their costs. However, under pay-as-bid pricing, market participants have no incentives to bid their true costs. Instead, their incentive is to include a premium in their bid price. The level of premium OSM service providers could capture depends on their competitive position, and their potential market power. As a rule of thumb, bidders will aim to capture a similar premium as they may have expected under a 'clearing price' design. However, there is a great degree of uncertainty as to the level of premium they may receive, and the expected premium will change with changing market conditions.

Under high levels of bidding uncertainty, OSM service providers will vary their OSM (and energy, FCAS) bids frequently. Our expectation is that the OSM, as proposed, will have a range of unintended operational consequences due to unusual bidding behaviour

required by the OSM, which could undermine its implementation. Bidding incentives in the OSM may cause issues not only for the operation of the OSM itself, but could have significant unintended consequences for bidding in the energy and FCAS market as well. For example, increased rebidding frequency by market participants seeking to optimise their position across OSM, energy and FCAS markets (where they are participating in one or more) will erode the intended operational security of the OSM.

As such, the outcomes that the AEMC expects in an OSM should be reassessed under more realistic (profit seeking) bidding behaviour in order to avoid potential unintended perverse bidding behaviour.

6. Additional comments and questions in relation to the proposed OSM Draft Rules.

i. Fixed versus flexible scheduling within a block

We consider that if the above approach to improving the OSM through a Panel's OSM market setting arrangements is adopted in the Rules, then a fixed scheduling approach is more desirable than a flexible approach. Under fixed scheduling the plant would be enabled for the entire duration of the OSM block. The objective is to keep the block size as short as possible, and to continue to reduce the block size over time as the Panel sees fit. This approach would make the OSM bidding and settlement simpler and easier and could contribute to cleaner price signals. The objectives of achieving lower costs for consumers would be achieved through the periodic assessment of the OSM market settings.

ii. Claw back of 'avoided costs'

OSM participants can and may need to bid start-up costs and variable costs (for example existing OCGT's). When self-commitment is brought forward or pushed back by the OSM, participants may not earn the start-up costs. When OSM participants are kept online between two self-commitments, then the start-up costs are clawed back from the OSM providers.

We understand the intent of the claw back mechanism. However, we note the complexities involved in assessing whether the OSM service provider was 'committed' or not.

For example, when prices are negative between two OSM commitment periods, it may be reasonable for a generator to decommit for a period. However, what behaviour is expected from a storage operator under those same conditions? We consider that the assessment of whether a generator, storage, or hybrid system was "kept online" between two self-commitment periods requires careful consideration.

If this were to be implemented through case-by-case investigations, then the administrative burden for AEMO could be significant. There could be multiple such periods in relation to multiple OSM providers, further increasing the administratively burden. In addition, the process may create significant revenue uncertainty for market participants who would rely on the outcome of AEMO's assessments.

iii. Contingencies after gate closure – genuine need to rebid

There are a range of scenarios that are not contemplated in the Draft OSM Rule. For example:

- What process may be used if a contingency event occurs after gate closure but before dispatch? Rebidding is a legitimate and necessary design element of the energy and FCAS markets.
- What process may be used when an OSM service provider that is a "member" of a system configuration that have been enabled do not get dispatched despite service provider's best endeavours? What are the operational and settlement consequences for "other members" of the system configuration? Does it mean that that particular system configuration will not be dispatched and thus such event will have flow on effects on other members of the system configuration?