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Australian Energy Market Commission (AEMC)  
Via <https://www.aemc.gov.au/contact-us/lodge-submission>

17 November 2022

Dear Chair

***Australian Aluminium Council Response to Operational Security Mechanism Rule September 2022***

The Australian Aluminium Council (the Council) represents Australia's bauxite mining, alumina refining, aluminium smelting and downstream processing industries. The aluminium industry has been operating in Australia since 1955, and over the decades has been a significant contributor to the nation's economy. It includes six large bauxite mines plus several smaller mines which collectively produce over 100 Mt per annum making Australia the world's largest producer of bauxite. Australia is the world's largest exporter of alumina with six alumina refineries producing around 20 Mt per annum of alumina. Australia is the seventh largest producer of aluminium, with four aluminium smelters and additional downstream processing industries including more than 20 extrusion presses. Aluminium is Australia's top manufacturing export. The industry directly employs more than 17,000 people, including 4,000 full time equivalent contractors. It also indirectly supports around 60,000 families predominantly in regional Australia.

The Council welcomes the opportunity to provide feedback to the AEMC on the Operational Security Mechanism (OSM) Rule September 2022 (the Rule). The Council will focus its response on the OSM, but within the context of the broader Post 2025 NEM reforms. As per the Council's previous submissions, the Council supports the development of a mechanism which incentivises the right technologies and structures to ensure the grid can be maintained in a secure state during times of maximum duress, whether that be lack of supply to match demand, or lack of demand to match supply. As each smelter, refinery and extruder has unique electricity arrangements, the Council will reserve its comments on the Rule to a high level.

The Council agrees that the National Electricity Market (NEM) is going through a once in a century transformation, as Australia moves towards net zero emissions by 2050 and that this transition will need to be carefully managed, to ensure that all consumers are provided with competitively priced, reliable, low emissions energy. The Council acknowledges the changing generating mix is pressing the limits of current system security. The current energy only market is no longer fit for purpose. However, in designing the P2025 market and new markets, the Council urges the AEMC and Energy Security Board (ESB) to carefully consider how consumers, including those which hold long term contracts, do not face duplicate costs as a result of these reforms.

## **Aluminium Industry and the National Electricity Market**

Within the NEM the Australian aluminium industry has four aluminium smelters and two alumina refineries which use more than 10% of the electricity consumed in the NEM. Accordingly, the Australian aluminium industry has a strong interest in electricity policy. Electricity typically accounts for around 30-40% of aluminium smelters' cost base, and therefore it is a key determinant of their international competitiveness. Alumina refineries, while not as electricity intensive as smelters, are also significantly exposed to electricity policy. For the aluminium industry, it is the delivered cost (including transmission) of electricity which drives international competitiveness.

The delivered electricity supply requirements of the aluminium industry, can be summarised as follows:

- least cost, and at an internationally competitive level, as a minimum;
- consistent uninterrupted electricity supply;
- an ability to secure electricity supply under long-term contractual arrangements; and
- an ability to be compensated adequately for system services which smelters and refineries provide for the network and its stakeholders.

These outcomes need to be delivered within the framework of Australia's Paris Agreement emission targets.

Aluminium smelters already offer a range of services and functions which support the network over varying weather, network demand and operating conditions, including Reliability and Emergency Reserve Trader (RERT) and Frequency Control Ancillary Services (FCAS). Smelters' large and fast-acting interruptibility helps secure and restore stability to the network before and after contingencies occur. The industry has increasingly been called upon to support grid stability and reliability, as the challenges in managing the grid increase. Amongst the roles played by very large and continuous smelter loads are:

- Buffering the erosion of minimum scheduled demand;
- Support for the continued economic commitment and operation of large-scale synchronous generation (noting that de-commitment of synchronous units due to inadequate base demand levels can regularly remove large blocks of inertia and system strength from the system);
- Supply of certain essential system services, such as contingency FCAS;
- Potential participation in "backstop" reliability schemes such as RERT or Interim Reliability Reserve (IRR) noting that RERT is non contingent revenue; and
- Enhancing system resilience through rapid unscheduled interruptibility in the case of extreme high impact events, which, like more extreme weather conditions, are occurring increasingly frequently in the NEM and are increasingly complex to match with dispatch in real time.

For example, during May and June 2022 Tomago Aluminium provided 32 hours of modulation across 18 events which were a mixture of RERT and responding to high market price. This response by Tomago supported AEMO to manage a complex and challenging system and maintain supply to domestic customers.

Only some of the current services are explicitly remunerated, nor is their overall "real option" value recognised – namely the flexibility that retention of these large loads provides in future choices of physical and economic mechanisms to stabilise the system and market. In the absence of these loads the measures required to maintain secure and resilient operation of the grid are likely to require significant additional investment and cost to all consumers. The Council recognises that smelters, play multiple roles in the market, which are currently unpriced, or where the mechanism to value them is poorly aligned with operational practices. These services are entwined across resource adequacy, essential system services and two-sided markets.

## **Existing Contractual Terms**

All of Australia's aluminium smelters have long term existing contracts. The expiry of these contracts for Australian smelters varies from 2025 to 2029. However, other major industrial facilities; including alumina refineries; also have long term base load electricity contracts. These incumbent long-term contracts need to be recognised and grandfathered where there is design change in the market, given the importance of these contracts in underpinning minimum demand and dispatchable generation.

These contracts currently bundle many markets services required to meet continuous electricity demand at an internationally competitive price. One of the key drivers for the new markets which are currently being designed, is declining and less predictable minimum demand. However, this does not recognise that industrial loads from smelters and refineries have not reduced their minimum load and therefore, the counterparty retains their ability to manage services on these loads through existing NEM mechanisms. These existing contracts underpin dispatchable generation and system reliability, particularly when demand is low and variable renewable generation is high. However, these contracts are not immune to changes in the market as contracts may contain a range of change-in-law and other pass-through provisions, so there is a real risk that base load consumers could pay twice for additional market services introduced to provide reliable and secure supply for customers with highly variable demand. It will also be important to consumers that OSM costs in any future market are able to be hedged. The AEMC needs to carefully consider how consumers, including those which hold long term contracts, do not face duplicate costs as a result of these mechanisms.

International competitiveness of aluminium smelters depends on the ability to secure long term, well priced contracts. For smelters seeking to recontract, it is acknowledged that decarbonised electricity will be a core aspect of future contracts. The long term nature of these contracts also underpins the ability of smelters to make the substantial capital investment required to maintain international competitiveness. Increasingly, as other industries such as alumina refineries, seek to electrify their processes to reduce emissions these assets will also require long term competitive contracts to support the commercial investment required for transformative abatement.

For those assets which are seeking to re-contract or develop new long-term contracts, this is becoming increasingly difficult with the increased number of markets. Counterparties are less able to supply bundled contracts and as noted above there is the real risk that through bundled contracts that pre-date particular changes to the market, large users pay twice. This is making it harder for industry to manage contracts rather than focussing on their core purpose of adding value to Australia's resources.

Hence, in developing mechanisms to provide additional services, the Council's preference is that this should be by adapting the current wholesale market, rather than developing a plethora of new markets for each service. The Council's rationale for this is:

- The product being sold is quality electricity, and the services are all components which make up the production of electricity of the right *quality*.
- A single market price is more likely to support a liquid hedge market and provide consumers with greater ability to hedge. Currently, there are a limited number of price nodes across the NEM and a reasonably functioning hedge market. The introduction of additional non hedgeable markets leaves customers exposed to a greater proportion of electricity costs that are not readily contractable and could be volatile.
- These charges may end up being an add-on not covered by existing spot price on contracts, so customers with long-term contracts could end up paying extra charges on top of their agreed electricity charge for firm offtake.
- The more markets there are, the more difficult it will be to understand the interaction between them, and the less likely that each of these markets will be competitive and liquid, increasing financial risk in the contract market.
- The alternative of non-market procurement mechanisms for separate services is more likely to result in costs and inefficiencies falling largely on consumers through "smeared" cost recovery mechanisms offering no opportunity or incentives for mitigation.

In this context, the Council notes that the current OSM design should be done in consideration of other market reforms proposed by the ESB.

### **Cost Recovery**

As large users of energy, Council members are concerned that the AEMC's proposed Rule changes entail recovering any and all OSM costs from electricity consumers, with little consideration of whether this best serves the objectives of market efficiency and appropriate allocation of risks and incentives.

The need for most if not all of the services to be supplied through the OSM arises not from changes in customers' usage of electricity but from changes on the supply side of the market, with an increasing proportion of new market-scheduled generators whose facilities do not provide these services jointly with energy, unlike "legacy" technologies, leading to the need for separate provision and scheduling of security services. On causer-pays principles it would be these generators from whom OSM costs are recovered.

Nor are consumers the sole beneficiaries. The ability of newer generation technologies to connect securely to the grid and sell electricity will depend directly on the provision of mechanisms to provides services such as system strength and inertia, arguably all market participants benefit from grid security.

The Council believes that levying OSM costs on generators would provide much stronger incentives for overall efficiency in their provision, since non-participating generators could offset or avoid these costs by becoming providers of some services or investing in mechanisms that reduce their overall incidence. This would enhance both allocative and investment efficiency by levying charges on participants best able to manage the resulting risks. Very few customers would have capabilities to either lessen the need for security services or become providers, although those that can, should be able to benefit by participating in the OSM.

Finally, the Council notes that levying OSM charges on generators would allow them to price the expected impact of these costs into hedge contract or PPA prices, providing customers with a bundled hedged price for secure electricity, rather than separate costs energy and OSM recovery, the second of which will not be hedgeable for customers.

### **Operational Security Mechanism**

The Council recognises that AEMO is increasingly using directions to bring on generators that would otherwise be offline to ensure the system is secure. Over-reliance on directions, and AEMO's other operational tools places increased risk on the security of the system and reduces transparency for consumers. Returning directions to a backstop, rather than a primary management tool would be a desired outcome.

The Council welcomes the recognition that the objective for the design process is to ensure investment happens at least cost and in a manner which increases confidence, thereby reducing the need for interventions. It also welcomes the recognition to allow resources on *both the supply and demand sides* to be adequately compensated for the security services they provide. The Council believes that in the design process it is important to focus on the goal of least system cost, with cost and risk to be shared on a causer pays basis; rather than assuming that all costs can simply be recovered from consumers.

### **Market Power**

The Council notes that the AEMC has recognised that significant market power risks may arise due to the locationally and technology-specific nature of some security services. As we see in the FCAS markets, thin localised markets not infrequently result in extreme price and cost events. The proposed regime involving AER monitoring appears to involve retrospective annual review with any mitigation (e.g. price caps) only active in subsequent periods, which may be insufficient, particularly in unforeseen circumstances.

### **Proof of Concept**

At this stage, with the limited definition of services, how they will be defined or recognised, and uncertainty about how effectively the partial co-optimisation<sup>1</sup> of OSM scheduling with energy and FCAS will prove in practice, it is hard to provide definitive comment on the technical solutions being proposed. While the Council recognises that due time should be taken to define the issues and develop a solution, it also notes that more than 2 years has passed since our first submission on the Initiation Paper for this rule change. In this context the Council considers that we must not let “the perfect be the enemy of the good” when it comes to any specific element of the Post 2025 reforms and urges the AEMC and ESB to adopt a pragmatic and timely approach to reforms. The Council believes the AEMC proposals should incorporate formal checkpoints or gateways on introduction of the mechanisms being proposed before they are accepted as fit for purpose and go into operation. The option of falling back to simpler and more pragmatic approach should be retained until the operability and benefits of the mechanism currently being proposed can be more clearly demonstrated.

### **Conclusion**

The Council supports the development of a fit-for-purpose mechanism which incentivises the right technologies and structures to ensure the grid can be maintained in a secure state during times of maximum duress, whether that be lack of supply to match demand, or lack of demand to match supply. Any mechanism should incentivise investment in these technologies and structures, as long as customers do not pay twice for the same service provision. A well designed OSM should allow resources on both the supply and demand sides to be adequately compensated for the security services they provide and ensure customers pay no more than is necessary.

The Council seeks a national climate and energy policy framework which is transparent, stable and predictable, while maintaining the economic health of the nation including vital import and export competing industries. The P2025 market design is a crucial aspect of this for the aluminium industry.

Kind regards,



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<sup>1</sup> The Council notes that while the AEMC proposals refer to “co-optimisation”, OSM scheduling will have access only to energy and FCAS pre-dispatch results and therefore cannot result in a genuinely co-optimised dispatch of these resources.