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Australian Energy Market Commission
Via www.aemc.gov.au

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Dear Chair

Re – System Services Rule Changes

The Australian Aluminium Council (the Council) represents Australia's bauxite mining, alumina refining and aluminium smelting industries. The Australian aluminium industry has been operating in Australia since 1955, and over the decades has been a significant contributor to the Australian economy. Alongside many decades of economic contribution, the industry is globally comparatively young and well maintained. The industry includes five bauxite mines (>10 Mt per annum), six alumina refineries and four aluminium smelters. Australia is the world's largest producer of bauxite and the world's largest exporter of alumina, and the sixth largest producer of aluminium. The industry directly employs around 14,500 people, including 4,000 full time equivalent contractors. The industry also indirectly supports around 40,000 families in regional Australia.

Aluminium industry and the National Electricity Market

Within the National Electricity Market (NEM) the Australian aluminium industry has four aluminium smelters and two alumina refineries and uses 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. The electricity supply requirements of the aluminium industry, can be summarised as follows:

- least cost, and an internationally competitive electricity cost, 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.

For the aluminium industry, it is the delivered cost (including transmission) of electricity which drives international competitiveness. Enabling Australia's competitive advantage means a restoration of internationally competitive energy prices. Electricity in the Australian market has in recent times been consistently priced in the highest (fourth) quartile of global prices for electricity intensive manufacturing.

Australia's industry is seeking a restoration of international competitiveness. A future where Australia's world class energy resources are translated into internationally competitive, low emissions, reliable energy will ensure industrial production, emissions and jobs are not exported to other countries. Efficient deployment of technological changes will support the transition of economically important industrial sectors such as alumina and aluminium, enabling a greater manufacturing sector.

Aluminium smelters have increasingly been called upon to provide demand management services, to support grid stability and reliability, particularly in recent summers because of their large and fast acting interruptibility. Retaining these large industrial loads within the National Electricity Market will help support the transition to low-emissions electricity. One of the key barriers for increased deployment of technologies for smelters to enhance their capability to provide additional services to the market is policy uncertainty over the market structure for these services and incentive over a commercially bankable timeframe to make these investments.

While the focus of this submission is in the context of the Systems Services Rule Change Consultation Paper, it is important to recognise Australia's electricity intensive manufacturing sector is facing significant challenges. These challenges have been exacerbated by the fall in aluminium and alumina prices because of COVID-19, and the longer-term future of the industry will depend on the rate of recovery of the global manufacturing sector and the impact this has on international demand. Equally, the COVID-19 pandemic has underscored the importance of electricity intense manufacturing domestically, both in terms of continuing economic and employment contributions whilst much of the service economy has contracted, but also in underpinning the continued stable operation of the NEM supporting a resilient economy.

The COVID crisis has demonstrated the advantages of not only the ability to value add within an almost exclusively domestic supply chain but also the importance of local industry which provides the underpinning market for our dependent contracting and manufacturing sector. Energy intensive industry provides many regional jobs requiring significant technical, operational and managerial skills, and the development of this skill base in the community supports more smart Australian jobs into the future. To ensure this, the costs and risks associated the energy transition need to be managed carefully. To be sustainable Australia's electricity intense manufacturing sector, particularly aluminium smelters, require electricity pricing which is internationally competitive both now and into the future.

System Services Rule Changes

The Council welcomes the opportunity to provide feedback to the July 2020 Australian Energy Market Commission (AEMC) discussion paper "Systems Services Rule Change Consultation Paper" (the Paper). The Council has considered how the Paper contributes towards meeting the needs of the aluminium industry and the content has been tested against the Council's view of design principles for an electricity system (See *Attachment 1*). Aluminium smelters generally have long-term electricity contracts. However, the expiry of these contracts for Australian smelters varies from 2021 to 2029, spanning the duration of the proposed period of reform under consideration by the AEMC. Even smelters with existing long-term contracts are not immune to changes in the market, as contracts still contain a range of change-in-law provisions. As each operation has unique electricity arrangements, the Council will reserve its comments on the Paper to a high level.

Aluminium smelters offer a range of services / functions which support the network over varying weather and network demand and operating conditions. The Council's members already provide a range of services into the NEM, including Reliability and Emergency Reserve Trader (RERT) and Frequency Control Ancillary Services (FCAS). Smelters' large and fast-acting interruptibility helps restore stability to the network during high temperature and / or high demand days. The industry has increasingly been called upon to support grid stability and reliability, which as the Energy Security Board has observed in their recent Health of the National Electricity Report, has continued to degrade as levels of inertia, frequency control and system strength are put under stress by the rapid introduction of variable renewables and the closure of aging dispatchable generation. Furthermore, with the large and sustained increase in residential and commercial solar PV, the network is now, and will into the near to medium term future, struggling with the midday solar peak and the erosion of the underlying demand, making the network more difficult to operate and manage during these periods. Aluminium smelters in particular provide very important, stable baseload demand during these periods for the NEM, and the network cannot afford to see further industrial demand leave the system. In the development of these system services, consideration should be given to how they can directly support the ongoing operation of major industrial loads, such as smelters, in the NEM.

The aluminium industry welcomes the improvement and development of system services, and improved recognition and compensation provided to the relevant stakeholders for the important role(s) that they play in the NEM. It is important to recognise, however, that the procurement of, and the participation in, system services in the electricity sector is not the core business for consumers such as aluminium smelters or alumina refineries. As such, the sector is not currently resourced to participate and manage system services to the extent other market participants, such as generators and retailers, are. There should be careful planning and consideration to make sure that NEM customers, are adequately consulted and engaged and transitions to new structures are carefully implemented and managed. This will help ensure customers can develop the necessary skills and resources to meaningfully participate, as appropriate in a future market.

In general, the rule changes proposed seem to be largely for the benefit of existing generators and network owners. This is inconsistent with the National Electricity Objective. It is the view of the Council that rule changes should be for the benefit of the whole market, including consumers. While the Council recognises the need for change and supports improvements, it is unclear how these rule changes overall are in the interest of consumers or are consistent with the aspiration for a two-sided market. The Council's main considerations with regard to the rule changes proposed are:

- *Interdependency with Current and Future Market Design* - The Paper recognises the interdependence of the proposed rule changes on other initiatives underway in the NEM, such as the Post 2025 Market Design. However, the Council remains concerned that some recent rule changes aimed at systems strength and reliability, have yet to come into full effect, so it is unclear how these additional rule changes will interact with the current (including recent changes) market, let alone the potential impact that these new plus recent rule changes will have on future market design. These decisions are all linked, and there are particularly implications for services which have joint supply / joint demand.
- *Articulated need* - The Council supports the AEMC view that the pace of the transition in the power system means the current system strength frameworks established in 2017 need to be adjusted and expanded, given the rapid growth in the connection of non-synchronous generation. However, it is not clear to the extent to which these proposed rule changes meet this need, nor what the size of the actual need is. This is compounded by not yet understanding any impacts that recent rule changes, which have not yet had the chance to come into full effect, have already had.
- *Causer Pays* – It is unclear what the cost of these rule changes will be and how they will be distributed. In general, the Council favours a “causer pays” approach. Recent experience with system services costs has been that their procurement has been at high cost to consumers¹. For instance, a generator that doesn't provide system services, but whose generation leads to the system requiring more of them, should be expected to pay. This would ensure that where new generation projects, including intermittent renewable generation projects, add extra costs to the system that their proponents would need to meet these costs, not customers.
- *Unbound costs* - The proposed rule changes create new markets with unbound costs and risks being passed onto energy consumers. Therefore, there must be a mechanism whereby the lowest overall cost for energy plus system services is delivered to consumers.
- *Evolution not revolution* - In developing mechanisms to provide services through a market, 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 provides greater consumer ability to hedge. Currently, there are a limited number of price nodes across the NEM and a reasonably functioning hedge market. Because it's an energy only market, many of the services discussed in these rule change proposals are priced into the hedge. The introduction of additional non hedgeable markets leaves customers exposed to a greater proportion of electricity costs that are not contractable and could be volatile.

¹ <https://www.aemo.com.au/-/media/files/major-publications/qed/2020/qed-q1-2020.pdf?la=en>

- These charges may end up being an add-on not covered by existing spot price hedge contracts, so customers with long-term contracts could end up paying extra charges on top of their agreed electricity charge.
- The more markets there are, the more difficult it will be to understand the interaction between them, increasing financial risk in the contract market.
- *Missing Markets* – the Council in principle supports the delivery of missing services via a market, where this will deliver the most efficient outcome. However, this will only be true for services where there will be sufficient buyers and sellers, to ensure a competitive marketplace, to deliver these services at lowest cost. As noted previously the Council supports a “causer pays” principle to pay for these services.
- *Do no harm* – The Council does *not* support the abolishment of the do no harm principle, which requires new connecting generators to remediate their system strength impact. This is consistent with our position on costs.

Specific rule changes

It should be noted, these comments are made in addition to the framework outlined above on each of the specific rule changes and are at a high level only.

Hydro Tasmania — Synchronous services markets (ERC0290)

The proposal is to use the dispatch engine to find the lowest overall cost combination of synchronous and non-synchronous generation, while also delivering the necessary levels of system services.

The Council in principle supports rule changes which recognise missing markets and to recognise the delivery of these should be most efficiently delivered via a market mechanism.

However, the Council disputes that the cost of providing these services should be recovered from consumers through an uplift to the wholesale energy price when the need for provision of this service has been driven by increased penetration of variable nonsynchronous generation.

Infigen Energy — Operating reserve market (ERC0295)

The proposed operating reserve market would procure reserves 30 minutes ahead of time (with a 15-minute call time) to align with requirement to return the system to a secure operating state within 30 minutes.

The Council in principle supports rule changes which recognise missing markets and to recognise the delivery of these should be most efficiently delivered via a market mechanism.

Infigen Energy — Fast frequency response market ancillary service (ERC0296)

The proposed markets for raise and lower FFR would operate similar to the existing market arrangements for FCAS.

The Council in principle supports rule changes which recognise missing markets and to recognise the delivery of these should be most efficiently delivered via a market mechanism.

Efficient management of system strength on the power system (ERC0300)

The request proposes to abolish the “do no harm” obligation and substantially amend the minimum system strength requirements. TransGrid argue this is necessary to address issues with the existing system strength framework, that have arisen since it was put in place in 2017.

The Council rejects the abolishment of the do no harm obligation.

Delta Electricity — Capacity commitment mechanism for system security and reliability services (ERC0306)

The proposal is to amend the NER to introduce an ex-ante, day ahead capacity commitment mechanism and payment to provide access to operational reserve and any other system security or reliability services that AEMO may require to meet its security and reliability objectives.

The Council believes a day-ahead mechanism should determine “the lowest overall cost combination of synchronous and non-synchronous generation, while also delivering the necessary levels of system services” as per ERC0290.

Delta Electricity — Introduction of ramping services (ERC0307)

The proposal is to amend the NER to introduce 30-minute raise and lower "ramping" FCAS services using the existing framework for FCAS market design. Delta suggests these ramping services would address the price volatility that exists when dispatchable generators ramp through their energy bid stacks in response to predictable, daily, high rates of change from solar ramping up and down.

The Council does not in principle support this rule change.

The Council is happy to provide further information on any of the issues raised in this letter and look forward to continuing to work further with the Australian Energy Market Commission on these matters to improve the commercial arrangements supporting a competitive, reliable and secure NEM.

Kind regards,



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Attachment 1

Australian Aluminium Council - Electricity System Design Principles

Engender Australian advantage

Support a future where Australia's world class energy resources are translated into internationally competitive, low emissions, reliable energy to ensure industrial production, emissions and jobs are not exported to other countries. As Australia transitions away from a thermal fleet and towards increasingly variable and distributed generation, industrial load provides a physical and commercial "ballast" to the grid. The value of this load as both ballast and interruptible supply needs to be recognised in the development of competitive frameworks.

Avoid shocks to all market participants, including consumers

The approach to transition should be consistent with a rapid evolution, rather than revolution, in electricity reform processes. Transition should seek to avoid shocks and discontinuities where possible and rule makers should work to ensure the preservation of existing commercial contracts (grandfathering) to prevent disadvantage to all market participants who are willing to invest and contract for the long term.

Deliver improvements throughout the transition, not just in the long term

The short term versus long term balance in interpreting the National Electricity Objective is skewed in favour of the long term, which can lead to short term disadvantage. There needs to be a more risk-based approach to changes which reflects the certainty around short term costs and the uncertainty of long-term benefits. The staging of the transition must be recognised, as well as the final outcome, looking for benefits along the pathway. In considering the most beneficial end point, the benefits and costs of the transition, should also be considered.

Recognise the starting point and state-by-state variation in any design

The current energy-only market has not been able to deliver perfect competition, some regions are more balanced than others and many regions have relied on major Government investment to provide supply and manage the transition. Future market reforms need to recognise that the playing field within the market does not start from a basis of levelized competition, regulations will be required which encourage competition in the services which are needed to balance the current imperfections and in jurisdictions where the current market competition levels are unable to drive efficient outcomes. In designing new structures that recognise the reality of the starting point an important principle of design is that the cost of regulation should not exceed the private benefits.

User participation should be voluntary and recognise the complexity of participation

Even for large, sophisticated industrial users, the procurement of electricity is primarily seen as an input into production; rather than being the core process for the business itself. As the emphasis in market design switches to more demand side participation, assumptions need to be continually tested regarding the complexity of requirements to participate. It is important to recognise that demand site participation will impact on both operational processes and safety; and has the potential to distract from the core business processes of end users. It requires complex technical considerations within the businesses of industrial users that interact with the market. Outsourcing participation to an intermediary does not remove the need for the business to manage its physical interface with the market. Accordingly, services that industrial users could provide – such as demand management, stability, ancillary services, and emergency response – should be provided on a voluntary basis and need to be adequately compensated for.