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# System services rule changes – Consultation paper

Meridian Energy Australia Pty Ltd and Powershop Australia Pty Ltd (MEA Group) thanks the Australian Energy Market Commission (the AEMC) for the opportunity to provide comments in response to the System services rule changes – Consultation paper (the Paper).

## Background on the MEA Group

MEA Group is a vertically integrated generator and retailer focused entirely on renewable generation. We opened our portfolio of generation assets with the Mt Millar Wind Farm in South Australia, followed by the Mt Mercer Wind Farm in Victoria. In early 2018 we acquired the Hume, Burrinjuck and Keepit hydroelectric power stations, further expanding our modes of generation. We have supplemented our asset portfolio by entering into a number of power purchase agreements with other renewable generators, and through this investment in new generation, have continued to support Australia's transition to renewable energy.

Broadly MEA Group recognises the motives for each of these rule change requests but firmly believes that they should not detract from the broader body of work that is already underway with the Energy Security Board (ESB), the AEMC and the Australian Energy Market Operator (AEMO).

## Operating reserve market

MEA Group have considered the rule change request provided by Infigen in relation to the Operating reserve market. MEA Group believe the benefits include a greater efficiency than the Reliability and Emergency Reserve Trader (RERT) mechanism and the costs associated with enacting the RERT. The rule change could also potentially increase investment in flexible, dispatchable capacity. However, we also recognise that such a new market potentially drives costs up for end consumers and the cost/benefit analysis does not yet confirm a definite reduction for the need for the RERT. There is a presumption that significant customer engagement would be apparent for this market to work efficiently.

MEA Group believes Delta's rule change request for a proposal to introduce an ex-ante, day ahead capacity commitment mechanism to provide access to operational reserve (an alternative option to Infigen) and a proposal to introduce 30-minute raise and lower "ramping" services using the existing FCAS framework would likely conflict with the work of the ESB and their Post 2025 program of works.

Day-ahead capacity market

MEA Group believes developing this type of market could potentially 'crowd out' the developing renewables market on a regular basis, rather than working to support the transition. MEA Group does not dismiss the concept of an ahead market concept, however we would prefer to follow the path of the ESB process and their Post 2025 work program. Unfortunately, this rule change request potentially fails to assist the broader path to renewables that industry is taking. There is little evidence that the rule change would solve for inefficient outcomes of over procuring capacity in the market.

30-minute ramping product

MEA Group does not agree that ramping is currently causing a material issue for the market. Whilst Delta in its rule change refers to 'price volatility' as a result of ramping, they do not include analysis on the prevalence or cost of ramping under the existing framework. The rule change is also unclear regarding how the required ramping product quantity would be identified. If the proposal is to target solar only, would correlated wind farms or large thermal generators ramping up and down also be captured by the requirement? Finally, the rule change is unclear on how the 30 minute ramping product would interact with the current dispatch process and especially the 5-minute settlement rule change as it introduces a 30-5 contrast again. There is a real risk of unintended consequences with uncertain behavioural changes by introducing a new market.

Synchronous service markets

MEA Group considers that the ongoing transition in the NEM is likely to require future market-based or administrative recognition and reward for synchronous services. The Hydro Tasmania proposal is a novel approach to addressing more efficient dispatch and pricing of these services in the current market – however appears to contain risks of market power, inequitable cost allocation, and a less efficient long-term signal for synchronous capacity investment than other potential models. MEA Group would need to be satisfied that any proposed synchronous service market(s) be carefully considered and thoroughly analysed, given the long-term importance and potential for unintended consequences. This rule change is likely best addressed by the ESB's Post 2025 market design program, noting that there is the risk that any reform being implemented from that process may arrive at a date when there is limited inertia remaining in the network.

Fast Frequency Response market ancillary service

MEA Group believes the introduction of a Fast Frequency Response market ancillary service would complement and enhance frequency outcomes for the NEM. The proposed rule change would provide a suitable medium to long term mechanism in place of the Primary Frequency Response Requirement, which is due to lapse in July 2023. Finally, the inclusion of this new service category serves to enable the continuing transition of the NEM, whilst supporting the National Electricity Objective.

Please find below our relevant responses to the questions raised in the Paper for each rule change request.

If you would like to discuss any aspect of this submission, please do not hesitate to contact me.

Yours sincerely

Angus Holcombe
Head of Asset Development
Meridian Energy Australia
Powershop Australia Pty Ltd

AEMC

# Consultation paper - System services rule changes

## STAKEHOLDER SUBMISSION TEMPLATE

The template below has been developed to enable stakeholders to provide their feedback on specific questions that the AEMC has identified in the Consultation paper for the System services rule changes.

The rule changes discussed in the system services consultation paper are:

- AEMO – *Primary frequency response incentive arrangements* (ERC0263)
- Hydro Tasmania — *Synchronous services markets* (ERC0290)
- Infigen Energy — *Operating reserves market* (ERC0295)
- Infigen Energy — *Fast frequency response market ancillary service* (ERC0296)
- TransGrid — *Efficient management of system strength on the power system* (ERC0300)
- Delta Electricity — *Capacity commitment mechanism for system security and reliability services* (ERC0306)
- Delta Electricity — *Introduction of ramping services* (ERC0307)

This template is designed to assist stakeholders provide valuable input on the questions the AEMC has identified in the consultation paper. However, it is not meant to restrict any other issues that stakeholders would like to provide feedback on.

Given the breadth of issues discussed in the consultation paper, it is not expected that all stakeholders respond to all the questions in this template. Rather, stakeholders are encouraged to answer any and all relevant questions.

## SUBMITTER DETAILS


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## CHAPTER 1 – INTRODUCTION

| **Question 1: Section 1.2 & 1.3 – Current ESB & AEMO work relating to the rule change requests** | |
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| 1) What are stakeholders' views on how the rule change processes should be integrated with ESB and AEMO work programs? | Whilst MEA Group understand the work streams currently underway with the Energy Security Board (**ESB**) and the Australian Energy Market Operator (**AEMO**) are progressing, the outcomes remain uncertain and the associated timeframes even less so. On that basis MEA Group would encourage the AEMC to continue with this important package of reform as a separate piece of work noting that any rule change that is implemented prior to the ESB's Post 2025 Market Design process should be taken as additional inputs in the ESB and AEMOs work streams. That said, some of the proposed changes such as a capacity commitment are more likely best placed in the ESB's Post 2025 Market Design work.<br>MEA Group would also encourage the Australian Energy Market Commission (**AEMC**) to ensure a high level of transparency on how it will ultimately determine which, if any, of the proposed rule changes under this system services package are progressed and implemented. If the system services rule changes are to be accepted in their current form or as more preferable rules. |
| 2) Are there any additional processes that should be closely considered by the Commission when progressing these rule change requests? | The AEMC has documented in its stakeholder consultation package the ongoing workstreams such as the primary frequency response requirements and the introduction of 5-minute settlement in October 2021. MEA Group is not aware of any additional work streams or reform proposals that would need to be considered as part of this rule change package. |
| **Question 2: Section 1.6 – Timetable for the consultation process** | |
| 1) Do stakeholders have any comments on the proposed timetable for the system services rule changes? | Given the significance of some of these proposed rule changes MEA Group believe the consultation process should appropriately consider the impact of these rule changes as a part of the entire regulatory framework and other upcoming changes, including five minute and global settlement. MEA Group would encourage the AEMC, as part of the next round of consultation, to clearly articulate to industry how these rule changes, if any, are likely to be implemented. |

## CHAPTER 3 – APPROACH

| **Question 3: Section 3.2 & 3.3 – Three work streams: dispatch, commitment, and investment** | |
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| 1) Do stakeholders agree with the AEMC's approach to grouping the rule changes, at least for initial consideration? | MEA Group agrees with the AEMC's proposed grouping of rule changes for initial consideration. However, consistent with the limitations noted in the consultation paper, the extent to which the grouping is useful is for comparison against similar rule change requests, including those raised by AEMO and the AEMC, as well as other ESB initiatives. |
| 2) Do stakeholders believe that Figure 3.1 captures the key issues to be considered for each rule change in each time frame? | MEA Group believes that this approach does provide appropriate time frames for the provision of system services for each rule change request. However, this is not the only lens through which time frames should be viewed when considering the rule change requests and the issues they seek to resolve. |

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| | For example, Infigen Energy's *Fast Frequency Response Market [ERC0296]* rule change request would, in practice, be applied in the *dispatch timeframe* (as shown in Figure 3.1), but would also provide incentives for investment in dispatchable generation capacity over the *investment timeframe*. As such, these rule changes should contemplate the duality of time frames for provision of system services in the shorter-term as well as the time frames for incentivising much needed dispatchable generation capacity investment in the longer-term. |
| 3) Do stakeholders have views on whether/which services should be procured in certain time frames and not others? | MEA Group agrees with the procurement time frames for the following rule change requests:<br>• Infigen Energy's *Fast Frequency Response Market [ERC0296]*;<br>• TransGrid's *Efficient management of system strength on the power system [ERC0300]* |

## **CHAPTER 4** – ASSESSMENT FRAMEWORK

| **Question 4: Section 4.2 – The system services objective** | |
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| 1) Do stakeholders agree with the AEMC's proposed system services objective being used to assess these rule changes? If not, how should it be amended or revised? | MEA Group are comfortable with the approach adopted by the AEMC to determine the merit of these rule changes, including assessing against the net benefit to consumers and the objectives set out in the National Electricity Objective. Going forward, MEA Group are interested to understand from the AEMC if it will reduce the number of proposed rule changes following feedback from stakeholders during round 1 consultation and then place the reduced package of rule changes out for a second round of consultation. |
| **Question 5: Section 4.3 – The planning, procuring, pricing and payment service design framework** | |
| 1) Do stakeholders agree with the '4Ps' service design framework being used to assess these rule changes? | MEA Group suggests there could be a fifth service design concerning flexibility, understanding that these rules and issues will need to be re-addressed in 3-5 years' time as system strength continues to deteriorate. The AEMC provide a great example: they may rule in favour of Infigen Energy's Fast Frequency Response (**FFR**) Market to realise short term benefits ahead of the ESB's 2025 reforms. This approach requires a need for flexibility, to incorporate those changes at a future date. |
| **Question 6: Section 4.4 – Principles for assessment** | |
| 1) Do stakeholders agree with the principles proposed for assessing the rule change requests? If not, should any principles be amended, excluded, or added? | MEA Group believes there is a need for increased transparency from network businesses, so that their assessments, investments and rule change requests can be subject to greater scrutiny from a wider audience than just the Australian Energy Regulator (AER) or the AEMC. |

## **CHAPTER 5** – THE RULE CHANGE REQUESTS

| **Question 7: Section 5.1 – Infigen – Fast frequency response ancillary service market** |
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| 1) What are stakeholders' views on the issues raised by Infigen in its rule change request, Fast frequency response market ancillary service? | MEA Group agrees with the issues categorised in the Infigen rule change request paper. |
| 2) Do stakeholders agree with Infigen's view that a change to the NER is required to encourage efficient provision of FFR services in the NEM following contingency events? | MEA Group agrees that the changes to the NER outlined are a suitable medium to long term fix for the PFRR, that is scheduled to lapse in July 2023. |
| 3) What are stakeholders' views on if there are any other issues or concerns in relation to frequency control in the NEM as levels of synchronous inertia decline? | MEA Group believes the paper has appropriate coverage of the key issues related to frequency control. |
| 4) Do stakeholders consider there are alternative solutions that could be considered to improve the frequency control arrangements in the NEM for managing the risk of contingency events as the power system transforms? | MEA Group believe the only alternative would be to continue to mandate generators to provide the service for free, however MEA Group do not believe that this will achieve the NEO. It will not incentivise new generation to be built to supply this market as thermal generators retire, nor will it incentivise existing generators to upgrade their equipment to supply this service. |
| 5) Do stakeholders consider that 5-minute markets for FFR ancillary services likely to be effective and efficient in the global interconnected NEM and on a regional basis? | Like existing FCAS services, it should be expected that 5-minute FFR markets will meet the individual regional needs, as well as global National Electricity Market (**NEM**) requirements, through suitable least-cost dispatch of available resources in each region. |
| 6) Do stakeholders consider Infigen's proposal will provide adequate pricing signals to drive efficient investment in FFR capability in the NEM? | MEA Group believes the proposal could provide adequate price signals. Given many proposed renewable generators are adding a battery to their proposed generating system, MEA Group believe the proposal should send the correct investment signals to encourage this style of generating system. |
| 7) What are stakeholders' views on, if introduced, how the costs associated with any new FFR market ancillary services should be allocated? | MEA Group believes the costs should be allocated consistent with the existing Frequency Control Ancillary Services (**FCAS**) framework. |
| 8) What do stakeholders consider to be the likely costs associated with establishing two new ancillary service markets for FFR in the NEM? | MEA Group believes the costs to be minimal with some IT costs plus some amendments to AEMO's settlements processes and NEMDE attributable. |
| 9) What are stakeholders' views on how the proposed solution may result in any substantial adverse or unintended consequences in the NEM? | MEA Group cannot foresee any substantial or adverse or unintended consequences. |
| 10) Are there specific issues with FFR that stakeholders think should be addressed in the NER as part of the establishment of markets for FFR services? | Depending on when it was introduced it would need to align with the Primary Frequency Response Requirements (**PFRR**) rule change requirements. |
| **Question 8: Section 5.2 – Infigen – Operating reserves market** | |
| 1) Do stakeholders agree with Infigen that tight capacity conditions and increasing uncertainty in market outcomes are problems that an operating reserve would address? | MEA Group agree that the Infigen rule change proposal could address the tight capacity conditions and increasing uncertainty in market outcomes. An operating reserve market is a potential solution to the problem at hand but requires a detailed cost/benefit analysis to determine the likely effectiveness. The key to the success of the |

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| | proposal will be how likely it is to drive investment in operating reserve services, and availability of that reserve at times of need. |
| 2) Are there alternative solutions that could be considered to address tight capacity conditions and increasing uncertainty in market outcomes? | |
| 3) Do stakeholders consider Infigen's proposal would provide adequate pricing signals to drive efficient use of and investment in operating reserve services now and in the future? | MEA Group cannot determine whether this proposal will drive efficient use of and investment in operating reserve services now and into the future. While in the short term, MEA group consider that it would drive investment, any unintended consequences and perverse outcomes are difficult to predict.<br>It is unclear that a more dynamic/short-term reserves market would attract the same participants as the existing RERT program – which is more structured and potentially more attractive for participants who are normally 'less active' in the market. |
| 4) How do stakeholders think separate operating reserves arrangements would affect available capacity in the spot, contracts and FCAS markets now and in the future? | MEA Group consider that it is unclear that the operating reserves market would attract the same range of participants that are currently captured by the RERT program – that is to say some participants who choose to engage in RERT due to its structure and simple nature may not choose to become active participants in an operating reserves arrangement. If this were the case, then in the event of a tight operating reserve market we may see a net decrease in available system reserves compared to the current status quo – although recognising the costs inherent in the current system.<br>It is therefore important that an operating reserves market proposal demonstrate that potential dynamic impacts do not impose costs which outweigh the expected benefits. |
| 5) How do stakeholders think separate operating reserves arrangements would affect prices in the spot, contracts and FCAS markets now and in the future? | To the extent that the operating reserves market supersedes the use of RERT for managing system security and reserve requirements, the potential impact to prices could be significant – particularly in tight market conditions. It is important that prices provide signals for market participants to respond in the market; however we must be pragmatic in recognising that some of the driver behind the RERT program is that an administrative approach may suit some participants better than a dynamic market signal which requires closer monitoring and potential action. It is important that an operating reserves market not introduce its own difficulty and uncertainty in managing high price situations which are currently addressed with 'out of market' RERT reserves. |
| 6) How could the design of an operating reserve market (e.g. criteria for eligible capacity) best support competitive outcomes both in the operating reserves market but also energy and FCAS markets? | The ideal of an operating reserves market would be to incentivise additional market reserves to participate which are not currently active in the market. It would not be a net benefit to attract to an operating reserves market volume which is already participating in the energy and FCAS markets – reserving potential capacity which could be contributing real energy or FCAS to the system. To this extent it would be important that potential new participants in an operating reserve market (or existing RERT participants) be considered as to their needs and signals required to become effective new reserve providers in the new market. |
| 7) What are the factors that should be considered when seeking to set and procure efficient levels of operating reserve? | There are conflicting factors in setting reserve levels between certainty and flexibility. The nature of the NEM is that rapid changes in operational conditions can occur at any time and require a dynamic approach to their management – one benefit of the more dynamic operating reserves market proposed. Weighed up against this is the potential differences in the nature of reserves able to be provided – e.g. some participants may have cheap reserve but require advance notice, while others may have short notice but more expensive operational reserve. |

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| | Careful consideration of the interplay between flexibility, reliability, and potential cost would be required in setting up and running the operating reserves market. |
| 8) Would Infigen's proposed operating reserve market result in any substantial adverse or unintended consequences in the NEM? | MEA Group consider that it is challenging to comment on any adverse or unintended consequences in the NEM without a detailed proposal on the design of an operating reserve market. |
| 9) What are the costs associated with establishing an operating reserve market in the NEM? If introduced, how should these costs be allocated? | The introduction of a new market will, by the nature of introducing a new market, involve additional costs. MEA Group considers that the change in generation mix resulting in the uncertainty that this rule change seeks to address necessitates a response. Given these costs will likely be borne by consumers, it is important that the AEMC undertake a rigorous analysis of the costs and benefits of Infigen's proposal. It would need to be clearly demonstrated that the proposed change would drive a more efficient overall operating reserve provision than the status quo. |
| 10) What kind of incentive/penalty arrangements would be necessary to be confident the operating reserves procured are available when needed? | |
| **Question 9: Section 5.3 – Delta Electricity – Introduction of ramping services** | |
| 1) Do stakeholders agree with Delta that price volatility that occurs when dispatchable generators ramp through their energy bid stacks in response to predictable, daily, high rates of change from solar ramping up and down is a problem that needs addressing? | MEA Group acknowledges that increased solar penetration in the NEM has led to an increase in the maximum ROC for the solar ramping profile. It is not clear however, that price volatility which occurs as a result of a dispatchable generator ramping is an issue which needs addressing. These price signals themselves provide incentives to plant which can respond, and the offers made by dispatchable plant are able to be structured, to incorporate the cost of plant response.<br>MEA Group notes no analysis is included to identify the prevalence and cost of price volatility during solar ramping periods. |
| 2) Do stakeholders think that a new raise and lower 30-minute FCAS would address the price volatility at these times? Are there alternatives that could be considered to address this problem? | MEA Group is unclear that the proposed raise and lower 30-minute FCAS would address price volatility in the way envisaged in the rule change request. It is uncertain how the 30-minute FCAS would interact with the 5-minute dispatch interval and the regular dispatch of plant in accordance with energy offers. MEA Group would be wary of unintended and uncertain consequences of such a change in market structure and dispatch. |
| 3) Do stakeholders consider Delta's proposal would provide adequate pricing signals to drive more efficient use of and investment in ramping services thanks existing price signals and information provided through the PASA and pre-dispatch processes? | MEA Group notes that there is currently no significant and unmanageable market outcome from ramping, and that recent investment decisions in dispatchable capacity has tended towards flexible and fast-acting technology (e.g. batteries and gas peaking plant). MEA Group believe that existing market signals are currently providing sufficient incentives to manage ramping requirements in the market. |
| 4) How do stakeholders think a separate 30-minute ramping product would affect available capacity in the spot, contracts and FCAS markets now and in the future? | MEA Group believes it is difficult to comment on the likely behavioural incentives the proposed 30-minute ramping product would impose on those who currently participate in ramping through spot market offers. Current pricing outcomes provide strong incentives on participants to make capacity available when it is needed in the market, however it is unclear that the proposed product would incentivise additional capacity.<br>Conversely the removal or restriction by participants of offers from the spot market in favour of a new ramping product could drive adverse outcomes for spot market capacity and the clearing price. |

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| 5) How do stakeholders think a separate 30-minute ramping product would affect prices in the spot, contracts and FCAS markets, now and in the future? | Please refer to our response to Question 4 above. |
| 6) How could the design of a ramping FCAS product (e.g. criteria for eligible capacity) support competitive outcomes in both energy and FCAS markets? | |
| 7) What are the factors that should be considered when seeking to set and procure efficient levels of ramping services? | |
| 8) Would Delta's proposed new 30-minute raise and lower FCAS products result in any substantial adverse or unintended consequences in the NEM? | MEA Group is wary of the potential for the proposed 30-minute raise and lower FCAS products to distort the established dispatch and price setting process. The requirement for ramping capability is not an objective measure and would require AEMO to establish required quantities and matrixes which could create 'winners and losers'.<br>With 5-minute settlement to apply from 1 October 2021, it is not clear that a 30-minute ramping product would incentivise appropriate market responses over and above the current price signals – whether they are to be seen as 'volatile' or not. |
| 9) What are the costs associated with establishing new 30-minute raise and lower FCAS products in the NEM? If introduced, how should these costs be allocated? | MEA Group believes the paper needs to make clearer that the introduction of additional costs for 30-minute raise and lower FCAS products are off-set by benefits. While it is described as having 'modest' implementation cost by cloning existing FCAS systems and rules, it is not clear that the proposed products are intended to operate as existing FCAS products do. There is likely to be ongoing and uncertain operational costs bourne by AEMO in managing and implementing such a change to market dispatch.<br>It is unclear how a fair allocation methodology would look. For example, is it intended that solar is only to face this cost due to correlation, apply to wind farms which are grouped in a correlated wind area, or does it apply to a large dispatchable generator which intends to switch on and off? |
| 10) What kind of incentive/penalty arrangements would be necessary to be confident the new 30-minute raise and lower FCAS products procured are available when needed? | The current dispatch compliance system provides an easy and objective measure of provision of ramping in the market. It is unclear how this would interact with the proposed 30-minute FCAS products, particularly when a 30-minute ramping product would have to interact with 5-minute settlement. |
| **Question 10: Section 5.4 – Delta Electricity – Capacity commitment mechanism for system security and reliability** | **Quest** |
| 1) Do stakeholders agree with Delta that there is an increasing risk that capacity capable of providing reserves or services may not be available at times when the power system may need them to respond to unexpected events because of increasing incentives to de-commit? | Unit commitment is a fundamental competitive decision in the market for plant with a significant lead time to generate. A decision to de-commit requires an assessment of the risk of not being able to respond to unexpected events. MEA Group notes that assessing the need and potential structure for an ahead market is part of the current mandate of the ESBs Post 2025 Market Design work, and suggests that there is not an immediate need to presuppose the outcome of the ESB process by making ahead market design decisions outside of that process. |
| 2) Do stakeholders think that a mechanism to commit capacity one day ahead of time would deliver the reserves or services needed? Are there alternatives that could be considered to address this problem? | While an ahead market could potentially address the identified need for commitment to provide reserves or services, it is not clear that this is guaranteed, or that it would not dull investment signals provided by the current market structure. For example, the synchronous condensers currently being installed in South Australia are a direct |

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| | response to increasing costs from directing and compensating gas plant in the market. It is unclear whether they would be similarly incentivised were an ahead mechanism to be implemented and capacity sourced a day ahead.<br>MEA Group believes this proposal is likely to result in significant spill of renewable generation, particularly given the uncertainty in market outcomes a day ahead of time, and the structure of the Delta proposal. |
| 3) Do stakeholders consider Delta's proposal would provide adequate pricing signals to drive more efficient use of and investment in reserves and system services? | MEA Group does not consider Delta's proposal would drive more efficient use of and investment in reserves and system services. On the contrary it is possible that such a mechanism would crowd out the potential for new investment in favour of existing plant which may not be the most efficient outcome. |
| 4) How do stakeholders think Delta's capacity commitment payment would affect available capacity in the spot, contracts and FCAS markets now and in the future? | MEA Group considers that while the proposed commitment payment would increase available capacity in the spot market, it seems likely that this would be to a level above the efficient requirement. It is also likely to have a curtailing effect on renewable generation, potentially seeing investment in new generation reduce. |
| 5) How do stakeholders think Delta's capacity commitment mechanism would affect prices in the spot, contracts and FCAS markets now and in the future? | MEA Group believes an over-procurement of capacity in the market is likely to impose increased costs to the market over time. |
| 6) How would a capacity commitment mechanism and payment affect entry, exit and competition in the NEM over the short and long term? | A capacity commitment mechanism would need to be carefully considered and appropriately designed to avoid skewing towards an inefficient level of commitment in the market, and the associated costs which may arise. |
| 7) What are the factors that should be considered when deciding how much capacity to commit ahead of time? | The further from real-time a capacity decision is made the more likely it is that the market dynamic will change. MEA Group would suggest that for situations where a crystal-clear requirement for capacity is identifiable a day ahead that existing market incentives already provide signals for dispatchable plant to commit to generate. |
| 8) Would Delta's proposed capacity commitment mechanism result in any substantial adverse or unintended consequences in the NEM? | Delta's proposed capacity commitment mechanism is likely to result in greater than necessary spill of renewable generation. By setting strict requirements for commitment of dispatchable generation a day ahead there is likely to be significant periods of over-procurement of capacity – which would act to curtail renewable generation while |
| 9) What are the costs associated with establishing a capacity commitment mechanism in the NEM? If introduced, how should these costs be allocated? | MEA Group believes this is best answered as part of the ESB work program. |
| 10) What kind of incentive/penalty arrangements would be necessary to be confident that the committed capacity would be available throughout the commitment period and/or when called upon? | MEA Group believes this is best answered as part of the ESB work program. |
| **Question 11: Section 5.5 – Hydro Tasmania – Synchronous services markets** | |
| 1) Do stakeholders consider this rule change proposal presents a viable model for the provision synchronous services?<br>a) Could this proposed model be used to provide the essential levels of system strength (and / or inertia and voltage control) needed to | The proposal put forward by Hydro Tasmania is a novel approach to addressing the underlying issue with a lack of market signals and dispatch capability for synchronous services in the current market construction.<br>As the NEM transitions to a decentralised, predominantly variable renewable energy supply and increasing issues with synchronous service provision are observed, MEA Group believes there will be a requirement for either market-based or administrative recognition and reward for provision of these services. |

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| maintain security and the stable operation of non-synchronous generation?<br>b) Could this proposed model be used to provide levels of system strength (and / or inertia and voltage control) above the essential level required for security? | The approach proposed appears to be targeting the current level of binding constraints in the market that may be able to be relieved to some extent by greater dispatch of synchronous services in the market. The use of existing constraint formulations while adding in '*synchronous service generators'* to their formulation appears to provide additional capabilities to the dispatch engine to solve for more efficient market outcomes, based on expanded offers from participants. |
| 2) Do stakeholders consider that the creation of a synchronous services market could have any adverse impacts on other markets in the NEM? If so, what are these impacts? | The creation of a synchronous services market is likely to have a material impact on the current NEM energy framework with a high potential for unintended consequences. MEA Group believe further investigation is warranted to understand the correct mechanism that balances the increasing challenge of increasing penetration of asynchronous generation across the NEM, against the preservation (or investment in) generators that provide system security services, namely inertia, at minimal cost to consumers. MEA Group consider that any proposed rule change should focus on the optimal mechanism to encourage efficient investment and dispatch of in synchronous generation given the increasingly high cost of entry, decarbonisation and the inherent loss of inertia as a result of thermal asset retirement over the coming two decades. |
| 3) Would the proposed model set out in the rule change request efficiently price and allocate costs for synchronous services in the NEM? | MEA Group is unclear that the proposed model would efficiently price and allocate costs for synchronous services in the NEM. Particularly in constrained areas of the grid it would appear the proposed model would give market power to generators able to provide synchronous services in that area – such that these services may be priced above an efficient level. The proposal to directly allocate the cost of this provision to load in the constrained region also raises questions of equity and the spectre of cross subsidisation in the NEM between regions (where some may be 'free-riding' on the provision of synchronous services explicitly paid for by others). |
| 4) Do stakeholders consider the model set out in the rule change request to be capable of sending price signals sufficient to encourage new investment in synchronous capacity? | MEA Group does not believe the model set out in the rule change request will be capable of sending the most efficient price signals to encourage new investment in synchronous capacity. By tying the dispatch of synchronous services to particular constraints, participants would need to be confident that they were able to accurately predict the future behaviour of these constraints to be able to determine the potential value of synchronous capacity investments. Where existing constraints in particular areas are identified e.g. a constrained renewable generation area which could be relieved by synchronous capability – the incentive from avoiding lost/constrained generation is likely to be greater already than the proposed model.<br>MEA Group believes alternative models for rewarding synchronous capacity are worth investigating. |
| 5) Do stakeholders consider the rule change provides an appropriate incentive mechanism for existing synchronous generators to make operational decisions to provide synchronous services? | MEA Group agrees the proposed model provides a mechanism to dispatch synchronous generation and provides the dispatch engine with additional information to solve for an efficient market outcome. However, this is highly dependent on efficient offers for this service being provided by participants – a concern in areas where market power may be prevalent. |
| 6) Do stakeholders consider the rule change provides the appropriate locational signals for the provision of synchronous generators to provide synchronous services? | MEA Group agrees the proposed model provides a mechanism for NEMDE to dispatch services in appropriate locations as dictated by the binding constraints in the NEM at the time. Whether this will drive appropriate overall locational signals is unclear. |

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| 7) What do stakeholders see as the primary opportunities / limitations of the mechanism as proposed by Hydro Tasmania? | Whilst MEA Group recognise the proposed rule change request is aimed at addressing the increasing shortfalls in system strength across the NEM. There are several limitations that need to be addressed. These include:<br>- The proposed rule change may not actively encourage investment in synchronous generation.<br>- The model is susceptible to periods of market power in the provision of synchronous services.<br>As presented the mechanism proposed appears to provide an effective mechanism for dispatch of existing synchronous services in relieving certain constraints present in the NEM – an outcome which is worth pursuing in the absence of unintended consequences. |
| 8) Would the model proposed in the rule change request enable effective competition in the market for the provision of synchronous services? | Such that the market dispatch engine is given greater information and ability to dispatch synchronous services from participant offers, it would appear that competitive pressure could be effective – although it is hard to say that this would be true across the NEM and for all constraints/situations. |
| 9) What suggestions do stakeholders have in relation to the first order changes that would be required in NEMDE to facilitate this proposal and any second order changes that may be required as a result of this rule change proposals' implementation? | MEA Group will leave the NEMDE design considerations to others better placed to provide suggestions. |
| **Question 12: Section 5.6 – TransGrid – Efficient management of system strength on the power system** | |
| 1) Do stakeholders consider that TransGrid's approach addresses all issues related to system strength currently experienced in the NEM? | MEA Group generally agrees with the proposed approach detailed in the rule change request. However, some aspects of the approach MEA Group do not believe are appropriate, realistic or serve the long-term interest of the power system.<br>For example, the "process for renegotiating existing generator GPSs to reduce generator impacts on system strength" is not practicable. Nor is it clear how beneficial timeframes for provision of sufficient minimum fault levels at prescribed nodes would be achieved via the RIT-T framework, as opposed to the current 'do no harm' framework. |
| 2) Do stakeholders consider that a system strength planning standard met by TNSPs would effectively and pro-actively deliver adequate system strength? | MEA Group believes such a planning standard would perform better than the current system which is reactive and does not take into consideration proposed Renewable Energy Zones (**REZ**) or committed/planned generation. |
| 3) Do stakeholders consider TransGrid's proposal will provide useful and timely locational and financial signals to new entrants? | MEA Group believes it should perform better, however it is not clear yet as to what the financial signals are for new entrants or the improvement in time frames that could be expected as a result of the rule change. |
| 4) Do stakeholders agree that the 'do no harm' obligations should be removed?<br>a) If so, do stakeholders consider an alternative mechanism is required to regulate or incentivise the minimisation of a new | MEA Group believe the obligation should be removed. MEA Group believe there will need to be a type of mechanism to ensure new entrants do not try and connect inferior inverters to the network or connect in locations that require significant upgrades to the network to achieve AEMO's minimum fault levels at that node. This may, for example, reflect the planning intentions of AEMO's ISP and provide for a mechanism under that coordinated approach for timely provision of minimum fault levels. |

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| connecting generator's impact on the local network and proximate plant? | Further detail as to how the process would be employed is required to provide a more comprehensive response to the adequacy of an alternative mechanism.<br><br>At a high level, MEA Group agrees that a mechanism to incentivise connecting generators is required to achieve an economic and efficient outcome with respect to network augmentation to facilitate the connection of new or augmenting generators. |
| 5) What are stakeholder's views regarding generators' being required to make a financial contribution for provision of system strength services? | MEA Group would seek further information to better understand how the financial contribution is apportioned, how contestable it is and how the shortfall is calculated. Based on MEA Group's experience, the current financial costs and timelines for system strength are potentially being exploited by NSPs as a means for managing high volumes of work, rather than serving the best interests of consumers. |
| 6) Would stakeholders be supportive of the ownership of existing private system strength assets being transferred to TNSPs, as suggested in TransGrid's rule change request? | MEA Group does not own such systems. In principle, ownership, and operation of system strength assets by TNSPs should result in the long-term most economically efficient outcome for consumers. However, this should be stress tested to determine if this principle holds true, as it may be the case it is more cost-effective to do so via unregulated entities. |
| 7) Would the proposed, TNSP-led solution to system strength result in any adverse or unintended consequences for market participants in the NEM? | There would be an element of market power that TransGrid could exercise which has the potential to create an alternate bottleneck for industry (to the one currently presented by the 'do no harm' framework). The cost efficiency of providing a TNSP-led solution to system strength would need to be better defined to understand cost, timing, and pricing outcomes before a more robust assessment of adverse outcomes can be commented on. |

## **CHAPTER 6** – SYSTEM STRENGTH

| **Question 13: Section 6.1 – Evolving the regulatory definition of system strength** | |
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| 1) Do stakeholders consider that the AEMC's working description of the effects of system strength, and related problem description of system strength and its components accurately represents all elements of system strength, as experienced in the NEM? | MEA Group believes the paper has an appropriate problem description of system strength. |
| 2) If not, are there other components of system strength that the AEMC should include? | |
| 3) What measures might be used to define system strength? Is fault level the only measure that can be used practically, or are other measures available? | |
| **Question 14: Section 6.2 – Mechanisms to provide system strength above the essential levels that are necessary for security** | |

<table>
<tr><td>1) Do stakeholders consider the centrally coordinated model, as proposed by TransGrid, is the preferable option for providing system strength above the essential levels required for secure operation?</td><td>MEA Group agrees in principle with model proposed by TransGrid, provided an appropriate level of regulatory oversight is provided and that identification of system strength needs does not vest in Network Services Providers – rather with AEMO. In other words, Network Service Providers should not be able to set the system strength thresholds upon which they may trigger investment in network infrastructure.</td></tr>
<tr><td>2) Do stakeholders consider the decentralised, market-based model proposed by HydroTasmania to be the preferable option for providing system strength above the essential levels required for secure operation?</td><td>MEA Group does not believe HydroTasmania's proposed model to be preferable.</td></tr>
<tr><td>3) Could a hybrid of these models be used to deliver system strength above the essential level?</td><td>Given the lack of detail from both rule proponents, it is difficult to form a view as to whether a hybrid may or may not be appropriate.<br>Appreciating that system strength is a product of both network and generator characteristics (as well as load), much in the same way supply capacity adequacy is, then the potential for a hybrid solution may be of merit.</td></tr>
<tr><td>4) What do stakeholders perceive to be each model's strengths and weaknesses?</td><td>A centrally coordinated model:<ul><li>Strengths: Voltage management is presently the responsibility of the transmission network operator. With oversight of all connected generators and loads, as well as network infrastructure, TNSPs are provided the highest visibility of all things related to system strength and have broadest base from which to assess and plan for system strength works. Noting that the RIT-T framework does not necessarily preclude non-network solutions from providing system strength.</li><li>Weaknesses: Network service providers have relatively lower understanding of non-network solutions to system strength (i.e. network planners will not plan for generation solutions to system strength issues, only network-based solutions). As such, there is potential for sub-optimal economic outcomes for the assessment and planning of system strength works. Whilst the RIT-T framework provides for such non-network-based solutions, to date this option has rarely been exercised (typically in favour of network solutions).</li></ul>A decentralised, market-based model:<ul><li>Strengths: Could create a 'competitive' environment from which system strength could be procured in an economic fashion than compared to a centrally coordinated model.</li></ul>Weaknesses:<ul><li>A decentralised model may not lead to sufficient investment signals within the timeframes required for the service to be in place and operational.</li></ul></td></tr>
<tr><td>5) Do stakeholders consider there are other, alternative models for delivering system strength above the minimum levels required for secure operation?</td><td></td></tr>
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| 6) What do stakeholders perceive to be the biggest benefits and risks to introducing a mechanism to deliver system strength above the minimum levels required for secure operation? | The most obvious risk is the potential for overinvestment in infrastructure. However, this outcome should be contrasted against the current model where there is significant lost opportunity from generators not being able to connect in a timely fashion (thus deferring benefit realisation from that generator providing less costly energy into the market). Alternatively, if constraints are placed on asynchronous generators due to the untimely provision of system security capacity into the system. |

## CHAPTER 7 – OPERATING RESERVE SERVICE

| **Question 15: Section 7.1 – Requirement for a dedicated in-market reserve service, mechanism, or market** | |
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| 1) What do stakeholders see as the key drivers or changes in the NEM that could be addressed by introducing an explicit in-market reserve arrangement? | Responses to Chapter 5, Question 8 cover this section. |
| 2) Do stakeholders' think there is a need for an explicit in-market reserve arrangement in the NEM. If yes, do stakeholders consider the need to be permanent or transitional? | |
| 3) How would an explicit in-market reserve mechanism or market impact stakeholders? What would be the key benefits and costs? Would it effect stakeholders' operational or investment decisions? | |
| 4) Do stakeholders see there to be an explicit need for a capacity commitment mechanism as proposed by Delta? Do stakeholders see this as a separate need to an in-market reserve service? | |
| **Question 16: Section 7.2 – Achieving security and reliability using dedicated in-market reserves** | |
| 1) Do stakeholders have views on whether an in-market reserve market or mechanism should solve primarily for reliability outcomes and security outcomes second? Or can this be more effectively co-optimised? | |
| 2) How do stakeholders see an explicit in-market reserve market or mechanism interacting with the existing NEM reliability framework? What are the policy design priorities for a new operating reserves arrangement that would deliver the reliability needs of the power system? | |
| 3) How do stakeholders see an explicit in-market reserve market or mechanism interacting with the existing NEM security framework? What are the policy design priorities for a new in-market reserve market or mechanism that would deliver the security needs of the power system? | |

## CHAPTER 8 – FREQUENCY CONTROL

| **Question 17: Section 8.1 – Reforms related to the provision of synchronous inertia** | |
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| 1) Do stakeholders consider that the issues relating to declining levels of synchronous inertia have been adequately and accurately described? | MEA Group believes the paper has an appropriate problem description of the issues relating to declining levels of synchronous inertia. |
| 2) Are there any other issues related to the provision of synchronous inertia that have not been adequately described? | Not Applicable |
| 3) What are stakeholders' views on the approach to considering the interaction between FFR and inertia in the NEM? | MEA Group believes the paper has an appropriate description of the interaction between FFR and inertia. |
| **Question 18: Section 8.2 – Reforms related to frequency control during normal operation** | |
| 1) Do stakeholders consider that the issues relating to frequency control during normal operation have been adequately and accurately described? | MEA Group believes the paper has an appropriate description of the issues relating to frequency control in normal operating conditions. |
| 2) Are there any other issues related to frequency control during normal operation that have not been adequately described? | |
| 3) What are stakeholders' views on the proposed approach to reforming the process for the allocation of the costs of regulation services (Causer pays)? | MEA Group would prefer to see the causer pays framework not be changed in the immediate term but rather be addressed as part of the ESB's 2025 review works. |
| 4) Is the level of specification of regulation services in the NER fit for purpose as the power system transforms? | |
| **Question 19: Section 8.3 – Reforms related to frequency control following contingency events** | |
| 1) Do stakeholders consider that the issues relating to frequency control following contingency events have been adequately and accurately described? | MEA Group believes the paper has an appropriate description of the issues relating to frequency control following contingency events. |
| 2) Are there any other issues related to frequency control following contingency events that have not been adequately described? | Further, MEA Group would emphasise that without additional reform, generators (including new fast responding technologies such a Li-ion batteries) are not currently incentivised to provide any frequency response prior to two seconds. |
| 3) What are stakeholders' views on the best way to address the challenges to managing system frequency following contingency events, including reforms to value and reward FFR? | Prior to any reforms being made, MEA Group is of the view that an assessment of the benefits of introducing an FFR service is still necessary. This work is needed to support the hypothesis that the added cost to the system (for rewarding providers of FFR, as well implementation costs) is less than the benefit of reducing the quantum (and as a consequence cost) of slower contingency FCAS services (6 second, 60 second and 5 minute). |
| 4) Is the level of specification for contingency services in the NER fit for purpose as the power system transforms? | |

## CHAPTER 9 – INTERACTIONS BETWEEN SYSTEM SERVICES

| **Question 20: Section 9.1 Technological and temporal issues for system service provision** | |
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| 1) What are stakeholders' views on how the arrangements for system services can be developed, to best utilise the capability of both established, as well as new and emerging technologies? | As discussed above MEA Group believe it is appropriate that a market-based approach be adopted where possible. MEA Group agree, however that several of the proposals are best considered holistically by the ESB in its Post 2025 Market design process. The potential for unintended consequences or rule changes that counteract one another is amplified when a piecemeal approach to reform is adopted. |
| 2) Do stakeholders have any initial thoughts on how the arrangements for system services can be best coordinated over dispatch, commitment, and investment time frames? | We generally support where possible the provision of system services via existing frameworks such as NEMDE. To the extent changes are required to accommodate additional services such as fast frequency response then we support these changes. Where much broader redesign or the introduction of additional mechanisms is required, MEA Group have concerns that these changes may have material unintended consequences for the market and make the ESBs work on the Post 2025 Market design more complex. |
| **Question 21: Section 9.2 – Aheadness and commitment** | |
| 1) Do stakeholders agree with the characterisation of arrangements for aheadness and commitment, including the potential benefits? | MEA Group agrees with the characterisation of arrangements for ahead-ness and commitment, and the potential benefits – noting however that there is no 'free lunch' and that moving towards an ahead market structure is a significant departure from the current structure and operation of the energy-only market, with its own potential risks and costs. |
| 2) What are stakeholders' views on the potential downsides of introducing arrangements for commitment of capability ahead of dispatch? | There is an ongoing risk in an ahead commitment arrangement of driving over-procurement of capacity, with associated costs – in the short term of potential spill of available resources, and the long term in crowding out new investment. There are also potential distortionary impacts from imposing ahead market structures on an energy-only market in terms of contract liquidity, pricing efficiency, and competitive pressures. |
| 3) Are there alternative arrangements that can reduce the increasing uncertainty associated with power system operation in the NEM? | All avenues to improving forecasting certainty in power system operation are likely to drive improved efficiency. MEA Group notes as an example that intermittent renewable self-forecasting has the potential to improve forecast error, and ongoing improvements in demand forecasting and the understanding of fuel and generation availability in extreme conditions are likely to continue (for example improvements in management of plant in extreme heat conditions). There are ongoing trade-offs in an electricity market between certainty of security and efficiency and it is important that an appropriate balance is struck and that signals for participants drive the best outcomes in the long term. |
| **Question 22: Section 9.3 – Cost recovery arrangements** | |
| 1) What are stakeholders' views on the appropriate approach to cost recovery for each of the system services discussed in this paper? | To the extent that costs can continue to be recovered from the parties best placed to manage those risks MEA Group would encourage this framework be followed. An example being the recovery of FFR raise and lower services being recovered from market generators and customers, respectively. |

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| 2) In each case, how can the cost recovery arrangements be developed to lower the overall costs of the NEM? | MEA Group agree the cost recovery arrangements should be placed with those participants most capable of managing the respective risk. |
| **Question 23: Section 9.4 – Implementation considerations** | |
| 1) What are the challenges or implications associated with implementing proposed arrangements discussed in this paper? | |
| 2) What are stakeholders' views on the prioritisation or staging of the reforms to address the issues discussed in this paper? | MEA Group agree that prioritising work packages along the lines proposed in the paper are appropriate. We are especially cognisant of the ESBs Post 2025 Market design program and how that work relates to a number of the proposed rule changes. |