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Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000
Submitted online at: www.aemc.gov.au

Dear AEMC

Submission: Consultation Paper – Transmission Access Reform

CS Energy welcomes the opportunity to provide a submission to the Australian Energy Market Commission's (**AEMC's**) Consultation Paper on *Transmission Access Reform* (**Paper**).

About CS Energy

CS Energy is a proudly Queensland-owned and based energy company that provides power to some of our state's biggest industries and employers. We employ almost 600 people who live and work in the Queensland communities where we operate. CS Energy owns and operates the Kogan Creek and Callide B coal-fired power stations and has a 50% share in the Callide C station (which it also operates). CS Energy sells electricity into the National Electricity Market (**NEM**) from these power stations, as well as electricity generated by Gladstone Power Station for which CS Energy holds the trading rights.

CS Energy also provides retail electricity services to large commercial and industrial customers throughout Queensland and has a retail joint venture with Alinta Energy to support household and small business customers in South-East Queensland.

CS Energy is creating a more diverse portfolio of energy sources as we transition to a new energy future and is committed to supporting regional Queensland through the development of clean energy hubs at our existing power system sites as part of the Queensland Energy and Jobs Plan (**QEJP**).

Key recommendations

The power system is undergoing unprecedented change with the uptake of new generation technology as the system transitions to a lower carbon footprint. Investment in new energy resources and transmission infrastructure will facilitate this transformation if underpinned by stable investment and planning frameworks.

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While CS Energy supports the promotion of investment certainty and maximising the operational efficiency of the power system, the proposed model of Transmission Access Reform (**TAR**) falls short of these objectives. The AEMC and the Australian Energy Market Operator's (**AEMO's**) exploration of the theoretical construct has been insightful and worthwhile but highlights the intractability of the reform and that it should not be progressed.

CS Energy remains unconvinced that, even if the purported benefits of the hybrid model did materialise, they are commensurate to its complexity and the scale of the problem. The proposed model is complicated, expensive and difficult to implement and likely to have perverse outcomes on investment and the market. This is in the best case of assuming close to full participation in the Congestion Relief Market (**CRM**), an assumption that CS Energy does not consider rigorous. Nor is it rigorous or appropriate to have a core policy objective being to rectify the issues introduced by the accompanying policy. The Paper also does not address the fundamental issues that stakeholders have with the proposed design, and it is unlikely that these can be resolved by September.

Jurisdictional policies such as the Capacity Investment Scheme (**CIS**), Renewable Energy Zones (**REZs**) and the QEJP are already providing locational investment signals. Given these major transformations already underway and that a post-2030 market design project is imminent, implementing a change of this nature would result in unnecessary cost being borne by consumers. TAR should not be considered in isolation.

CS Energy is also concerned that priority access may undermine its ability to transform its existing coal generation sites to clean energy hubs as per the QEJP. Renewable generation and dispatchable capacity need to be in place prior to the exit of existing capacity, yet these new projects will be penalised under priority access and will be exposed to greater risk as they will be curtailed first, affecting the investment case.

While CS Energy disagrees with progressing TAR at this time, it notes that many stakeholders, CS Energy included, were supportive of the further exploration of the CRM as a standalone reform provided it was simplified in execution and remained truly voluntary. Given this feedback, it is disappointing that the AEMC has not considered this option in the Paper but rather introduced more complicated variations of the hybrid model without addressing fundamental concerns.

<u>General Comments</u>

While unsupportive of TAR, CS Energy provides comments on the proposed reform below and responses to the specific consultation questions are given in Appendix 1.

The TAR proposed has several fundamental challenges:

- **The tenets of reform are flawed** – One of the main objectives of the CRM is cited to be to correct the inefficiencies created by priority access. The cogency of such an objective is disconcerting as are the stated benefits of the CRM outlined in the Paper. Of the three benefits, two relate to ensuring the perverse outcomes of priority access are minimised while the third quotes the voluntary nature of the CRM. The latter is hardly a policy "benefit" but rather a feature and in fact the *benefit* the CRM delivers in minimising the impacts of priority access rely on close to 100% participation. Furthermore, the co-optimised option implies that this voluntary feature is non-sensical, negating any of the purported benefit of being voluntary.

- **The benefits are unclear and overstated** – The Paper states the benefits of the proposed TAR as providing investment efficiency by providing locational signals which in turn will reduce the risk of cannibalisation, and by addressing 'disorderly bidding' which in turn delivers operational efficiency.

  CS Energy questions the extent to which locational signals will be provided above those being established by federal and jurisdictional policies such as the CIS, REZs and the QEJP and jurisdictional equivalents, as well as the enhanced information work already underway. Any benefits of access reform will be incremental to the benefits that will accrue from these Government initiatives. At best, TAR would duplicate potential outcomes and represent a diminishing return for consumers at an increased cost.

  In designing their REZs, many jurisdictions have already put in place a form of priority access regime to ensure REZ investments are not cannibalised by non-REZ generation. Queensland for example, in its QEJP legislation allows for the designation of "REZ controlled assets" which are transmission assets outside a REZ but which may impact its operation, and connection to which can be regulated.[1]

  Furthermore, the design implications of the implementation of TAR reveal that the locational signals are often diluted or undermined. For example, the prototyping has indicated that priority can be relatively soft and, in many instances, lower priority generators are dispatched more than higher priority generation.

  The AEMC and the Energy Security Board (**ESB**) before them have been persistent in the argument that access reform is required to address 'race to the floor bidding'. Modelling by Baringa Partners of the prior Coordination of Generation and Transmission Investment (**COGATI**) model demonstrated the benefits from removing disorderly bidding were minimal and certainly did not justify the cost of implementing the reform.[2]

  A benefit also stated by the ESB was the reduced cost of capital due to the management of access risk. As outlined below, CS Energy disagrees with this and considers priority access to more likely result in increased costs under the proposed reform.

  Irrespective of these issues, the benefits of TAR are also intrinsically linked to the level of participation in the CRM. Assessment of the benefits by the ESB was based on 80% participation when the scheme was initiated increasing to 100% participation two years later. The ESB in fact stated that participation greater than 80% was necessary for the CRM to be viable.[3] This is highly unrealistic, and any diligent benefit assessment would consider the lower thresholds of little participation particularly when the policy is reliant on participation to correct inefficiencies of the reform. This is important as the analysis did demonstrate that only 11% of the total benefits of the hybrid model arise from the operational timeframe in which the CRM is active despite the CRM constituting the majority of the implementation costs.

  Even if one were to take the purported benefits at face value, the identified benefits are equivalent to only around $161 million per annum.[4] This is a modest sum relative to the size of the financial markets particularly given the impact on which was not included in the cost-benefit analysis.

[1] *Energy (Renewable Transformation and Jobs) Act 2024*, Subdivision 2 and 3
[2] Baringa Partners, *An independent assessment of the NERA report on the AEMC's proposed transmission access reforms*, October 2020
[3] ESB, *Transmission Access Reform Directions Paper*, November 2022
[4] Australian Financial Markets Association, *submission to ESB, Transmission Access Reform Consultation Paper*, May 2023

- **The costs have been understated -** The cost-benefit analysis performed by the ESB in 2023 drew heavily upon assessments performed during the consideration of the COGATI reform. This analysis ignored the impact of the reform on the financial markets. Subsequent modelling by Baringa Partners demonstrated that COGATI would deliver a net cost to consumers of over $3 billion due to these impacts.[5]

  While the hybrid model of the Paper is different to COGATI, the principles are relevant and highlight the importance of the proper assessment of potential costs to the financial market. The Australian Financial Markets Association (**AFMA**) clearly elucidated these impacts in its submission to the 2023 consultation.[6] More recent assessment of priority access reform has also demonstrated it to deliver a net cost, including a doubling in Levelised Cost of Energy (**LCOE**) costs for the same installed capacity and under-utilisation of the network.[7]

  As identified in the Paper, priority access often results in a dispatch at higher Regional Reference Price (**RRP**). The costs associated with this are ignored based on the unrealistic assumption of full participation in the CRM. The reforms also introduce basis risk which will challenge the ability of generators to sell hedge cover and increase the cost of hedge cover to retailers. This will in turn increase costs to consumers.

  Furthermore, the costs in the investment timeframe have not been considered. The complexity of the hybrid model will increase investment risk. Uncertainty in the level of firmness and the unpredictability of dispatch outcomes will be difficult for investors to factor into their modelling, and the exposure to wide-ranging constraints disproportionately increases the investment risk. This will make projects harder to finance, not reduce the cost of capital as claimed by the ESB and AEMC. Its complexity will also make corporate structures such as joint ventures untenable.

- **A new cost benefit analysis is necessary –** the cost-benefit analysis performed was not only lacking for the reasons outlined above but was not performed on the model presented in the Paper. Furthermore, this analysis was not released in full to stakeholders concurrently with the consultation paper, providing limited ability for stakeholders to comment.

  As outlined in its previous submission, CS Energy questions the thoroughness and veracity of the cost-benefit analysis. The implementation costs were limited to IT and legal costs and, for market participants, were reliant on the assumptions made during the COGATI consultation. These inputs were widely criticised and disputed by industry during this process, with the ESB also ignoring the impacts on the financial markets.

  Any recommendation to continue to explore the development of this model must be accompanied by a new, credible cost-benefit analysis that incorporates the cost to the financial markets as well as considers the benefits in the context of reforms already underway and more realistic levels of participation in the CRM. This cost-benefit analysis must be rigorously tested with stakeholders.

- **Integration is simplistic –** the prototyping work considers the hybrid model in isolation of other initiatives and operational realities which could subdue its benefits as the increased market complexity may disincentivise investment. For example, the Transitional Services Framework is due to commence this year and any future value for

[5] Baringa Partners, *Op cit*,
[6] AFMA, *Op cit*
[7] P. Simshauser and D. Newbery, *Non-firm vs Priority Access: on the Long Run Average and Marginal Cost of Renewables in Australia*, December 2023

system services will change the operational incentives participants face and hence any operational access reform model. The list outlined in Section C.11 of the Paper needs to be considered and tested for both technical feasibility and market impacts prior to any further work.

- **The cure is worse than the disease –** Against this backdrop, CS Energy questions the magnitude of the issues that the reform is seeking to address and whether these issues warrant the level and complexity of the proposed solution.

  Investment certainty and efficiency relies on simplicity and transparency. The practicalities of implementing priority access are likely to have perverse impacts as acknowledged in the Paper which in turn will increase market uncertainty and affect the ability to finance new projects as investors will be exposed to new, unforecastable risks. The complicated market reflected by the hybrid model will increase investment risk as outcomes will "be difficult to predict"[8]. The Paper itself states that "unpredictability adds to the cost of capital"[9] and cites this as a reason for reform, yet this is contradicted by the unpredictability established by the hybrid model.

  CS Energy is of the view that the proposed models will add a layer of complexity to the dispatch and settlement processes potentially adversely impacting market liquidity, increase investment risk, and will do little to address the purported issues. Ultimately, the access reform proposed is likely to deliver increased costs to consumers with its benefits incommensurate to its complexity.

  The Paper also ignores other, less disruptive options to managing congestion such as the increased co-location of batteries and non-market approaches such as network support agreements.

CS Energy is also concerned that TAR is being pursued in isolation of the evolving reform landscape. Jurisdictional commitments are already providing locational signals and will undermine the efficacy of priority access as discussed above, and the Commonwealth has announced a review of the NEM design post-2030. The former will impact the level of benefits provided by TAR and the latter has the potential to make TAR obsolete.

CS Energy considers that the hybrid model was worth exploring but has demonstrated its complexity and questionable benefit in a simplistic implementation. Given the broad issues outlined above, CS Energy does not consider TAR to be a priority in the short-term and it would be more beneficial for AEMO's and participants' resources to be focused on more pressing issues such as system security and new connections. CS Energy supports the AEMC to make a recommendation not to progress TAR.

CS Energy provides some comments specific to each component of the TAR below.

<u>Priority Access</u>

The prototyping performed by AEMO provides a useful insight into the practicalities of implementing priority access. Of particular interest are the following findings:

- The degree of prioritisation achieved is subject to technical considerations;

- In some instances, the dispatch can cause changes in queue position;

[8] AEMC, *Transmission Access Reform Consultation Paper*, April 2024, p.58
[9] *Ibid*, p.86

- Priority access on its own often results in an inefficient dispatch, with the RRP higher as much as 31% of the time compared to no priority dispatch;

- Priority access relies on the CRM dispatch as "a mechanism to correct both existing and newly created inefficiencies in prioritised dispatch";[10] and

- The prototyping analysis showed that in certain circumstances, "the implementation of priority access may be difficult to predict and impact the RRP".[11]

The inefficiency, unpredictability and uncertain level of firmness of priority access as represented by the prototype raises serious concerns. It is also important to note that the prototype only explores the technical feasibility in a stylised system and does not reflect the operational and financial realities of the market.

Given investment decisions rely upon predictability and certainty, priority access as presented in the Paper will be detrimental to investment in the NEM. Uncertainty in the level of firmness and the unpredictability of dispatch outcomes will be difficult for investors to factor into their dispatch modelling, a sentiment expressed in the Paper.[12] This will deter financing as investors will be unsure of the impact on expected return on investment. Even if the level of priority was firmer, investors are still likely to place different values on priority positions.

The queue model delivers a little more certainty over a centrally determined tier approach with the latter likely to result in inconsistencies across jurisdictions, increasing market risk. However, across all models, the policy levers underpinning the proposed regime may further affect investment certainty due to the risk that these may change over time.

CS Energy also believes that the allocation of priority will assign future generators with a disproportionate share of risk arising from emerging system conditions such as line de-rating or new system security constraints that can't be foreseen. While the system strength constraints are now well-known, they represent an example of how constraints can arise unexpectedly and impact on a project. It has been stressed that AEMO does not yet have the engineering knowledge to decouple essential system services. This raises the real possibility of new system security constraints arising that cannot be predicted or factored into investment decisions. Taking the system strength example, such new constraints can have material impacts on generation. Given the power system is in transition, it is fundamental for the allocation of future risks to be considered carefully. If not, it will be harder to finance new projects.

The unpredictability and uncertainty of priority access will undermine future investment irrespective of the implementation model. Despite this, CS Energy provides some comments specific to the models presented in the Paper:

- **Option 1** – of the four models, this option is CS Energy's preferred approach as it is the "least-worst" though it is difficult to view it as politically palatable. If priority levels are determined on a NEM-wide basis, REZs that have not yet been committed in different jurisdictions will likely have relative differences in priority levels. Energy Ministers would need to be comfortable with this reality.

[10] *Ibid*, p.30
[11] *Ibid*, p.58
[12] *Ibid*, p.104

CS Energy also questions the level of firmness of this option and whether the benefits are overstated. The Paper states that Bid Floor Prices (**BPFs**) would not be sufficient to provide an ideal level of effective priority[13] offering only conditional derisking of potential cannibalisation and only for a period of ten years.

- **Option 2** – is a variation on Option 1 and, is not CS Energy's preference if it were to proceed. Thought would need to be given to more specific definitions of REZs and the impact on the declaration and subsequent prioritisation of new REZs.

  This option would be inefficient as projects participating in REZs are already intrinsically incentivised to locate there and so by providing them with priority in addition is giving them an effective double dividend at the expense of other new entrants. Furthermore, as outlined above, jurisdictions already have measures in place to protect REZs from non-REZ investments and so, from the REZ perspective, access reform is redundant. Challenges however will arise between REZs as they have no relative priority although it would be prudent to consider that this would be taken into account during the planning of new REZs.

  For non-REZ participants however, this option of priority is detrimental, with an increased investment risk outside of REZs with projects potentially usurped by the declaration of new REZs nearby, stifling non-REZ development even if considered to be efficiently located.

- **Option 3 –** is likewise problematic, but more so as projects outside of REZs can also be declared as priority projects. This increases the level of unpredictability and thus investment risk. As non-REZ projects have no priority relative to one another, this option provides no investment benefits to them.

- **Option 4** – would need further work before it could be considered as a credible option however CS Energy does not consider it has benefits. It is difficult to understand how participants would bid given the constraints included in the dynamic grouping would change. This is further complicated by the fact your priority group can change each dispatch interval making it highly unpredictable and difficult to model. It is unclear whether the outcomes of the dynamic grouping would be communicated to market participants through pre-dispatch to help manage this unpredictability. So, while this option may mitigate the risk of wide-reaching constraints (although CS Energy remains unconvinced), it does so by replacing one form of unpredictability with another.

  CS Energy also notes that this option has the larger impacts on the RRP.

<u>Congestion Relief Model</u>

The Paper presents two design options for the hybrid model, both of which have their shortcomings. These are both fundamental to the policy design and in the case of the co-optimised dispatch, the result of the implementation design.

As stated previously, the objective of the CRM to correct the inefficiencies of priority access is fundamentally flawed and results in irresponsible reform. The reliance on close to 100% participation in a voluntary scheme continues to feed industry concerns that the CRM will not remain voluntary given the corrective feature of participation otherwise the CRM runs the risk of being costly and unsubscribed. Indeed, the co-optimised option effectively mandates participation.

[13] *Ibid*, p.36

The CRM's potential benefits have been considered through the theoretical lens of solving for a single dispatch interval, ignoring the drivers of participant generation and contracting behaviour over time, and falsely assuming that the most efficient outcome is the dispatch of plant with lowest Short-Run Marginal Cost (**SRMC**). Dispatch efficiency cannot be reflected by SRMC alone and needs to properly incorporate the drivers, incentives and risk management strategies of participants. A plant may seek to be dispatched despite SRMC for many reasons including both contractual obligations and the desire to minimise potential exposure together with the operational characteristics of plant. Participants also bid based on their suite of assets and in order to optimise their portfolio and fuel availability over the financial year. The simplistic application of SRMC-based bidding in the Paper establishes a false premise that the commercial realities of the market are inefficient.

This simplistic modelling approach itself has highlighted concerns with both approaches:

- **Two-stage model** – CS Energy's comments to the ESB's Consultation Paper in May 2023 remain relevant in considering the two-stage implementation of the CRM especially regarding the complexity it adds to dispatch and settlement processes.

  Given the CRM is required to correct the inefficiencies of access dispatch, its voluntary nature is questionable. In reality the CRM will require the majority of market participants to be active otherwise it will not realise the benefits identified. Full participation will also be required to attain market liquidity and the prototyping has revealed that the CRM relies on the participation of a range of generators in order to balance the physical energy flows.

  Opt-out participants will also bear the costs of its implementation as they will still need to implement new systems to hold and analyse the additional market data. Surety would also need to be given that AEMO's implementation costs are not allocated to opt-out participants.

  CS Energy has concerns with how the CRM will be integrated into the NEM Dispatch Engine (**NEMDE**), with the Paper highlighting the challenges that exist for the simple prototype. The CRM will effectively duplicate the Market Management System (**MMS**), doubling the amount of information that AEMO receives. There are already delay issues with NEMDE and this will be compounded by adding a sequential dispatch. Doubling dispatch processing will result in delays in receiving Automatic Generation Control (**AGC**) signals, will leave minimal time for trading response and potentially adversely impact Rules compliance.

  CS Energy is also concerned about the proposed data and information flows. Compliance frameworks will be arduous and, regardless of participation, all generators will need transparency in relation to the CRM outcomes. If not, the market is partially settling on a price that is unseen to all participants which makes it difficult to manage physical and financial risks in subsequent dispatch periods.

  Although CS Energy agrees that the access dispatch RRP should be used, it is concerning that the Paper acknowledges that the "implementation of priority access may be difficult to predict and impact the RRP"[14]. This will impact on the contracts market further.

  CS Energy disagrees that this is analogous to the Frequency Control Ancillary Service

[14] *Ibid,* p.58

(**FCAS**) markets as claimed in the Paper. FCAS markets may be voluntary to participate in but their cost allocation to participants is not, and participants take FCAS markets into account when making energy decisions. This is achieved through the transparency and relative separation of the FCAS market, a characteristic not reflected by the CRM. FCAS is a different service and doesn't change the form of the RRP unlike the CRM.

- **Co-optimised approach** – CS Energy does not support the co-optimised approach as presented in the Paper with the simple model revealing concerning outcomes.

  Firstly, the acknowledgment that the physical dispatch can influence the access dispatch completely undermines the objective of priority access and will introduce significant investment uncertainty. It also introduces a level of irony in the underlying policy premise: CRM is required to correct the inefficiencies of access reform but in doing so removes the allocation of access in its implementation.

  Given "physical bids can affect access dispatch outcomes"[15] even if a participant opts out of the CRM, participants will be forced to participate given the objective function of the co-optimised dispatch is likely to penalise them if they do not.

  The lack of the voluntary nature of the CRM is further acknowledged in the RRP on which energy is settled, with this set by the physical dispatch. AEMO itself acknowledged in the April 2024 Technical Working Group that the RRP will be uncertain and hard to control. This will have an immense impact on financial markets.

  The model also has a complex bidding structure, and the implementation cost and effort are likely to be large and not commensurate to its benefits particularly given its flaws. There has also been no exploration in how the co-optimised CRM price could be gamed or how individual bids would affect the RRP.

  CS Energy does not consider either model should be progressed.

Conclusion

CS Energy is not supportive of the hybrid models presented in the Paper and is of the opinion that the AEMC should recommend to Energy Ministers that they not be explored further. Priority access is fraught with issues and introduces risk and complexity into the market and a reliance on the CRM to rectify its shortcomings. Given the locational signals provided by current policies and the jurisdictional efforts to prioritise REZs, it is unclear exactly what problem is being solved and how the proposed model is commensurate.

CS Energy is also concerned that priority access will hinder the transformation of existing coal generation sites into clean energy hubs as set out in the QEJP and as is already occurring.

The CRM has morphed from its original proposal as a mechanism ancillary to the market, and both implementation options are highly problematic. A reliance on near full participation rate to generate benefits in a voluntary mechanism is unrealistic and the co-optimisation option forces participation through its design. The implementation is complex, often undermines the intent of the access dispatch and can often result in a RRP that is unpredictable, driving adverse impacts on the financial markets.

[15] *Ibid*, p.61

CS Energy considers the hybrid models proposed to be unworkable with many fundamental issues remaining unaddressed which will not be resolved by September. It would be irresponsible to make recommendations to progress based on the current status of work and the technical challenges presented, and a lack of a credible cost-benefit analysis. The resources of the market bodies and industry are much better placed focussing on more imminent issues such as system security, new connections and the upcoming NEM 2030 review.

If you would like to discuss this submission, please contact myself on 0407 548 627 or ademaria@csenergy.com.au.

Yours sincerely

Dr Alison Demaria
Head of Policy and Regulation

Appendix 1 – Answers to consultation questions

Industry stakeholder feedback guide – Transmission Access reform

RE - AEMC Consultation Paper - Transmission Access reform – April 2024 EPR0098

The AEMC has published a Stakeholder Feedback Template alongside the consultation paper for the Transmission Access Reform project.

The AEMC's list of consultation questions laid out in the template represent a good start. However, it is critical that detailed industry perspectives are drawn out, particularly as these relate to the material issues identified over the last few years of stakeholder consultation.

This document draws out those detailed issues and is intended to complement the AEMC's feedback template. Questions have been prepared by a group of industry participants who have had extensive experience in the development of the TAR process. They are intended to add to the depth and quality of stakeholder feedback to the AEMC's processes.

Stakeholders are invited to amend or add to this document as they see fit – it is intended as a guide only and is not an exhaustive description of all the issues. Stakeholders are also welcome to use this template as the basis of their submission, recognising that AEMC questions and industry questions have been purposefully separated.

Testing and modelling the hybrid model

Feedback on cost benefit analysis (CBA) conducted in 2023

AEMC Question 1: Feedback on CBA conducted in 2023

What are stakeholder views on the assumptions used in the CBA?

CS Energy disagrees with the AEMC's position that the CBA undertaken to date provides clear directional net benefits and redoing the CBA would not provide significant and new insights. This is because the assumptions used in the 2023 CBA are neither credible, realistic nor reflective of the hybrid model proposed. Specifically, the CBA leant heavily on the NERA's modelling, which:

- Was based on the COGATI's proposed design that is materially different to the hybrid model;
- Assumed an unrealistic high participation rate in the voluntary CRM;
- Over-estimated the incidence of and benefits of removing disorderly bidding;
- Falsely assumed that all bidding will be at SRMC;

- Did not consider the impacts on financial markets including implications on liquidity and the costs of hedging;
- Did not account for recent reforms that provide locational signals including the CIS, REZs and enhanced information reform; and
- Did not assess whether priority access would increase investment risk due to wide-ranging constraints.

Industry's additional questions for consideration:

(a) *Do you consider NERA's CBA modelling of COGATI in 2020 and CMM/CRM updated analysis in 2023 to be an accurate Cost Benefit Analysis of the current (Priority Access and Congestion Relief Market) hybrid model? Why / why not?*

No. As discussed, NERA's modelling was based on unrealistic assumptions and COGATI's proposed design. Even if the assumptions applied were more accurate, the CBA would not be appropriate given the hybrid model is materially different to the COGATI design.

(b) *Do you consider the Cost Benefit Analysis appropriately reflects the impact on financial markets? If not, do you consider that financial market impacts would likely have a material impact on a CBA?*

No. As noted, the 2023 CBA did not appropriately account for the impact of the hybrid model on financial markets. CS Energy considers that the impacts on financial markets are likely to be material as the hybrid model (with local pricing) could undermine the effectiveness of the RRP as the key price signal to hedge exposure to price volatility, which in turn may reduce the liquidity of existing financial markets.

As highlighted in AFMA's submission, the 2023 CBA identified benefits of $4.03 billion from the hybrid model, which is equivalent to a benefit of around $161 million per annum. This is a modest figure relative to the size of financial markets such as the ASX energy derivatives, which had a contract value of more than $90 billion traded in 2022. For a market of this scale, even a small impact on financial markets, could easily offset the limited benefits identified. Therefore, it is important to consider the impacts of the hybrid model on financial markets.

(c) *Do you support a new Cost Benefit Analysis being undertaken of the model ultimately recommended by the AEMC even if it causes a delay in the decision process? Why do you consider this necessary or unnecessary?*

Yes, CS Energy supports a new and credible CBA to inform any recommendations or next steps even if it causes a delay in the decision process. As noted, the 2023 CBA was deeply flawed with unrealistic assumptions. There are fundamental issues with the hybrid model that the AEMC has not addressed, and these will not be resolved by September. The new CBA needs to reflect the proposed hybrid model and have more realistic assumptions. There should be no recommendations made to Energy Ministers without a new CBA that has been rigorously tested with stakeholders.

Feedback on prototyping
AEMC Question 2: Feedback on prototyping *What are stakeholder views on the result of the prototyping analysis? Is there any additional analysis that would be useful?* The findings of AEMO's prototyping raise serious concerns about the potential inefficiency, unpredictability and unintended consequences of priority access, including: • Higher RRPs for 31% of the cases analysed compared to no priority access; • Higher priority generators were curtailed in 30% of the cases analysed compared to no priority access; • The level of access firmness and resulting RRPs are unpredictable for generators under priority access with a wide dispersion of potential outcomes. It is also important to note that the prototyping analysis is based on a stylised system that does not reflect the operational and financial realities of the NEM. As part of evaluating the hybrid model, CS Energy considers more analysis would need to be undertaken to better understand the cause and source of these unintended outcomes with more realistic modelling assumptions. This includes the impact of wide-reaching constraints.
Industry's additional questions for consideration: (a) *As stated in the Paper (p. 25), last year's prototyping analysis of the hybrid model showed that wholesale prices were higher in 31% of the cases and a highest priority access generator was curtailed more in 30% of the cases analysed compared to the status quo.* *Do you think the materiality and implication of these identified issues has been adequately addressed in the Paper? If not, what additional analysis do you consider is required?* *How significant do you consider the issues to be?* No, CS Energy does not consider that the material unintended consequences identified as part of AEMO's stylised prototyping are adequately addressed by the AEMC. The AEMC asserted that despite the identified unintended consequences, the purported large benefit of priority access (based on a flawed and out-dated CBA) means that even capturing a small proportion of the benefit could be worthwhile. CS Energy disagrees with this position. As noted, a key finding from AEMO's prototyping is that higher priority generators were curtailed in 30% of the cases analysed compared to no priority access. This is a significant unintended outcome that raises a fundamental question as to whether priority access could be implemented such that it achieves the reform objective, irrespective of design options. (b) *Do you consider sufficient analysis has been undertaken to explore how the CRM and Priority Access models will work in combination?*

No, CS Energy does not consider that sufficient prototyping analysis has been undertaken to explore the interaction between priority access and CRM during operational timeframes. AEMO's stylised prototyping to date has mainly investigated the technical feasibility of integrating priority access into the NEMDE. More work needs to be done to better understand how CRM and priority access would interact under a system that reflects the operational and financial realities of the market.

Feedback on modelling the hybrid model

AEMC Question 3: Feedback on modelling the hybrid model

Noting that this work is still being completed, do stakeholders have any initial views on how modelling priority access would impact investment decisions?

The complexity and unpredictability of the hybrid model (as highlighted by AEMO's prototyping analysis) will deter new investment in the NEM given that this model:

- Makes it challenging for new entrants to model congestion risks and estimate access for their projects with sufficient certainty;

- Introduces new risks and uncertainties, including:
    - The need to project CRM outcomes before making an investment decision and during operational timeframes. New entrants would need to incorporate the risk of lack of liquidity and transparency in the CRM, which could be particularly problematic for those that rely on it for firmer access. Even if there is sufficient liquidity in the CRM, new entrants will still face increasing complexity in commercial contracting arrangements, which could result in less flexibility and higher operational risks, particularly if a generator is assigned a less favourable priority access level;

    - CRM local pricing (in addition to the RRPs) would introduce a further source of basis risk in financial contracts, which is likely to undermine hedging incentives and increase the costs of hedging; and

- Disproportionately burdens new entrants not only with access risks arising from congestion but also those from emerging system conditions. These include new system constraints that cannot be predicted or factored into investment decisions with sufficient certainty, especially in an environment where the system is transitioning to a higher level of variable renewable energy and new constraints are likely.

CS Energy is also concerned that the hybrid model could make it untenable for multiple parties to combine their resources and expertise to develop new projects through collaborative commercial arrangements such as a joint venture. The complexity of such a model would make negotiating joint venture agreements more challenging and costly, especially in terms of risk allocation, which in turn may undermine the viability of such an agreement.

Industry's additional questions for consideration:

(a) *After the hybrid model starts (i.e. in 2028), what effect will Priority Access have on new development projects achieving FID? Will they find it easier or harder, and why?*

As noted, the hybrid model will reduce the likelihood of new generation projects achieving final investment decision (**FID**). This is especially the case for projects with less favorable priority access, which are assigned with a disproportionate share of risks stemming from congestion and emerging system security constraints. This in turn may reduce the ability of these projects to sign long-term offtake agreements, which detracts from their financeability and ability to reach FID.

(b) Do you consider that the risks with implementing the hybrid model have been adequately considered and addressed? What are the key risks and how serious are they? What would be the advantages and disadvantages of not implementing the hybrid model?

No, CS Energy considers that the risks relating to the hybrid model have not been adequately considered and addressed to date, specifically:

- The risks to new generation investment - Priority access disproportionately burdens new investments with access risks arising from congestion and emerging system constraints. The complexity and unpredictability of priority access also makes it challenging for developers to estimate the firmness of access with sufficient certainty;

- The risks to financial markets - local pricing (in addition to the RRPs) would introduce basis risks and undermine the effectiveness of the RRP as the key price signal to manage exposure to price volatility in the NEM.

These risks are substantial and can potentially raise entry barriers for new investments, increase the costs of hedging, undermine hedging incentives, and reduce liquidity in financial markets, which in turn could slow down the energy transition and impact the long-term interests of consumers.

One advantage of not progressing the more complex hybrid model is that it allows for learnings from recent reforms that provide locational signals (including REZs, the CIS and enhanced information reform) to be assessed and applied to any potential future access arrangement reforms.

(c) What do you consider the impact of the hybrid model will be on emissions? Is a technology-neutral approach granting highest priority access to thermal (and renewable) incumbent generators appropriate? Has the role of emission reductions objective in the NEO been considered appropriately?

CS Energy considers that there is a risk that the hybrid model may lead to higher emissions as the proposed design prioritises incumbent generators for dispatch ahead of new entrants (which are likely to be predominantly renewable generators).

The AEMC argues that the hybrid model would lead to lower emissions based on a CBA that assumes SRMC bidding by generators. Given that renewables have lower SRMC relative to fossil fuel plants, the SRMC bidding assumption facilitates the substitution of fossil fuel generation with renewables and therefore lower emissions. However, this is an unrealistic assumption as generators typically do not bid at SRMC due to contractual obligations and operational considerations, and as shown by the prototyping, dispatch is often out of priority order to match physical energy flows due to the inefficiency of the model.

The hybrid model could also undermine the QEJP's initiative to transition existing coal generation sites into clean energy hubs by 2035. Specifically, such a model discourages new renewable plants from using existing transmission infrastructure as coal plants phase down ahead of their closures. This is because new renewable plants co-located at the same site will be curtailed first before existing plants, therefore reducing commerciality of such projects by making their investment case contingent on coal plants' closure dates.

(d) *What matters need to be considered for modelling the effects of the hybrid model on investment in long lead time assets, such as pumped hydro or other forms of storage?*

CS Energy considers that the hybrid model's uncertain nature may exacerbate access risks for projects with long lead time, such as pumped hydro. This is because access risks estimated during the investment phase are more likely to evolve as the project is being developed over a longer period, especially with risks from emerging system constraints as the system transitions to a higher level of variable renewable generation.

(e) *In regards to protecting REZ access rights, do you consider that alternatives to the hybrid model, such as the various 'controlled access' models flagged by NSW and QLD, might form a viable alternative to the hybrid model?*

Yes, CS Energy considers REZ access rights are adequately protected under the 'controlled access' regime of several jurisdictions. For example, the Queensland framework is effectively a priority access regime through a planning/connection instrument, where the REZ delivery body can restrict transmission access to any assets that may affect the capacity or functioning of the REZ, which includes assets located outside of a REZ.

Assessment of key model options

Assessment of priority access allocation models

AEMC Question 4: Assessment of priority access allocation models

Each model option outlined in this section addresses the problem and reform objectives to different degrees.

Which model option do you prefer and why?

CS Energy is not supportive of any of the options proposed but considers option 1 to be the least-worst, being the simplest and least distortionary option. However, this approach means REZs that have not yet been committed will have different priority levels relative to existing REZs and CS Energy questions the palatability of REZs in different jurisdictions having different priority levels.

Industry's additional questions for consideration:

(a) *For the model selected in your response to AEMC's Q4, do you consider this model will benefit your business or organisation? Do you think it will benefit the electricity market as a whole? Please explain your rationale.*

CS Energy considers that priority access will not benefit our organisation or the NEM as a disproportionate share of access risk is allocated to new investments, including risks

from congestion and emerging system constraints. This will likely deter new investments. Further, the uncertain nature of priority access means that it is challenging to estimate the firmness of access rights with sufficient certainty, which increases investment and operational risks.

Assessment of CRM implementation approaches

AEMC Question 5: Assessment of CRM implementation approaches

What are the relative advantages and disadvantages of each design?

Do stakeholders have a preferred design and if so, why?

CS Energy does not support either design options for the CRM (i.e. the two-stage model and co-optimised approach). Both options:

- Add substantial complexity to the bidding, dispatch and settlement processes leading to higher costs and risks that are unlikely to be commensurate to the benefits of the proposed models; and

- Introduce new risks and uncertainties, including the need to project CRM outcomes and liquidity before making an investment decision and during operational timeframes. Under the two-stage model, CRM also creates local prices (in addition to the RRP) that would introduce basis risks and undermine liquidity in existing financial markets.

Given a high level of participation in the CRM is required to rectify the inefficiencies of priority access, the voluntary nature of both options is questionable. Under the co-optimised approach, the voluntary nature is further undermined as the CRM would affect how the RRP is set for all participants, including those who opted-out. CS Energy disagrees that the co-optimised approach is similar to FCAS markets given the lack of price transparency of the co-optimised approach, which makes it difficult to evaluate the CRM's effects on the RRP. The CRM effectively changes the form of the RRP.

Opt-out participants would also need to incur additional costs as new processes will be needed to hold and analyse market data in order to manage potential risks stemming from the CRM. Without these new processes, it will be challenging to manage the operational and financial risks during the dispatch process.

Industry's additional questions for consideration:

(a) *For the preferred model design selected in your response to AEMC's Q5, do you consider this model will benefit your business or organisation? Do you think it will benefit the electricity market as a whole? Please explain your rationale.*

CS Energy does not consider either proposed CRM model will benefit our organisation and the NEM. See response to Question 5 for rationale.

(b) *On page 64 of the Paper, it is stated:*

> "*there could be a perception co-optimisation is less voluntary than the current lead model as CRM bids could affect or set the RRP that all participants face, including participants who do not opt into the CRM.*"
>
> *Do you consider the co-optimised CRM remains a voluntary model?*
>
> *Do you have an adequate understanding of the operation and implications of the co-optimised CRM? If not, what further work is required?*

No, CS Energy does not consider the co-optimised CRM remains a voluntary model given:

- The high level of participation needed for the CRM to be effective;
- Such a model would affect how the RRP is set for all participants, including those who opted-out;
- Access dispatch order can be undermined by not participating in the CRM.

At this stage, there is limited understanding of the operation and implications of the co-optimised CRM, and more work is needed to better understand:

- The effects of individual access and physical bids on the co-optimised RRP and its predictability;
- Potential gaming by participants and unintended consequences under the co-optimised model;
- The effects of the co-optimised model on existing hedging contracts and financial markets more broadly.

Key stakeholder concerns

Feedback on impact of the hybrid model on PPAs

AEMC Question 6: Feedback on impact of the hybrid model on PPAs?

What are stakeholder views on the observations and AEMC initial views regarding impacts of the hybrid model on PPAs?

CS Energy considers that the complexity and unpredictability of the hybrid model will likely have a detrimental impact on PPAs as this model:

- Makes it challenging for new entrants to estimate access for their projects with sufficient certainty;
- Disproportionately burdens new entrants with access risks arising from emerging system constraints and line outages; and
- Introduces new risks and uncertainties including new basis risks (due to local prices in addition to the RRP) and the need to project CRM outcomes before making an investment decision.

Industry's additional questions for consideration:

(a) *Does your organisation have PPAs that will still be in force in 2028? If so, how likely is it they will have to be renegotiated considering clauses covering obligations to maximise generation, change of law and/or market disruption? Do you expect these renegotiations to be easy?*

Yes, CS Energy does have existing PPAs that will still be in force when the hybrid model is expected to be implemented in 2028. It is likely that these PPAs would need to be reopened and renegotiated to reflect the risks stemming from the hybrid model with a focus on clauses related to obligations to maximise generation, change of law and/or market disruption. CS Energy expects these negotiations to be complex and costly.

(b) *Should Energy Ministers make a final decision to implement the hybrid model this year, will this make negotiation of new PPAs next year easier, more difficult, or pretty much the same? Why would this be, and would the change be significant?*

If Energy Ministers decided to proceed with the hybrid model this year, it will likely make PPA negotiations more challenging and complex before the expected implementation in 2028. This is due to the need to incorporate transitional arrangements in addition to access risks stemming from implementing the hybrid model.

Feedback on impacts of the hybrid model on financial markets

AEMC Question 7: **Feedback on impacts of the hybrid model on financial markets**

What are stakeholder views on the impacts of the hybrid model on financial markets? Specifically:

a) *How the proposed access model, or particular aspect(s) of the model, may impact*

b) *their ability to manage price risk in the market?*

c) *The subsequent impact that a reduced ability to manage price risk may then have on participants' hedging costs.*

CS Energy considers that the hybrid model would have a detrimental impact on financial markets due to the introduction of local pricing in addition to the RRP. This would introduce a further source of basis risk in financial contracts, where the generators face local prices while retailers face the RRP. This type of basis risk can be volatile and difficult to manage due to the unpredictability and uncertainty of priority access.

Such a risk would undermine the incentives for hedging price risks using financial derivatives as the risks faced by generators and retailers are no longer tied to the same price. This in turn could increase the costs of hedging or, in the worst case, render a participant unable to hedge its spot price risk using derivatives.

Industry's additional question for consideration:

Besides the impacts listed in AEMC's Question 7, what other impacts could the hybrid model have on financial markets?

In addition to the basis risk identified above, CS Energy considers that the hybrid model would also reduce the liquidity in existing financial markets. The current RRP design facilitates more efficient contract markets as it concentrates the risks faced by market participants into a single RRP for each region. An advantage of such a design is that it brings together a large number of generators and retailers, who are all incentivised to manage their exposure to the RRP thereby creating market liquidity.

The hybrid model would likely undermine this liquidity by introducing local pricing (in addition to the RRP), where the generators face local prices while retailers face the RRP. This would reduce the effectiveness of the RRP as the key price signal to hedge exposure to price volatility in the NEM.

Compared to the status quo, the ability of generators to offer hedge contracts is likely to be reduced under the hybrid model. This is likely to be the case regardless of whether a generator chooses to participate in the CRM or not. Generators who opted-out of the CRM could face the prospect of lower dispatched output due to the inefficiencies of priority access, which means that they are likely to reduce the volume of output offered through financial contracts. Those generators who choose to participate in CRM may have more certainty in their plants being dispatched, but it is unclear how much of their output will be priced at the RRP, which means that they can only offer a lower volume of contracts to retailers at the RRP compared to the status quo.

Under the hybrid model, the volume of financial contracts available to retailers is likely to decline, which is concerning since the retirement of dispatchable generation is already reducing the liquidity of financial markets. Further, the reduced capacity that generators can offer through financial contracts will likely diminish the commerciality of both the continued operation of existing plants and investment in new assets (especially dispatchable capacity).

Feedback on wide-reaching constraints

AEMC Question 8: Feedback on wide-reaching constraints

Do stakeholders consider that priority access could increase investment risk due to wide-reaching constraints?

Do stakeholders consider that there is value in implementing the dynamic grouping option for priority access to mitigate this concern?

CS Energy considers that priority access would likely increase investment risk due to wide-reaching constraints (e.g. outage, system security and stability constraints). This is because priority access disproportionately allocates access risks to new entrants, which include not only risks stemming from congestion but also emerging system security constraints. Considering the recent experience with system strength constraints, these emerging constraints are likely to have material impacts on access. At this stage, these constraints are unlikely to be forecastable with sufficient certainty given that even AEMO does not yet have the engineering knowledge to decouple essential system security services for example.

CS Energy considers that the dynamic grouping option would need further work before it could be considered as a credible option. At this stage, it is unclear how the bidding

process for this model would work given the constraints and priority grouping can change for each dispatch interval.

Industry's additional questions for consideration:

(a) *Comment - Even for new generators locating in areas of low curtailment, new developments would suffer much more curtailment for scheduled, and unscheduled, network outages compared to generators with the highest level access.*

During network outages, should new developments experience much more of the resultant curtailment than grandfathered highest priority access generators?

How difficult would it be for new generation to manage this risk?

No, new developments should not experience much more curtailment relative to incumbent generators with higher priority during network outages or when new emerging system constraints bind. Such an approach would reduce the commerciality of new projects and deter new investments. This more concentrated access risk is likely to be material and challenging for new developments to forecast and factor into their investment decisions and operational processes (especially risks due to emerging system constraints).

(b) *Even for new generators locating in areas of low curtailment, there is a risk that new constraint equations could emerge later, sometimes coincident with grid augmentations like PEC, for which they will suffer much more curtailment than generators with the highest level access.*

For new constraint equations, should new developments experience much more of the resultant curtailment than grandfathered highest priority access generators?

How difficult would it be for new generation to manage this risk?

See response for Question 8(a).

(c) *Section 3.3 of the Paper describes further analysis to be undertaken by ACIL Allen.*

What scenarios and impacts would you like to see this analysis evaluate to provide more clarity and confidence that investors will have more certainty and less risk after the scheme begins (in 2028)?

CS Energy would like ACIL Allen to focus on the feasibility of modelling access risks from emerging system security constraints. More work needs to be done to assess the risks from such constraints given that even AEMO does not yet have the engineering knowledge to decouple essential system security services and thus will rely on new security constraints during the transition such as those arising from the use of operational setpoints.

(d) *The Paper notes that the dynamic grouping option "has not been tested yet, or developed in any detail" (p. vi).*

Do you think an informed decision on this option is feasible this year? Do you support further consideration of this option?

CS Energy considers an informed decision on the dynamic grouping and co-optimised approach is not feasible by September this year given these are new complex approaches that are fundamentally different to previous proposed designs. Insufficient information was provided by the AEMC regarding these proposed designs, and they have not been subject to a CBA. Therefore, there is inadequate time to allow for a proper analysis and consultation in time for the recommendation to Energy Ministers in September 2024

Detailed design questions

Feedback on detailed priority access design choices

AEMC Question 9: Feedback on detailed priority access design choices

What are stakeholder views on the detailed priority access design questions and the AEMC's preferred positions?

As noted, CS Energy is not supportive of priority access but provides the following key comments regarding the proposed options:

- Option 1 is the least-worst, being the simplest and least distortionary option but REZs that have not yet been committed will have different priority relative to existing REZs.
- Option 2 is inefficient since it provides additional priority to projects in new REZs at the expense of other new entrants, especially non-REZ projects, which will face increased investment risks;
- Option 3 increases the unpredictability of priority access and thus investment risks due to the ability of jurisdictions or a central body to prioritise or deprioritise generators;
- Option 4 needs further work before it could be considered as a credible option. The Paper provided limited information regarding the proposed design or operation of this option.

Industry's additional question for consideration:

Does your organisation support implementation of Priority Access?

No, CS Energy is not supportive of priority access. The unpredictability and uncertainty of priority access will deter future investment irrespective of the design option.

Feedback on detailed CRM design choices

AEMC Question 10: Feedback on detailed CRM design choices

Do stakeholders have further views on the detailed design choices for the CRM that were explored by the ESB? Are these views related to a preference for a two-step or co-optimised implementation approach discussed in Chapter 5?

What are stakeholder views on tethering, including the relative advantages and disadvantages of each design and any preference?

As noted, CS Energy does not support either design options for the CRM as:

- They add substantial complexity to the bidding, dispatch and settlement processes leading to higher costs and risks that are unlikely to be commensurate to the benefits of the proposed models;
- They introduce new risks and uncertainties, including the need to project CRM outcomes during the investment and operational phase;
- They introduce unpredictability into the RRP;
- The voluntary nature of both models is questionable due to the requirement for high level of participation in the CRM for the models to be effective, and in the co-optimised model, the fact that RRP is set by the CRM dispatch; and
- The implementation of the CRM can undermine the priority access.

Industry's additional questions for consideration:

(a) *The Paper notes the co-optimised implementation approach "has not been developed to the level of detail as the two-stage dispatch" (p.vii).*

Do you consider an informed decision on this option is feasible this year? Do you support further consideration of this option?

See response to Question 8(d).

(b) *Does your organisation support implementation of the Congestion Relief Market?*

No, CS Energy does not support the proposed CRM models.

(c) *If Energy Ministers made a final decision to implement the hybrid model, do you consider that investors and developers would have increased or decreased investment certainty, and why?*

If Energy Ministers decided to proceed with the hybrid model, it will likely decrease investment certainty for investors and developers due to the complexity, unpredictability and new risks introduced under the hybrid model. For more details, see response to Question 3.

Other comments

Information on additional issues