



6 June 2024

Ms Jessie Foran
Australian Energy Market Commission
Level 15, 60 Castlereagh Street
Sydney NSW 2000

Submitted online at: www.aemc.gov.au

Dear Ms Foran

AEMC EPR0098: Transmission Access Reform: Consultation Paper

Stanwell Corporation Limited (Stanwell) welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC) Transmission Access Reform Consultation Paper, 24 April 2024 (Consultation Paper).

As a major provider of electricity to Queensland, the National Electricity Market (NEM) and large industry users throughout Australia, Stanwell is invested in providing reliable and affordable energy for today and into the future.

Stanwell is committed to supporting State and Commonwealth Government emissions reduction targets, and in recognition of the changes that will need to occur in the energy market to achieve these changes, we are currently developing renewable energy, storage, and hydrogen projects and technologies within Queensland to support the transition to renewable energy and help to ensure Queensland electricity supply remains secure and reliable now and into the future.

This submission contains the views of Stanwell and should not be construed as being indicative or representative of the views or policy of the Queensland Government.

Stanwell acknowledges the work of the AEMC in preparing the Consultation Paper and consulting with industry on this topic and we welcome the opportunity to further discuss our concerns raised in our submission with AEMC.

Introduction

Transmission access reform has been a long-running and challenging topic that has seen various iterations across its turbulent lifespan, each presented to resolve a myriad of issues that encompassed decreasing marginal loss factors, generator revenue uncertainty, a lack of locational price signals, and adverse operational incentives for generators and storage associated with disorderly bidding.¹

¹ Stanwell Corporation Limited response to Directions Paper – Transmission Access Reform, 21 December 2022.

Each proposal has presented costly, complex, and disproportionate approaches to achieving incremental gains. As a result, the majority of market participants have not supported the various transmission access reform proposals and have raised many concerns, including questioning whether this reform is indeed warranted.

Stanwell appreciates there has been a considerable amount of time and resources dedicated to progressing this reform, however, the 'in for a penny in for a pound' mentality should not be the basis on which to continue reform work that will impose an unnecessary, expensive and complex reform on the NEM; particularly where it has not been demonstrated that it will resolve any identified issues, nor that the benefits of this reform will outweigh its costs.

While Stanwell has made every effort to constructively participate in this process over a number of years, we maintain that the significant market reform proposed to transmission access is not warranted, particularly in an energy market which has evolved considerably since the first iteration of transmission access reform was conceived. The current proposal, much like previous versions, represents a disproportionate response targeting congestion in weak areas of the network and providing marginal gains in dispatch efficiency.²

This iteration of transmission access reform i.e. the hybrid model as presented in the Consultation Paper, has not addressed the concerns previously raised by market participants and has not persuaded Stanwell that the reform is needed, will benefit the market, or that it will reduce costs for market participants and energy consumers.

Stanwell does not believe this reform will deliver on its stated objectives or provide a viable solution to support the transition to a net zero energy system, and we do not believe this reform should be progressed any further or be recommended to Ministers.

Unnecessary reform

Stanwell has continuously questioned the need for this reform. In our view transmission access reform is unnecessary as there are sufficient signals in the existing market to assist with efficient marginal loss factors and network constraints.

We believe the Consultation Paper has understated the level of underlying market reform that will need implementing and has downplayed the major negative impacts on the operation of the energy market, and to participant risk.³

All reforms come with a cost. However, the need for change must be justified not only by the benefits that are expected to be delivered, but there must also be reasonable certainty that the expected benefits will be realised. To date, the AEMC has not sufficiently demonstrated, either through their modelling or cost-benefit analysis, that these reforms will provide the desired benefits to the market and energy consumers.

In our view there is no strong evidence to support that transmission access reform offers a workable solution to resolve purported issues associated with congestion management, investment inefficiencies, and inefficient dispatch.

Timeframe

The various attempts to address congestion relief can be traced to the ESB (noting there have been previous attempts to develop and implement similar iterations of this reform back to early this century). The many years of work attempting to address purported congestion issues in

² Stanwell Corporation Limited response to Transmission Access Reform Consultation paper 26 May 2023, p 2.

³ Stanwell Corporation Limited response to Transmission Access Reform Consultation Paper, 26 May 2023.

the network and inefficient dispatch has failed to develop a workable solution that is able to be implemented at low cost to both the market and consumers.

We understand the AEMC plans to provide final recommendations to Energy and Climate Change Ministers by September 2024. Given the amount of work still required to refine and test the hybrid model, it is unlikely this reform will be sufficiently developed and supported by positive modelling outcomes and an applicable cost benefit analysis (with appropriate industry consultation) before September 2024. It therefore does not seem feasible that the AEMC could produce workable recommendations supported by appropriate evidence for Ministers within this timeframe.

Policy

The energy transition will require a significant influx of investment in transmission and generation capacity. This can only occur if reinforced by well-considered planning frameworks and sound policies that support stable investment.

Stanwell has previously noted that the examination of interactions of policy need to be undertaken holistically to ensure consistency between the various policy levers, and the intent of transmission access reform.⁴ We see little evidence this has occurred, or that the fundamental policy issues identified previously have been addressed to any degree that would support further development of a transmission access model.⁵

Consideration of transmission access reform in conjunction with other reforms

Reforms across the NEM cannot be considered in isolation. We have previously pointed out that there is a lack of co-ordination between reforms and initiatives that interact with each other.⁶ While this has improved to a degree with the development and publication of AEMO's NEM Reform Implementation Roadmap, Stanwell is still of the view that the transmission access reform work program does not adequately consider or address other market reform processes that are underway, or already implemented, that overlap or supersede this work program.

We draw the AEMC's attention to the vast number of energy sector reforms underway, soon to be implemented, or committed, that are aimed at enabling the energy sector transition to net zero.⁷ These include and are not limited to:

- **Resource Adequacy Mechanisms** that include: the Capacity Incentive Scheme, and increase MT PASA Information;
- **Essential System Services** that include: Efficient Management of system strength on the power system, interregional settlement residue arrangements for transmission loops, Fast Frequency Response, Frequency Performance Payments, Improving Security Frameworks, and Enhancing Reserve Information;
- **Integration of CER and Flexible Demand** that include: Integrating Energy Storage Systems Retail and BDU, Unlocking CER benefits through flexible trading, Integrating price response resources into the NEM, Dynamic Operating Envelopes, DER Data Hub and Registry Services, DER Operational Tools, and Distribution network services;
- **Retail Market Improvements Initiatives** that include: Net System Load Profile, Metering Substitutions and Accelerating Smart Meter Deployment;

⁴ Stanwell Corporation Limited response to Transmission Access Reform Consultation Paper, 26 May 2023.

⁵ Stanwell Corporation Limited response to Transmission Access Reform Consultation Paper, 26 May 2023.

⁶ Stanwell Corporation Limited response to Transmission Access Reform Consultation paper 21 December 2022, p 2.

⁷ Australian Energy market Operator *NEM Reform Implementation Roadmap Stakeholder Briefing* 22 May 2024.

- **Data Strategy** that include: Data Services, Bill Transparency, EV Supply Equipment Standing Data Register and Network Visibility; and
- **AEMO's foundation and Strategic work** to support and enable the energy transition.

This collection of reform work will require considerable resources to implement. As these resources are not limitless, it would be sensible to only pursue reforms that can demonstrate a tangible benefit to the market and consumers.

Considering all the other reform work currently in train, and likely to be proposed between now and 2030 when further post-2030 NEM reform work will commence, it is unlikely there will be sufficient resources and time to implement all this reform work. In our view we see other reforms as a higher priority given transmission access reform has questionable benefits and will be complex to implement.

In addition, we see little evidence that transmission access reform effectively considers broader regulatory imperatives and national initiatives that are currently under development, including but not limited to:

- The operational security mechanism and the establishment of markets to deliver essential system services;
- The Australian Government's \$20 billion *Rewiring the Nation* programme which seeks to bring forward projects in AEMO's Integrated System Plan (ISP) and has potential to alleviate congestion in the NEM;
- The Australian Government's Capacity Investment Scheme (CIS) which seeks to support reliability by bringing forward new investment in renewable capacity and clean dispatchable capacity;
- NEM jurisdictional Renewable Energy Zones (REZs) which encourage co-location of renewable energy generation and coordinated connection to the energy grid; and
- Other jurisdictional plans and roadmaps for renewable energy implementation.

Notably, the efficient provision of Inertia Rule change request (Inertia Rule) submitted to the AEMC in March 2023, focused on developing a market for the operational procurement of inertia, including a proposal for an inertia spot market. The Inertia Rule seeks to address an inertia shortfall as a result of underutilisation and retirement of thermal generation.⁸

We are perplexed the AEMC has prioritised unnecessary reforms such as transmission access over an issue that has been identified as a concern and development opportunity by AEMO.⁹

Priority access

A key rationale of the AEMC for pursuing priority access is to "...*address the issue of cannibalisation...*" by assigning generators a priority level in the market and providing them with an assigned priority dispatch number. The Consultation Paper defines cannibalisation as:

"...when a new generator locates in a congested area and displaces (or cannibalises) the dispatch of an existing generator. Cannibalisation can

⁸ See also AEMO *Update to the 2023 Electricity Statement of Opportunities*, May 2024.

⁹ See also AEMO *Update to the 2023 Electricity Statement of Opportunities*, May 2024.

increase investment uncertainty, as new entrants may be subsequently cannibalised (and thereby lose revenue) by even newer entrants.”¹⁰

In our view the reasoning that localised congestion causes dispatch cannibalisation is not sound and instead appears to be more reflective of competition. While we appreciate there will be increased competition within the market, this of itself does not cause cannibalisation, and we do not agree priority access will resolve this issue.

Under the proposed priority access model, generators would be allocated a priority level by time window which would be given effect through a nominated Dispatch Priority (DP) with lower dispatch numbers receiving higher priority level. When two or more generators bid at the market floor price to access the same constrained piece of transmission infrastructure, the dispatch engine would factor in the dispatch priority number to give a level of preference to generators with higher priority. Under this approach constraint coefficients would no longer be the only factors rationing access between generators competing in the same set of binding constraints and bidding at the same price.

Our concern with this approach has not changed as in our view it reduces the ability of generators to manage congestion risk arising from subsequent connections within the same priority level. These subsequent investments will adversely affect the access of earlier connections within the time window that feature in the same congestion constraints.

This also extends to REZs, where REZ participants would receive the same priority number as those who connect close to the REZ within the same time window, reducing both transmission access and REZ attractiveness to investors.¹¹ The resulting soft priority would need to ensure the priority granted retains sufficient incentive for new generation to be located in relatively uncongested parts of the network.

Congestion Relief Market

The initial concept of the congestion relief market (CRM) was that it was voluntary, did not change the Regional Reference Price (RRP), and that the congestion price would be determined separately from the energy price. The two-staged CRM model now proposed comprises a complicated two-stage dispatch run. The first dispatch is the priority access dispatch, and the second is the physical dispatch that determines the dispatch quantities for CRM participants. The result is two RRP, presenting a choice of which RRP to use at settlement.¹²

The two RRP would have different impacts under each dispatch stage. For example, under the access dispatch the RRP would be inflated due to priority access and add complexity to settlement, while the physical dispatch would likely deliver pricing inconsistencies for non-CRM participants.

Reliance on the CRM to realise the full benefits of the priority access component of the hybrid model raises concerns that the CRM may be made compulsory or will force compulsory participation.¹³ For example, the two-stage approach removes the voluntary aspect of the CRM as generators who do not opt-in to the CRM would still be exposed to the CRM and their price would subsequently be affected when participants bid into the access dispatch and CRM participants submit a second set of CRM bids.

¹⁰ Australian Energy Market Commission, *Transmission Access Reform Consultation Paper*, April 2024.

¹¹ Stanwell Corporation Limited response to Transmission Access Reform Consultation Paper, 26 May 2023, p 10.

¹² AEMC, *Transmission access reform, Consultation Paper*, 24 April 2024, p vii.

¹³ Stanwell Corporation Limited response to Transmission Access Reform Consultation paper 26 May 2023, p 4.

In the April 2024 Consultation Paper, the AEMC proposed a new co-optimised model as an alternative to avoid the complexities of the two-stage approach.¹⁴ This is a new addition that sees the two dispatches carried out at the same time and results in one RRP for settlement.

Similar to the two-stage approach, the co-optimised approach would not be opt-in, and as the RRP is influenced by CRM, the RRP becomes uncertain. This becomes more complex as access priority is uncertain and determined by the dispatch engine, resulting in an uncertain RRP.

Stanwell does not believe it is possible for either the two-stage or co-optimised models to improve dispatch efficiency even where voluntary participation is proposed. Stanwell also notes that AEMO have confirmed the co-optimised approach will incur higher implementation costs and does not present sufficient benefits to outweigh those costs.¹⁵

ESB Cost Benefit Analysis conducted in February 2023

The Consultation Paper relies on the Energy Security Board's (ESB) February 2023 cost-benefit analysis (the ESB Cost Benefit Analysis) in support of a hybrid model noting:

*"[t]he cost benefit analysis was undertaken at a point in time for the purposes of informing an assessment of access reform options against each other and the status quo."*¹⁶

While the Consultation Paper does state there are "...quantified net benefits..."¹⁷ to be gained by implementing the hybrid model, the cost-benefit analysis identified that very substantial upfront costs will be incurred by both AEMO and market participants in order to implement the congestion relief market (CRM) and priority access.¹⁸ All of these costs will be passed through to consumers and contribute to cost of living pressures.

The ESB's Cost Benefit Analysis also explicitly states the modelling has not assessed the sub-options currently under consultation:

*"Precisely which market participants are provided priority access, and for how long, varies under various sub-design choices that are still being considered by the ESB, trading off matters such as implementation complexity and the competing interests of incumbents and newcomers... This CBA will not attempt to determine the relative costs and benefits of these various sub-options, but instead provides a generic assessment of the priority access option."*¹⁹

As a result, the ESB Cost Benefit Analysis cannot be representative of the expected net benefits of the final hybrid model design. This is particularly pertinent given additional options have now been proposed by the AEMC.

Of the four priority access options proposed, two are new,¹⁹ and a new co-optimised CRM model has been added to the mix. These new ideations add unnecessary complexity to proper assessment of the options presented.

¹⁴ AEMC, Transmission access reform, Consultation Paper, 24 April 2024, p vii.

¹⁵ AEMC, Transmission access reform, Consultation Paper, 24 April 2024, p viii.

¹⁶ AEMC, Transmission access reform, Consultation Paper, 24 April 2024, p viii.

¹⁷ AEMC, Transmission access reform, Consultation Paper, 24 April 2024, p viii.

¹⁸ Energy Security Board Transmission Access Reform Cost Benefit Analysis, Executive Summary, and Part 5.5, which notes the direct costs for AEMO and market participants as ~\$260m to 2050 and that between \$77m and \$156m.

¹⁹ Energy Security Board, Transmission Access Reform Consultation Paper, May 2023.

Stanwell questions why the AEMC has included the additional options at this time when the options have not been modelled or been subject to a robust cost-benefit analysis. We would further question whether these options should be considered or progressed given there is increased potential for further divergence between the results presented to the Energy and Climate Change Ministers (based on what has previously been modelled), and the expected net benefits of the final design of the hybrid model (where new options may be included).

As Stanwell has previously stated, the ESB Cost Benefit Analysis did not provide sufficient evidence that the hybrid model will meet deficiencies in locational signals for investment, particularly noting the progression of Enhanced Information when used in concert with system security, Marginal Loss Factors, AEMO's Congestion Information Resource and reforms addressing dispatch efficiency (i.e. 5 Minute Settlement).²⁰

Modelling

In late 2023 the Australian Energy market Operator (AEMO) tested whether the hybrid model could be implemented in the National Energy Market Dispatch Engine (NEMDE) using the bid floor price method. The outcomes indicated that priority access was unpredictable, produced counterintuitive results due to multiple constraint interactions, and would increase the RRP relative to current arrangements.²¹

The modelling showed an unexpected dispatch change in thirty per cent of all cases and in sixty-four per cent of one of the two data sets. These changes demonstrated irrational priority in dispatch between generators in the same queue position (with similar constraint coefficients), where a prioritised generator was dispatched more, but at the expense of another generator who also had priority.²²

The modelling also showed that priority access leads to less efficient dispatch which can impact RRP. There was an increase in the RRP of more than 5 per cent in at least one NEM region, while 13 per cent of cases showed a greater than 25 per cent increase in a least one NEM region.²³

Again, Stanwell notes one of the three key requirements for the dispatch solution as part of the implementation considerations is "*no material impact on timing of dispatch instructions*".²⁴ The current dispatch process can leave participants without a dispatch target for around thirty seconds per five-minute dispatch interval, decreasing the period over which units have to ramp to meet changed dispatch targets. Any deterioration of this processing time will exacerbate the impact on generators and efficient market function.²⁵

While the AEMC has indicated the modelling was not conducted to demonstrate the performance of the hybrid model, AEMO's modelling brings the anticipated benefits sharply into question with '*...unintended consequences appearing in the prototyping results*'.²⁶

It seems clear from the modelling that modifying the energy dispatch to include priority access, especially with reference to the most disaggregated priority access models (i.e. chronological order queue positions),²⁷ does not seem possible without incurring uncontrollable adverse outcomes that would substantially impact market positions.

²⁰ Stanwell Corporation Limited response to Transmission Access Reform Consultation paper 26 May 2023, p 3.

²¹ AEMC, Transmission access reform, Consultation Paper, 24 April 2024, p 25.

²² AEMC, Transmission access reform, Consultation Paper, 24 April 2024, p 25.

²³ AEMC Transmission Access Reform Consultation Paper 24 April 2024, p 25.

²⁴ Energy Security Board, Transmission Access Reform Consultation Paper, May 2023, p 65.

²⁵ Stanwell Corporation Limited response to Transmission Access Reform Consultation paper 26 May 2023, p 6.

²⁶ Energy Security Board, Transmission Access Reform Consultation Paper, May 2023, p ix.

²⁷ Stanwell Corporation Limited response to Transmission Access Reform Consultation paper 26 May 2023, p 6.

Impact on the financial market

The impact of these proposed reforms will likely produce unintended consequences on the financial market as well. Understanding the impacts should have been recognised as a priority by the AEMC, yet the Consultation Paper demonstrates this has not been considered in any detail.

As noted above, the current cost-benefit analysis and modelling conducted to date does not provide sufficient information that would enable a rigorous analysis of the impacts on the energy financial products, or properly understand the immediate and longer-term intended or unintended impacts this reform would impose.

While we understand the AEMC has had very preliminary discussions with the Australian Financial Markets Association (AFMA), there is still considerable work to be done to more fully understand the implications of transmission access reform on energy financial product markets. Stanwell would encourage the AEMC to engage meaningfully with AFMA and market participants to identify potential impacts and ensure these are properly communicated to Energy and Climate Ministers when they meet in September this year.

Renewable Energy Zones

One of the intentions of REZs is to support investment in renewable infrastructure by encouraging renewable energy generators to co-locate in areas where they can share transmission infrastructure and connect to the energy grid in a coordinated way to benefit consumers and the energy system.²⁸ While each NEM REZ operates under various policy frameworks,²⁹ the general approach is to guide investment decision by providing more certainty and increasing investor awareness of the importance of locating in uncongested areas of the network, thereby reducing investment in sub-optimal areas.

REZs provide jurisdictions with the flexibility to plan and coordinate the energy transformation by assessing the energy needs of their wider States and aligning capacity and infrastructure to support identified needs.³⁰ In some jurisdictions the REZ scheme also provides checks and balances to help ensure access to a REZ transmission network is restricted to entities that meet certain eligibility criteria, which to a large extent, helps to alleviate congestion risk and investment inefficiencies.³¹

Stanwell understands that expressions of interest for REZs throughout the NEM are over-subscribed, and because of this, it is probable that most renewable wind and solar generation projects will likely build in a REZ, while battery and storage projects that do not require desirable wind and solar resources to determine location will likely locate in areas where they will benefit from resolving capacity issues.

It is Stanwell's view that REZs are currently going a long way to address congestion management and locational concerns by providing sufficient locational and prioritisation solutions.

Priority access as proposed by the AEMC will disincentivise locational signals and provide high levels of uncertainty for new investment where projects connect in optimal locations, but outside a REZ, and lead to unfair priority access allocation for REZs across different jurisdictions. This may be especially pronounced in circumstances where there is significant

²⁸ *Energy (Renewable Transformation and Jobs) Bill 2023*, s 4

²⁹ Simshauser, P and Newberry D, *Non-Firm vs Priority Access: on the Long Run Average and Marginal Cost of Renewables in Australia*, December 2023, Introduction.

³⁰ Queensland Renewable Energy Zone Roadmap, *Energising our regions and industries*, March 2024; *Energy (Renewable Transformation and Jobs) Bill 2023*, Part 6, Renewable Energy Zones.

³¹ *Energy (Renewable Transformation and Jobs) Bill 2023*, Part 6 Renewable Energy Zones, ss 54 and 57.

network infrastructure overlap between REZs, or where a REZ with higher priority access draws investment from one state to another.

Without the complicated overlay of transmission access reform, REZs may offer a simpler solution to managing access issues using locational signals, while also offering controlled access to generators locating outside of the REZs.

Additionally, the REZ schemes have the potential to form the basis of a limited open access scheme. If appropriately managed through a national framework, with access and rights of appeal incorporated into the National Energy Rules (Rules), REZ schemes offer a simpler way to resolve access and locational issues across the NEM, without the need for transmission access reforms.³²

In light of this, beyond a basic queuing system that may make REZ's more attractive to investors, it is unclear how the priority access models proposed by the AEMC will value-add to REZs where the issues of locational signals and priority access have already been addressed to a large extent by the REZ schemes themselves.

Capacity Investment Scheme (CIS)

The Australian Commonwealth Government has recently implemented a Capacity Investment Scheme (CIS) that will underwrite renewable capacity to support Australia's transition to net zero and add a further 32 gigawatts of new renewable capacity into the energy system by 2030. The addition of the CIS to the energy market has fundamentally changed the Australian energy landscape.

Projects applying to participate in the CIS are required to meet merit criteria that will assess the "...project's potential impact on network congestion and / or its ability to provide additional system benefits including the projects effects on other projects connected or expecting to connect to the network prior to the project."³³

The CIS also seeks to address location and congestion through criteria that assesses a project's impact on the energy system. The impacts assessed include a project's contribution to reliability, other essential system services, system strength, and impact on locational signals.³⁴ This seems practical given the Commonwealth Government are unlikely to underwrite revenue shortfalls at taxpayer expense for issues associated with location and congestion.

The CIS is therefore another example of an initiative that is already in play that will contribute to the efficient location of new projects, thereby further eroding any purported benefit of the proposed transmission access reforms.

Conclusion

The long and protracted history associated with this reform has not produced any workable solutions to support a rapidly transitioning energy market or provide a benefit to energy consumers. The majority of market participants have not supported transmission access reform and have raised many concerns, including questioning whether this reform is needed, and yet it continues to be pursued.

³² Simshauser, P and Newberry D, *Non-Firm vs Priority Access: on the Long Run Average and Marginal Cost of Renewables in Australia*, December 2023.

³³ Department of Climate Change, Energy, the Environment and Water, *Market Brief on Capacity Investment Scheme – National Electricity Market – Generation Tender 1*, May 2024, p 10.

³⁴ Department of Climate Change, Energy, the Environment and Water, *Market Brief on Capacity Investment Scheme – National Electricity Market – Generation Tender 1*, May 2024.

Stanwell maintains that transmission access reform is not warranted and represents a disproportionate response to targeting marginal gains in dispatch efficiency which we see as a relatively minor issue that may reduce over time as large thermal generation capacity retires.

Change is desirable where the benefits of that change can demonstrably outweigh the costs when considered across a range of plausible future scenarios. Any proposed change should also be transparently measured against alternative approaches which achieve the same or similar goals to determine the most efficient path forward.

The AEMC's transmission access reforms do not pass any of these tests and instead continue to constitute an overly complex theoretical solution in search of a problem.

Stanwell welcomes the opportunity to further discuss the matters outlined in this submission. Please refer any questions to Lya McTaggart by email at Lya.McTaggart@stanwell.com.

Yours sincerely



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