Castalia/CEIG Response to transmission access reform Consultation Paper May 2022

June 10, 2022

Table of contents

Tables

Figures

1 Introduction

The Energy Security Board (ESB) has included a version of CEIG and Castalia's proposed Transmission Access Queue (the queue) as a model for consideration in its recently published Transmission Access Reform Consultation paper. ESB did this in response to our work preparing, presenting, and publishing our "Rethink of Open Access Regime" and the subsequent "Q&A Document Responding to CEIG's Proposal for Grid Access Reform," as well as our considerable stakeholder engagement.

While we are grateful for the ESB's decision to include a version of the queue in its consultation paper, the ESB has significantly altered our original proposal by removing the crucial locational signal of improved access to the transmission grid for incumbents in the event of tied bids.

The ESB has altered our proposal because it reasons that contribution factors will make the tie-breaking element of the queue ineffective. However, we believe that the queue can be integrated into NEMDE without any costs to customers *and* that doing so will eliminate the problem of "winner takes all" outcomes and its associated incentives to bid in a disorderly fashion that the ESB has noted are caused by contribution factors.

We agree that the system would not work if the queue were to be considered after contribution factors. However, we believe that the ESB should consider placing the queue into the dispatch algorithm before considering contribution factors. This will allow the queue to work and have its desired effect in investment timeframes of improving investment efficiency. Further, this will lead to a reduction in costs for customers by reducing the cost of capital for the energy transition without leading to higher prices paid by customers (Section 2.1).

In addition, we believe that placing the queue into the dispatch algorithm before considering contribution factors will help the ESB achieve its goal of increasing operational efficiency. Operational efficiency will be improved by reducing the incentive to engage in non-cost reflective bidding that contribution factors themselves create. (Section2.2).

Finally, we believe that there are other material misunderstandings of our proposal in the ESB's consultation paper which we would like to correct (Section 3).

2 Interaction Between the Queue and Contribution Factors

The ESB has argued that our queue proposal "needs to be modified so that the queue mechanism does not apply to tie-breaker rules." The ESB proposal argues that that this must be done because:

> *an issue with* [the queue proposal] *is that tie-breaker rules rarely come into play due to the impact of generation coefficients (contribution factors). Instead, race to the floor bidding and precision of contribution factors gives rise to 'winner takes all' outcomes. As a result, it is not clear that the original design would be effective in protecting the access of generators, even those with low queue positions.*

Instead, the ESB proposes that the queue mechanism could be used to:

- Allocate rebates in a CMM model
- Determine the eligibility of generators to sell congestion relief in a CRM, or
- Confer access rights in jurisdictional REZ schemes.

This would significantly water down the locational signal, to the point where we do not believe that investors have the certainty required to lower the cost of capital and thus achieve the NEO of delivering electricity services at the lowest possible cost.

It also leaves in place the "winner take all" outcomes which ESB has identified as leading to undesirable outcomes and as attributable to the role of contribution factors in the NEMDE. In particular, leaving contribution factors in their current place in the NEMDE will continue to encourage race to the floor bidding in operational timeframes and continue to encourage investors to locate inefficiently in investment timeframes in an attempt to force out existing generation through gaming the contribution factors.

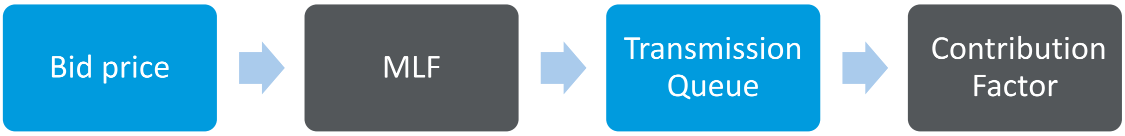
Further, we note that the ESB's other proposed option for investment timeframes "Congestions Zones with connection fees" would also continue to leave generators exposed to the "winner takes all" nature of the contribution factors despite having paid a yet to be enumerated connection fee.

Instead of altering our proposal, we urge the ESB to attack the underlying problem of the "winner takes-all" outcomes caused by contribution factors by integrating our queue proposal into the dispatch algorithm so that it will be considered before contribution factors. We believe that this will provide the locational signal required to achieve efficient outcomes in the investment timeframe and will not lead to an increase in the cost of electricity for consumers. Furthermore, we believe that placing the transmission queue in front of contribution factors will reduce the incentive to bid in a disorderly fashion in the operational timeframe. In summary, we believe that that contribution factors do not provide a barrier to our queue proposal; on the contrary, we believe that integrating the queue into the dispatch algorithm can relieve the problems caused by contribution factors that the ESB has noted in its consultation paper.

2.1 Adding the Queue to the Dispatch Algorithm to Encourage Efficient Location

The ESB has correctly pointed out that if the transmission queue is considered after contribution factors it will have limited ability to resolve ties between generators with equal MLF weighted bids due to the granular calculation of contribution factors.[1] However, we do not believe this means that the queue should be altered. Instead, we propose that the transmission queue should be considered before contribution factors for resolving tied bids behind a binding constraint. Figure 2.1 shows the order in which we propose that the NEMDE should consider components of the algorithm.

Figure 2.1: Proposed Placement of the Queue in the NEMDE Dispatch Algorithm



The figure above shows that the NEMDE should first determine the bid-stack by assessing all MLF weighted bids to determine the least cost generation mix to meet demand in a given five-minute interval. Next, where there are binding constraints within the NEM that NEMDE must resolve, NEMDE[2] should curtail generators in descending order of the queue. This means that NEMDE would seek to resolve binding constraints by curtailing generators with a high queue number and then proceed down the generators in the queue until the constraint is resolved. If NEMDE cannot resolve the binding constraint using queue order, then NEMDE should resolve the constraint using contribution factors as it currently does. Thus, if NEMDE reaches generators with queue number 0 without resolving the constraint then it should resolve the constraint using contribution factors as it does now.

Binding constraints that cannot be resolved through the queue will likely only occur in places in the NEM that already experience congestion and will gradually ease over time as the queue proposal comes into full effect. The reason is that our queue proposal would give a queue number of zero to all existing generators when it is implemented to avoid an unfair and likely unworkable process of attempting to retroactively give queue numbers to existing generators. This will have effect of freezing in place the status quo for all existing generators, including freezing in place existing congestion. Thus, there will continue to be areas of the NEM where the existing generators with a queue number of zero will continue to experience congestions that must be resolved through contribution factors. As such, existing generators will be no better or worse off than they currently are, and their situation cannot deteriorate over time.

[1] Note that we also propose blunting the granularity of MLFs to allow for more ties that can be broken by the queue. We are concerned that the level of granularity in calculating MLFs is unwarranted and differentiates generation plants when there is extremely limited or no real differentiation. As such, we propose that the level of granularity of MLFs be reconsidered to allow for plants which have a near identical losses to tie and allow the transmission queue to serve as the tiebreaker.

[2] Note that we expect that as the energy transition progresses, and greater amounts of zero-SRMC VRE are located in REZs we would expect that the likelihood of tied bids with the same MLF will become a more common occurrence.

In fact, locations in the NEM that currently experience congestion should see their congestion begin to alleviate over time as existing generators retire. This is because new entrants that join the NEM after the implementation of the queue system will only receive a queue number of zero if they are deemed not to have a material impact on congestion.

Any new entrant that joins the NEM in an area where they will have a material impact on congestion will receive a queue number greater than zero meaning that they will be the first to be curtailed when there is congestion. Thus, over time as existing generators retire it will become increasingly unlikely that a generator with a queue number of zero can be the cause of congestion. As a result, the need to resolve constraints through contribution factors will become less and less common.

Similarly, a generator that has received a queue number greater than zero would necessarily be the generator that has caused a constrain to bind. Therefore, it is logical and fair that this generator should be curtailed first.

Box 2.1: Queue Allocation and Constraint Management Example

To illustrate our proposal, consider an example where a REZ is developed that has 2,000MW of export capacity to the shared network. This means that in normal circumstances capacity will only be less than 2,000MW if there are constraints in the shared network downstream and external to the REZ.

The transmission capacity within the REZ would be auctioned with the result that there are ten generators with a maximum output of 2,000MW constructed. Those generators are given a queue position of zero. Then, a further five generators also locate in the REZ—or nearby it using the same transmission infrastructure—and are given queue numbers 1 to 5 in sequence of construction. Their rationale for locating in or near the REZ is that the high-quality resource (wind/solar) offsets the risk that they will be curtailed. These subsequent five generators may have assessed the risk of curtailment to be low and decided to build anyhow because:

- The queue zero generators will not always be operating at maximum capacity, at times where the wind or solar resource is low for example
- There may be a mix of solar and wind generators with non-coincident peak output; and
- The additional generators may have invested in local storage to time shift their output from the local peak.

If all 15 generators bid their marginal costs—we assume that marginal cost for VRE is zero—and their combined targeted dispatch in the least cost bid stack exceeds 2,000MW, NEMDE would constrain off generators in reverse order of their queue position. This means that the generator with queue position five is curtailed first, then four and so on until the flow on the line to the shared grid is less than or equal to 2,000MW.

If NEMDE reaches queue position zero without a solution, then the queue zero generators are constrained off according to their contribution factors. We note than in this example, this will only occur if the line limit has been reduced below 2,000MW or the constraint is “downstream” of the REZ connection to the shared network as the REZ would be a new development without existing congestion when the queue system is introduced.

The queue mechanism thus allows for commercially driven efficient overbuild of generation. The queue zero generators invest on the basis that new generators after the auction will not result in any reduction in their transmission capacity arising from arbitrary and random factors such as MLFs and contribution factors. Additional generators invest based on their commercial assessment of the capacity available to them and the security provided by the queue that new entrants later will not materially impact that availability.

Importantly, there is no incentive for any generator to bid to the floor. For all bids that are less than the marginal generator there will no difference in dispatch, curtailment, or financial flows under the queuing proposal if the REZ constraint binds. Queue position five for example will be first to be curtailed even if its bid is -$1000. As a result, generators will have an incentive to bid their marginal cost.

While the example on the box above focuses on a REZ, the concept can be applied to any part of the network. Queue positions for new generators are assigned based on their contribution to local congestion on the parts of the network that are electrically close to the new generator—meaning parts of the network where they would have a material impact on congestion. Further, there would be a relationship between contribution factors and the determination of queue numbers. Determining queue numbers would consider:

- What are the segments of the transmission network that the new generator may constrain and what is the new generators contribution to that constraint? This could be expressed by analysing the modelled contribution factors of the new entrant for each segment of the transmission network
- What existing generators will be materially impacted by those constraints? This could be determined by assessing the modelled changes in the contribution factors of existing generators.

Of course, there would need to be a cut-off to determine materiality in impact on congestion or an individual generator and which segments of transmission are impacted. However, the materiality threshold will need appropriate modelling and analysis.

Thus, there would be a relationship between the assignment of queue numbers and contribution factors. However, queue numbers cannot change and, therefore, generators cannot be unfairly impacted by the locational decisions of future generators.

2.1.1 Placing the transmission queue before contribution factors will not lead to an increase in costs for customers in short run

In its consultation paper the ESB stated that "The ESB does not propose to change the role of contribution factors in dispatch. Alternative approaches would have the result that NEMDE dispatches (and customers pay for) more energy than is necessary, with the additional MW unable to reach load due to congestion."

We do not believe that this is true. Our understanding is that contribution factors do not change the total amount of electricity dispatched to meet demand. Contribution factors change the amount of electricity required to relieve a constraint. Generation is merely shifted from one part of the NEM to another. The total envelope of required electricity does not change.

NEMDE relieves binding constraints by shifting around the output of generators in the bid stack that it has already determined provide the least cost generation mix for a given generation interval. By definition all generators, bar the marginal generator, in the bid stack must be less than the marginal generator. As a result, shifting the output of generators in the NEMDE's generation stack cannot change the price that consumers pay unless the marginal generator changes because it is the marginal generator that sets the RRP that consumers actually pay.

We acknowledge it is possible that there is no way to relieve a constraint without changing the marginal generator and thus the RRP. As a result, to eliminate this possibility we propose a limit on the transmission queue such that NEMDE should only curtail generators in order of the queue to the point where it would require changing the marginal generator. If using the queue to resolve a constraint would result in increasing the cost of the RRP, then we propose that

NEMDE revert to the use of contribution factors to resolve a binding constraint. This safeguard will ensure that customers do not pay extra due to the queue.

It is possible that using the queue instead of contribution factors would result in dispatching generators that are farther from load; however, generator bids are already weighted by MLF meaning that losses are already accounted for in generator bids. MLFs are imprecise and as a result, a small increase in generation may be required. However, there may similarly be a decrease. Further, any increase in cost due to the imprecise nature of MLF will be more than offset by the savings resulting from reduction in the cost of capital.

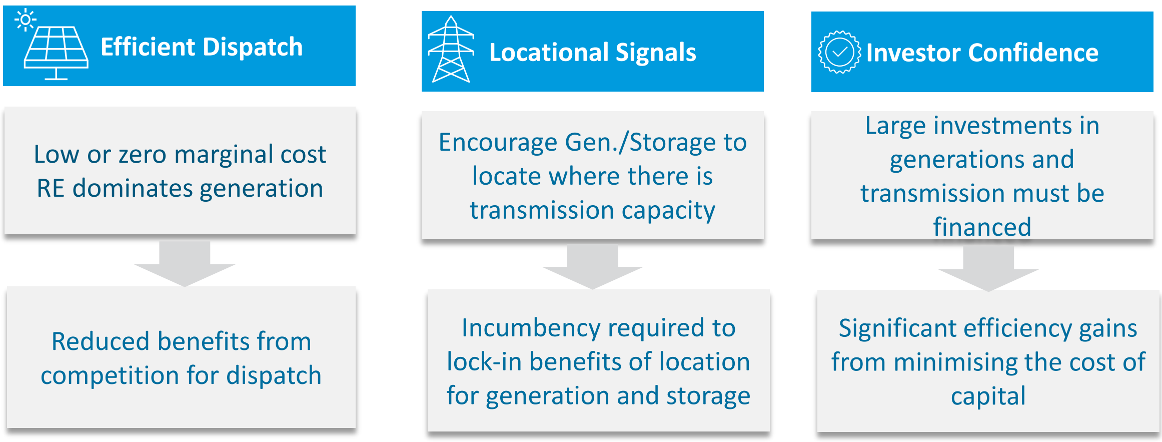
Further, given the incentives to bid in a disorderly manner provided by using contribution factors to determine tie-breaks when constraints bind, the price of bids behind a binding constraint is unlikely to reflect actual marginal cost as generators are incentivized to race to the floor to ensure dispatch as explained in Section 2.2. This means that increasing or decreasing the amount of generation to resolve a constraint is unlikely to change whether the least cost generation mix is used to meet demand.

2.1.2 Placing the transmission queue before contribution factors will lead to a reduction in costs for consumers in the long run

Allowing the queue system to function as designed will remove the incentive for generators to locate in congested areas of the NEM in an attempt to force out existing generators by gaming the dispatch algorithm. As we have explained in our previous submissions, this will lower the cost of electricity in the NEM by reducing the risk faced by investors, which in turn will reduce the cost of capital required to finance the large capital investments required to achieve the energy transition. As we have also previously argued, our view is that reducing the cost of capital will have a much larger impact on the costs that customers pay than any increase that may arise from reduced competition for dispatch.

Figure 2.2 shows the relationship between the key changes that result from the energy transition and their impact on reducing the cost of electricity.

Figure 2.2: Nature of the Energy Market Post Energy Transition



The dominance of RE with near-zero SRMC cost in the generation mix will dramatically reduce the benefits achieved from encouraging competition for dispatch. In a near-zero SRMC environment, there will be many periods where all bidders have near-zero SRMC and so there is no social benefit to dispatching any particular unit ahead of another, even though the dispatch order—or rather the risk of non-dispatch—will of course be important to each investor. Further, this does not mean, at least not in the short term, that there will not continue to be periods where thermal generation and RE will compete; however, as the energy transition advances instances where thermal generation and RE compete will reduce as a result of:

- The simple fact that there will be less thermal generation in the NEM as made clear by the step-change scenario
- The location of most VRE in REZs far from remaining thermal generation means there will be very limited competition between thermal generators and VRE for transmission capacity
- The remaining thermal generation will mostly be firming or peaking capacity. By its very nature firming and peaking units are intended to run when RE is not able to meet demand. Thus, it is very unlikely that these units would be generating at a time when they would be competing with RE for transmission capacity

If there are no efficiency gains from competition for dispatch during each bidding period, then it becomes more important to provide generation and storage investors with greater certainty about their future ability to dispatch at the time of the investment decision

To illustrate the point that allowing the queue system to work will result in a reduction in costs for customers in the long run, the Clean Energy Investors Group (CEIG) estimated that the current 100-250bps premium on the cost of equity caused by significant uncertainty and risk in the market will cost an additional $7bn that generators must recover and customers, therefore will have to pay. This is close to 10% of the estimated A$70bn NPV in wind and solar investment CEIG estimates is required to achieve the energy transition[3]. This is a significant cost, meanwhile, there is no benefit to allowing Zero-SRMC VRE generators compete for dispatch. As a result, we are confident that considering the queue before contribution factors will decrease costs for customers.

2.2 The Queue Will Reduce the Incentive for Disorderly Bidding

Contribution factors do not determine who gets dispatched despite race to the floor bidding. Contribution factors encourage race to the floor bidding because NEMDE considers bid price combined with contribution factors when determining which generator to curtail in the event of a binding constraint.

Considering the queue before contribution factors would dramatically reduce the incidence of contribution factors being used to determine curtailment. As a result, the incentive to bid in a disorderly fashion would be greatly reduced. On the contrary, generators, safe in the knowledge that they will be curtailed in order of queue so long as their bid is less than the marginal generator will have an incentive to bid their actual marginal costs. Thus, considering

[3] Clean Energy Investor Principles August 2021 Unlocking low-cost capital for clean energy investment

the queue before contribution factors will improve operational efficiency as well and, thus, help achieve ESB's stated goal in operational timeframes.

The ESB's consultation paper states that "While tie-breaker rules are relevant, insofar as they explain why market participants engage in "race to the floor" bidding, they rarely drive dispatch outcomes in practice. Instead, generator coefficients tend to determine who gets dispatched." However, this does not fully explain how NEMDE determines tie-breaks using a combination of contribution factors and bid prices. Consider the following example provided in *Watt Clarity* by Allan O'Neill wherein NEMDE is trying to determine which solar farm to curtail:

> *NEMDE will seek to alter targets in a way which minimises the incremental cost to the dispatch solution. Let's suppose that the three solar farms with [contribution factors] of +1.000 have all offered their energy at* ***\$5/MWh*** *while the Broken Hill Solar Farm, coefficient +0.6665, has offered energy at* ***\$40/MWh****. We'll also need to know the spot price in NSW so let's suppose that is* ***\$50/MWh****.*
>
> *Now, a 1 MW reduction in dispatch target (away from what would otherwise be least cost) at Limondale or Sunraysia farms would reduce the LHS value by 1 MW (coefficient +1). NEMDE's cost function views this as a "saving" (because it's taking less energy from this source) of*
>
> *\$5/MWh (offer price) * 1 MW i.e., \$5 per hour.*
>
> *To have the same effect on the LHS (reducing its value by 1) NEMDE could instead reduce the output target at Broken Hill Solar with its lower constraint coefficient by* ***1 MW / 0.6665 = 1.5 MW****. This would* ***reduce*** *NEMDE's cost function by*
>
> *\$40/MWh (offer price) * 1.5 MW per hour or \$60 per hour.*
>
> *But NEMDE also has to keep supply and demand balanced, so if it reduces targets at one of the solar farms in NSW, it has to increase NSW supply somewhere else by the same amount. Now the \$50/MWh NSW spot price comes into play, because the spot price is the marginal cost of supplying extra energy in NSW by definition.[4] If NEMDE winds back Limondale or Sunraysia by 1 MW, the spot price tells us that hourly cost of making up the output from elsewhere must be*
>
> *\$50/MWh * 1 MW = \$50 per hour*
>
> *whereas winding back Broken Hill Solar by 1.5 MW (to achieve the same 1 MW change in constraint LHS) will require another 1.5 MW of supply from elsewhere, costing*
>
> *\$50/MWh * 1.5 MW per hour = \$75 per hour*
>
> *Netting these changes in offer costs and "make-up" energy, we see that the net additional cost of reducing the constraint LHS by 1 MW by changing output at Limondale or Sunraysia, versus changing output at Broken Hill* ***given their relative offer prices and constraint coefficients*** *is*
>
> *-\$5 (offer saving) + \$50 (make-up energy) =* ***\$45 per hour*** *for Limondale or Sunraysia*
>
> *-\$60 (offer saving) + \$75 (make-up energy) =* ***\$15 per hour*** *for Broken Hill*

[4] Note however that this is not the actual marginal cost of the make-up electricity; however, this is how the NEMDE calculates the cost of make-up energy.

> *so, in this case NEMDE would not wind back output at Limondale or Sunraysia, despite their larger coefficient, but instead prefer to wind back Broken Hill Solar's more expensive output because this yields a smaller increase in NEMDE's cost of dispatch.*

Mr. O'Neill goes on to point out that:

> *generators with positive coefficients that do not want their output wound back might choose to offer their energy more cheaply, by rebidding at low or negative prices, because this will give NEMDE less incentive to reduce their output – in fact, it sees reducing output at a negative offer price as a cost not a saving.*
>
> *Following this logic, all generators with positive coefficients under a binding constraint may end up rebidding to the market floor price of negative $1,000/MWh to give NEMDE the maximum disincentive to wind their output down. In this case NEMDE will revert to choosing the generator(s) with the largest positive coefficient(s), since these require the smallest change in MW output to impact the constraint LHS by a given amount and hence the smallest cost to dispatch.*[5]

The fact that "winner takes all" nature of constraint coefficients increases the incentive for generators to engage in disorderly bidding has been recognized for some time. In 2012, the AER noted that:

> *Generators that are forecast to be constrained have an incentive to rebid their capacity in order to limit the impact of a binding constraint on their dispatch outcomes. Generators with a negative coefficient can rebid capacity into higher price bands and/or as unavailable to reduce the possibility (or the magnitude) of an increase in output as a result of being constrained-on. Generators with a positive coefficient can rebid capacity into negative price bands to reduce the extent to which their dispatch levels will be decreased. As NEMDE is seeking to manage the constraint most optimally (based on generator offer prices as a proxy for cost), rebidding capacity in this way will influence NEMDE's outputs.*[6]

Thus, we believe that adding the queue to the dispatch algorithm will have a significant impact on reducing incentives for non-cost reflective bidding in addition to the improvement in investment efficiency that results from adding the queue to the dispatch algorithm.

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[5] Allan O'Neil "Case Study – How to interpret a new NEM constraint and guess what it might do." Watt Clarity Accessed at: https://wattclarity.com.au/articles/2020/11/casestudy-x5-constraint/

[6] "Special Report: The impact of congestion on bidding and inter-regional trade in the NEM." Australian Energy Regulator. December 2012

3 Misrepresentations of Our Transmission Access Queue in the Consultation Paper

In addition to clarifying our view that the queue should be considered before contribution factors, we would also like to correct several apparent misunderstandings of our model by the ESB. The table below provides clarifications to several misunderstandings.

Table 3.1: Misunderstandings of our model in the consultation paper

ESB Question	ESB Answer	Clarification
How does the model incentivise efficient investment decisions/ disincentivise inefficient investment decisions?	When congestion occurs, generators with tied bids and identical participation factors are dispatched in the queue order. When the coefficients of the congested generators are not identical, for example in the presence of a loop on the transmission network, dispatch reverts to the status quo, with generators being dispatched in order of contribution factor by the dispatch engine.	We are proposing that the queue would take effect before participation factors, provided that system stability is maintained. Therefore, contribution factors would only take effect for generators with the same number in the queue.
How does the model determine which parts of the network should be subject to incentives/ disincentives to connect?	The model applies to existing and future transmission networks as per the ISP. Efficient connection locations are identified based on the transmission capacity available.	This is partially accurate, though it would be more accurate to say that our proposal requires that a new generator that wants to connect to the transmission network to go through a regulated process (possibly by the TNSP) to determine its impact on congestion. This process would determine the material impact of a new generator on the congestion in the local area and the system's stability overall. We note that the ESB's connection fee proposal would also assume that a similar approach is taken to calculating connection fees.
How does the model maximise the potential hosting capacity of the network by encouraging investments that enhance hosting capacity?	Option for new generators to fund investment to increase transmission hosting capacity in return for an improved position in the queue.	This is not correct. To ensure that transmission investments made through the RIT-T process are utilized efficiently, our proposal allows for the efficient overbuild of generation capacity. The queue will lead to an efficient utilization of transmission capacity because it is likely that VRE generators will be willing to build capacity that will be constrained off during peak generation periods, but which is able to utilize unused transmission capacity during periods of lower generation—commonly referred to as economic curtailment.

		Our proposal does allow for generators to fund transmission investment in an area where they would like to receive a zero position in the queue. However, this is a separate issue.
How does the model create incentives for demand side and two-way technologies to locate where they provide the most benefits to the system?	Opportunity for generators to improve their position in the queue through transmission charges (to augment local transmission capacity or install storage and seek the right to dispatch during periods when there is no shortage of transmission capacity). Energy storage is subject to same queuing terms as generators	This is the incentive that the queuing model provides for generators to co-locate storage behind transmission constraints to relieve congestions. Standalone storage investments will also be incentivized to locate behind transmission constraints because they will be allowed to sign bilateral agreements to purchase electricity from local generators that would otherwise expect to be constrained off. This would likely be at agreed prices below the RRP during the periods of expected curtailment. The power would then be sold when the transmission network is not constrained. Further, we note that we did not propose that energy storage would be subject to the same queuing terms as generators all the time. We proposed that energy storage be treated differently depending on what service it is providing. We proposed that: ▪ **Storage acting as dispatchable Energy**—Energy storage would enter the queue and dispatch on the same terms as any other generation project when serving as a generator. This is because an energy storage project entering the queue and receiving a high number means that it can only dispatch when other generators are not dispatching. This will be key to encouraging energy storage to locate in a way that eases congestion. If energy storage providers were exempt from the queue, they could attempt to discharge during congested periods which would worsen congestion rather than relieving it ▪ **Storage Acting as Load.** Energy storage would be treated as a load when charging. Storage providers will be allowed to sign bilateral contracts with generators that cannot dispatch due to congestion to purchase electricity at an agreed price rather than the RRP. This, in turn, would alleviate the congestion and allow generators to sell produced electricity instead of spilling it ▪ **Storage proving Ancillary services.** Storage providers would be exempt from the queue when providing ancillary services. The ancillary services market is separated from the energy market. For this reason, we believe it is reasonable to separate the

		energy and ancillary market incentives. This means that encouraging storage participation in the ancillary market should be addressed under the ancillary market regulations, not through the transmission access queue.
How does the model support jurisdictional REZ schemes?	Priority queue positions could be made available to REZ generators. Outside REZs, the NEM-wide access regime could support REZs by allocating low priority queue positions to generators who wish to connect in locations that would undermine the access of REZ generators.	This is partially correct, but it would be more accurate to say that the queue system supports REZs because any new entrant that sought to free ride off of a REZ infrastructure by locating just outside of it would receive a higher number in the queue by virtue of the fact that the transmission capacity set aside to serve the REZ is already fully utilized. Thus, any new entrant seeking to free ride would by definition be breaching transmission capacity, receive a number in the queue higher than zero and be curtailed before generators located in the REZ.
Effective Wholesale Competition (1)	There is a risk that queueing may limit or damage contract market liquidity.	We anticipate that our proposal would not limit or damage the contract market liquidity On the contrary, providing greater dispatch certainty to incumbent generators would lead to an increase in liquidity of contract markets as incumbent generators, confident that they will have access to transmission capacity, will offer more and longer-term contracts without fear that curtailment will prevent them from meeting their contractual obligations.
Effective Wholesale Competition (2)	Further consideration is required of EOI eligibility criteria to ensure that advantageous queue Positions are not awarded to generators that won't reach financial close, which could deter other genuine investment.	We propose that the EOI phase will be designed to eliminate bidders who do not have the technical or financial backing to deliver a project. Requirements for project proponents should be calibrated to be tight enough to prevent unserious bidders from being considered, but not so onerous that they deter interest or prevent smaller or innovative applicants from being considered.
Implementation Considerations	A queue position may be allocated but held in limbo while proponent works to complete grid studies and finalise the connection agreement.	We proposed, to maintain the place in the queue, the project proponent must commence construction within two years of receiving their place in the queue. If the generator has not commenced operations within that time-period, then the project proponent will lose their spot in the queue and all deposits and fees paid will be lost.

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