31 March 2022

Congestion management Technical Working Group

Working paper – Key questions on options

This paper is intended to set the scene for the working group's discussion. It provides an ESB staff level view of the most critical questions raised by TWG members via the Mural process so far.

Timeframe	Option	Key question
Investment	1. CMM - REZ adaption	1.1. How will rebates be allocated? *Note there is flexibility in how rebates can be allocated to address objectives but this needs to be distilled for an assessment to be completed eg grandfathering rights, rebates for non-REZ locations with available capacity.* 1.2. How does this model support an investment case for demand side and 2-way technologies to provide congestion relief? 1.3. How do we ensure that the rebate/charge regime does not encourage incumbent generators to stay in the system for longer than is efficient?
	2. Grid access reform	2.1. How will the creation of a queue affect investment? *2.2.* Will the model only apply to radial constraints? *Note that in the presence of a loop, dispatch reverts to the status quo determined by bid price, MLF and participation factors.* 2.3. Is this model effective in protecting existing generators given the role of participation factors in the dispatch algorithm? 2.4. What is worse – having to forecast congestion risk as part of a commercial investment decision, or facing a signal that is based on a central bodies' forecast of future congestion risk? 2.5. How do we ensure that the queuing regime does not encourage incumbent generators to stay in the system for longer than is efficient?
	3. Locational connection fees	3.1. How do we overcome the barriers to entry arising as a result of locational connection fees, for instance, if a new entrant is required to fund the cost of a transmission upgrade? *Note that investors have consistently rated the grid connection process as the top business challenge since July 2019 ie how can the model mitigate the risk that it imposes additional hurdles (cost, connection timeframes, uncertainty…) which will deter investment?* 3.2. How do we ensure that locational connection fees do not result in inefficient transmission investment?

		3.3. How do we ensure that alternative do-no-harm arrangements, such as run-back schemes, do not create system security risks? 3.4. How do we ensure that TNSPs do not take a risk averse approach in specifying 'do low harm' requirements?
	4. Connection fees based on long term plan	4.1. Same question as per grid access reform - What is worse – having to forecast congestion risk as part of a commercial investment decision, or facing a signal that is based on a central bodies' forecast of future congestion risk? 4.2. Same question as per locational connection fees - How do we overcome the barriers to entry arising as a result of locational connection fees, for instance, if a new entrant is required to fund the cost of a transmission upgrade?
Operational	5. CMM – Vanilla	5.1. The CMM models (REZ and CMM) address two separate timeframes (investment and operational). Overall, is the CMM REZ adaptation or CMM – Vanilla a more effective model and why? 5.2. How do we ensure that the rebate/charge regime does not encourage incumbent generators to stay in the system for longer than is efficient?
	6. Congestion relief market (CRM)	6.1. Is this model truly voluntary? 6.2. Should existing generators be required to make congestion relief payments to new connecting generators who congest them off in order to be dispatched, as would occur under the current specification of the CRM? 6.3. How do we ensure that NEMDE is able to solve, given that the outcome of trades in the CRM will affect final dispatch outcomes? *Note that a potential solution for NEMDE solve makes this model more equivalent to CMM.* 6.4. The highest value for congestion relief services is likely created by generators bidding in the energy market and then providing 'congestion relief' in the CRM. Will the CRM incentivise thermal / inefficient generators to stay (or enter) the market by earning rents without providing economic value?
	7. Grid access reform (tiebreaking)	7.1. How does the NEMDE maintain system security if VRE is dispatched ahead of thermal plant 7.2. How does the group view the proposal to use administrative rules (eg VRE before thermal, low queue number before high queue number) to determine dispatch outcomes? 7.3. How does the model create incentives for storage and DSR to charge rather than discharge during periods of congestion? 7.4. Does this model remove incentives for race to the floor bidding?