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Ms Victoria Mollard
Director
Australian Energy Market Commission
Level 6
201 Elizabeth St
Sydney NSW 2000

Lodged online via www.aemc.gov.au

Dear Victoria,

Re Market Review – Coordination of generation and transmission investment implementation – access and charging

Neoen welcomes the opportunity to respond to the AEMC's Market Review Paper regarding COGATI (1 March 2019).

Neoen is the leading French, and one of the world's leading independent producers of renewable energy. Neoen is a responsible company with a long-term vision that translates into a strategy seeking strong, sustainable growth. We have 2 GW of projects globally in operation and under construction, including in the NEM: Hornsdale Wind Farm (309 MW in SA); Parkes, Griffith, Dubbo, and Coleambally Solar Farms (combined 255 MW in NSW); Bulgana Green Power Hub (hybrid wind/battery system) and Numurkah Solar Farm (combined 314 MW in VIC); and the Degrussa Hybrid Power System (10.6 MW in WA). Neoen is also the owner of Hornsdale Power Reserve (100 MW/129 MWh battery system) in SA.

Firm Access & Transmission Cost Recovery

Neoen's strategy is based on developing, investing, owning and operating renewable energy generating assets in the long-run. This means Neoen's attention is specially focussed on mitigating risks and uncertainties that might arise during the operating lifetime of the assets and that might not have been clearly identified or quantified during the investment phase. Neoen is very concerned by any risk that could alter or jeopardise its ability to deliver energy generated to the market at the reference market price. As a consequence, Neoen welcomes market rules evolutions towards firm access, meaning, in the end, firm commitment from the network operators that the power output will be delivered to the market with no congestion, no curtailment and no change (or for improvement only) in the MLF factors applied to the generating assets. If the counterparty for such firm access is the generators financially supporting a share of indirect costs for enhancing transmission grids, then Neoen is welcoming this discussion also in light of Neoen's knowledge and experience of other electricity markets, European markets in particular.

More specifically, Neoen is highly concerned about seeing the revenues of its current assets in operation being jeopardised by new generating assets being connected and affecting the curtailment and MLF existing situation.

Concerning investment in new generating assets, Neoen is also deeply concerned about risks that cannot be hedged or quantified at investment decision time. These risks include unexpected curtailment, major changes in MLF factors and majors pricing uncertainties arising, for instance, from lack of market liquidity or differences between local price and reference price that cannot be hedged. While financing any new

generation assets, the main question for developers remains to which extend they can rely on debt financing in order to optimise their equity participation. This means high involvement of the lenders in the projects. Any risk that is not easily quantified, that cannot be hedged or pass through to any customer (being well noted that any curtailment of MLF risk is never accepted by any customer, nor any new risk that might arise for change of market design) is seen as an additional impediment and generally overestimated (and thus overpriced) by the lenders. In the end, this generates higher capital costs, meaning higher projects costs and finally higher prices to end customers. Firm access would clearly generate less long-term risk for generators together with lower financing costs and better understanding with their customers.

Considering the current situation of the NEM with a very high number of generators in competition, Neoen shares the AEMC position that an access reform is absolutely necessary. Nevertheless, Neoen believes that before creating solutions, **the AEMC should quantify the costs to the NEM and how they arise,** so that solutions can be targeted, transparent, and affordable to implement.

In any case, Neoen believes an immediate priority is for **the AEMC to consider interim measures to discourage generators from connecting to congested parts of the network, and work with AEMO to improve MLF outcomes.**

Guaranteed/Firm Access Proposal

Neoen supports the Firm Access proposal in concept, but it has raised some concerns as listed below. Given that it will take time to refine the proposal we ask that the AEMC supports interim measures with respect to MLF and the right to connect in congested areas, such as higher constraint factors and/or lower MLFs being applied to “the last generator to connect”.

Following are the questions Neoen would like to address concerning firm access:

1. Energy-intensive industry will be hurt by any increases to wholesale price, or TUOS for large consumers. Any arrangement that reduces TUOS for households necessarily increases cost to industry.
2. It is unclear how would costs be allocated. If there is a low fixed fee for generators, they will push for inefficient spending on transmission. If generators bear most of the cost, then nothing is built as we have now. And if costs are allocated on a case-by-case basis, how would this differ from the RIT-T process borne by NSPs?
3. Will Firm Access lapse after an amount of time?
4. How would MLFs be guaranteed?
5. Would existing generators be grandfathered, and what would be the conditions on such grandfathering?
6. How would “partial firm access” work?[1]
7. How would the cost of Firm Access be applied to renewables given they do not always use their capacity?
8. Could Firm Access be used to block development?
9. When would payment for Firm Access begin?

[1] Consider solar farms which have correlated, near binary profiles. Two solar farms curtailed to 50% would get little benefit from partial firm access as they regularly generate at maximum capacity. A wind farm sees more benefit from partial firm access as they generate at moderate levels more frequently.

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10. Could Firm Access be temporarily suspended or reduced?[2]

IR-TUOS

Neoen has no comment on this proposal.

Dynamic Regional Pricing

Whilst the proposed change is one possible way to encourage the efficient dispatch of storage in constrained regions, it does this at the cost of other generators and consumers. The AEMC has not demonstrated any other benefits to dynamic regional pricing that would flow through to consumers.

Regarding Questions 1-3 in the AEMC's Consultation Paper, Neoen's main concerns are listed below and focus mainly on the risks to the proposal.

1. The staged approach to change inherently introduces "transitional uncertainty" for contractors, which increases the risk that new generation is not financed until after all the changes are in place.
2. AEMO already reports on the most congested parts of the network, which already acts as a signal to market participants. AEMC provides no evidence that dynamic regional pricing might provide additional relevant information.
3. Creating a price signal for congestion does not compensate for lost production or poor loss factors. Firm Access can compensate for these losses without a local price.
4. AEMC has not demonstrated any quantitative value to local pricing. "Efficiency" of itself is not a result, it is a condition which yields improved results. In the majority of cases the competition will be between generators with zero marginal cost, so there will be no change in the "efficiency" of the dispatch.
5. The problem of disorderly bidding is miniscule; it is at worst a nuisance. The AEMC report acknowledges this. The disorderly bidding issue is not worth adding high level of complexity to the market.
6. Settlements and dispatch will be incredibly complex. There are thousands of constraint equations and billions of potential generator combinations. Has the AEMC consulted AEMO on the feasibility and cost of implementation?
7. The disruption of existing business models by local pricing will extinguish investment in new generation, driving up prices for consumers and reducing supply reliability. See the appendix for examples of how generators can unfairly disrupt their neighbours or counterparties.
8. There are already numerous Rule changes underway and the industry cannot afford the workload to fight for certainty over the most basics aspects of the market.
9. Fragmentation of market regions increases the likelihood that participants will be able to exert market power over smaller neighbours.
10. Price disconnection between markets encourages collusion between participants to extract undue revenues from contract partners.

[2] For example, if wholesale prices are too low for a generator to be able to afford firm access.

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11. Reduced access to a common market price reduces the liquidity of energy futures and increases the risk for generators wishing to contract with consumers. Both effects will increase the cost of contracting energy for consumers.

Neoen believes the fundamental change to pricing being proposed with dynamic regional pricing exposes all NEM participants to far higher risks than does the existing arrangement. Neoen is already aware of increasing offer prices due to the proposed pricing reform. Therefore, Neoen recommends **the AEMC promptly abandon this process** to give the market certainty and avoid a freeze on new investment in the sector.

Instead, Neoen believes the AEMC should concentrate time and energy on designing the firm access mechanisms and transition period in order to bring as rapidly as possible higher certainty and lower risks to market participants keeping in mind that any risk that is supported by generators will have to paid by end customer in the end.

Neoen welcomes further discussions at the AEMC's behest.

Should you have any questions or seek to follow up this submission at any time, please feel free to contact Tom Geiser via email at tom.geiser@neoen.com.

We look forward to engaging with the AEMC and stakeholders further on this and future reviews.

Kind regards,

Tom Geiser,
Senior Market Manager,
Neoen Australia

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Appendix

Revenues and costs are in $/hour.

Example 1

1a. Strategic rebidding

RRP at Node	$50
Flow to RRN	500
Compensation	$24,500
Local price	$1

	SRMC	Bid	Generation	Local Rev.	Compensation	Total Revenue
G1	$0	$0	500	$500	$12,250	$12,750
G2	$300	$1	0	$0	$12,250	$12,250

In this example a diesel generator has bid below its marginal cost to capture a share of the local price compensation. G2 has been paid when it would not have been generating given the prevailing RRP. G1 has been paid less than deserved.

1b. Impact on Retailer

RRP at Node	$50
Flow to RRN	500
Compensation	$24,500
Local price	$1

	SRMC	Bid	Generation	Local Rev.	Compensation	Total Revenue
G1	$0	$0	500	$500	$12,250	$12,750
					With PPA:	$25,000
G2	$300	$1	0	$0	$12,250	$12,250

	PPA price	PPA Volume	Payout to G1
R1	50	500	$12,250

Now consider where G1 has a contract with retailer R1. R1 is assumed to pay the difference between the PPA strike price and the Local price multiplied by the generation volume, minus any compensation. Many existing contracts would not account for the compensated amount which would increase the losses to the retailer.
In this example funds are effectively transferred from the retailer (or consumer) to a generator that would not have intended to operate.

Example 2

2a. Storage

RRP	$50
Flow to RRN	500
Compensation	$24,500
Local price	$1

	SRMC	Bid	Generation	Local Rev.	Compensation	Total Revenue	Stored Value
G1	$0	$0	1000	$1,000	$12,250	$13,250	
BL1	$0	$0	-500	-$500		-$500	$25,000
BG1	$0	$1	0	$0	$12,250	$12,250	

Introducing a battery to this example, and with strategic rebidding as before we come to a similar result. The difference is that the battery has stored value in the form of cheap energy that can be later sold. It was assumed that later sale was at the RRP. G1 has received no benefit from increased production.

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2b. Impact on retailer

RRP	$50
Flow to RRN	500
Compensation	$24,500
Local price	$1

	SRMC	Bid	Generation	Local Rev.	Compensation	Total Revenue	Stored Value
G1	$0	$0	1000	$1,000	$12,250	$13,250	
					With PPA:	$50,000	
BL1	$0	$0	-500	-$500		-$500	$25,000
BG1	$0	$1	0	$0	$12,250	$12,250	

	PPA price	PPA Volume	Payout to G1
R1	$50	1000	$36,750

With the same assumptions as before the retailer is now exposed to a much larger loss as G1's production increases. G1 has benefited from the increased production.

2c. Collusion

RRP	$50
Flow to RRN	500
Compensation	$524,500
Local price	-$999

	SRMC	Bid	Generation	Local Rev.	Compensation	Total Revenue	Stored Value
G1	$0	-$1,000	1000	-$999,000	$262,250	-$736,750	
					With PPA:	$50,000	
BL1	$0	-$1,000	-500	$499,500		$499,500	$25,000
BG1	$0	-$999	0	$0	$262,250	$262,250	

	PPA price	PPA Volume	Payout to G1
R1	$50	1000	$786,750

Now consider that B1 and G1 can work together to extract payment from R1. Either both assets are owned by one participant or two participants collude.
By actively rebidding to -1000 the PPA payout is increased. While this doesn't affect the net position of G1 it greatly increases revenue for B1. G1 would need a share of that revenue to be incentivised to rebid in such a way. If the PPA does not account for compensation, then G1 is incentivised to bid in this way without the need to cooperate with B1. The cost to R1 would increase by the compensation amount in this case.
This position might bankrupt a small retailer (or large consumer) before they even realise what is occurring. Even if the offtaker is financially resilient like a government, they may find it incredibly expensive to meet their contractual obligations or break their contract.

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Example 3

3a. Contracts Settled at RRN

RRP at Node	$50
Flow to RRN	500
Compensation	$525,000
Local price	-$1,000

	SRMC	Bid	Generation	Local Rev.	Compensation	Total Revenue
G1	$0	-$1,000	250	-$250,000	$262,500	$12,500
					With PPA:	$13,750
G2	$0	-$1,000	250	-$250,000	$262,500	$12,500
					With PPA:	$17,500

	PPA price	PPA Volume	Payout to G1
R1	55	250	$1,250
R2	70	250	$5,000

Now let's assume that contracts are settled on the RRP instead of the local price but based on the dispatch volume and not referring to compensation.

Generator are incentivised to maximise their generation and they do so by undercutting the other generator bids. Equilibrium is shown above – so called disorderly bidding as we have now. There are no serious impacts to retailers and no impact to generators beyond the loss of potential production.

3b. Contracts Settled at RRN - Storage

RRP	$50
Flow to RRN	500
Compensation	$500
Local price	$49

	SRMC	Bid	Generation	Local Rev.	Compensation	Total Revenue	Stored Value
G1	$0	$49	500	$24,500	$250	$24,750	
					With PPA:	$24,750	
BL1	$0	-$1,000	0	$0		$0	$0
BG1	$0	100	0	$0	$250	$250	

	PPA price	PPA Volume	Payout to G1
R1	$50	500	$0

With G1's contract settled at the RRP they can no longer afford to lower their price. G1 is incentivised to raise local price such that they receive a larger share of the potential revenue. At a moderate price the B1 has no interest in either charging or discharging, they bid both units out of the market.

This outcome is also similar to the current situation – storage is not effectively used to mitigate constraints.

There are additional inefficiencies compared to the current market because G1 must continually update their bids to remain below the RRP and they may not be effectively dispatched.