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Dear Commissioners,

AEMC 2019, Final report on investigation into intervention mechanism

We welcome the opportunity to comment on the AEMC's final report titled *Investigation into Intervention Mechanisms* (the final report) and the associated two draft rule changes. EnergyAustralia is one of Australia's largest energy companies with around 2.6 million electricity and gas accounts in NSW, Victoria, Queensland, South Australia, and the Australian Capital Territory. We also own, operate and contract an energy generation portfolio across Australia, including coal, gas, battery storage, demand response, solar and wind assets with control of over 4,500MW of generation capacity in the NEM.

The AEMC should be commended for completing a thorough and comprehensive review of intervention mechanisms in the NEM.

As highlighted in EnergyAustralia's submission to the consultation paper[1], we recognise that changes to the generation mix and an increasing penetration of rooftop solar in the NEM have resulted in AEMO increasingly having to intervene in the power system to manage power system security, for example to maintain system strength. Recently there has been a number of changes to the market that attempt to address the current system security issues including changes to generator technical performance standards (GTPS)[2] and changes to managing fault levels[3] which may mean the need for AEMO to intervene in the future could diminish.

EnergyAustralia was a participant in the AEMO Intervention Pricing Working Group (IPWG) and were supportive of the outcomes and associated rule changes lodged by AEMO from this work. We agree with the AEMC's proposed principles that any changes to the intervention's framework in the NEM must be in the short and longer-term interest of consumers, but we have concerns around the AEMC's draft rules and some of the further recommendations.

[1] https://www.aemc.gov.au/sites/default/files/2019-05/Rule%20change%20submission%20EPR0070%20-%20EnergyAustralia%20-%2020190522.PDF
[2] https://www.aemc.gov.au/rule-changes/generator-technical-performance-standards
[3] https://www.aemc.gov.au/rule-changes/managing-power-system-fault-levels

Changes to the intervention framework should not be made in isolation to the review of the NEM system strength framework that the AEMC is currently completing. These must be considered together and any pre-emptive decision to change the current intervention framework must be accompanied with associated improvements to the current system strength framework to avoid further impacts on the market and customers.

Intervention Pricing

The AEMC's more preferable draft rule (application of the regional reference node test to RERT)[4] proposes that intervention pricing should only apply where an intervention responds to a region wide scarcity of a market traded commodity, i.e. energy or a market ancillary service or a direct substitute for these. The AEMC's reasons for this decision reflect the view that there is no economic rationale for applying intervention pricing in connection with interventions to obtain a non-market traded commodity because there is no relevant price signal to preserve.

While we appreciate the economic rationale behind this decision, it is EnergyAustralia's view that this may be a too narrow view of the issues at hand.

The AEMC's concerns focus around the fact that if intervention pricing is invoked for system security directions (such as those currently occurring in SA) then new entrants, informed by higher prices from the invocation of intervention pricing, may make new capacity investment decisions regardless of whether those investments support or undermine system strength. Further, the AEMC also has concerns that the additional costs of invoking intervention pricing may flow onto increased costs to consumers. Both ElectraNet and the AEMC have indicated that intervention pricing impacts on the market have exceeded $270m as at late last year and that in 2018 spot prices in South Australia were on average 10% higher than they would have been had intervention pricing not been applied for system security directions[5]. EnergyAustralia agrees with the AEMC that this cost is an absolute upper limit of the impact of intervention pricing as the market would self-correct to some degree[6]. It is also not clear what impact intervention price impacts currently has, if any, or could have on future contract prices.

We agree with the AEMC's comments that the "do no harm" framework addresses the location specific impacts of new connecting asynchronous generators, but that it does not address the wider impacts of such connections on the merit order and the viability of synchronous generators, the current providers of these security services. The fact that the NEM has seen increasing amounts of generation installed (particularly in SA) that has a $0/MWh or less than $0/MWh Short Run Marginal Cost (SRMC) due to out of market payments has further compounded the issue.

As highlighted in our submission to the consultation paper we would again urge the AEMC to give consideration to some of the flow on impacts that this change could create due to the dynamics of the market. Under the current intervention framework (intervention pricing invoked for system security directions) the resultant what-if price

[4] https://www.aemc.gov.au/sites/default/files/2019-08/AEMC%20Draft%20Determination%20-%20Application%20of%20the%20regional%20reference%20node%20test%20to%20the%20RERT%20-%20final.PDF

[5] Noting this include ~$100m stemming from RERT activations

[6] The AEMC should look to complete further work on reporting a more accurate impact of these directions considering the complicated inter-relationship between negative short run marginal cost (SRMC) renewable generation and current system security constraints in South Australia.

(which the market settles) while low often means that a number of synchronous generators remain commercially online during these periods thus limiting the number of generators AEMO needs to direct[7]. We appreciate that this may result in generators receiving higher pool revenue (in this case mainly intermittent generation in SA), but if intervention pricing is not invoked for these periods, then a cascading effect could occur where AEMO has to direct additional generators to either remain online or synchronise to maintain system security. While it is likely that the market price would be lower if this change was to occur, consumers would still be required to fund compensation for potentially an increasing number of directed and effected participants and for a longer period[8].

The current focus of the AEMC analysis has been on the potential impacts in SA of removing intervention pricing. EnergyAustralia agrees that the market will self-correct to some degree and there may not be a large increased need to direct additional units to provide security services in SA, although given the complex interaction between semi-scheduled generation and security constraints the counter factual is not easy to model. Our primary concerns with the removal of intervention pricing for system security directions pricing instead focus more on some of the issues that could be faced in Victoria and other states for example. Unlike SA, the size and minimum generation[9] levels of the synchronous units that may be directed in Victoria, coupled with continued penetration of rooftop solar reducing demand and interconnection constraints could result in a cascading effect (as described above) which may make it more likely that AEMO may need to direct an increasing number of large thermal units to ensure system security.

The purpose of intervention pricing in its current form is not only to preserve market price signals but it is also to minimise market distortion resulting from the intervention. Removing intervention pricing for security directions appears to EnergyAustralia that it could actually increase the number of interventions in the market, in fact increasing distortions.

System Strength Framework

The intervention and system strength framework are inexplicitly linked and should not be considered in complete isolation. EnergyAustralia understands that the AEMC is assessing whether the current system strength and inertia framework are appropriately addressing the current shortfalls of these security services and intends to release a further paper later this year. The time in which it takes to identify a system strength gap, the long lead time of new network assets, ongoing rapid uptake of behind the meter solar PV and investment in intermittent co-incident generation leading to increasing utilisation of directions to procure these services suggest that the current framework requires changes. It is likely that the lowest cost, most flexible way to procure these services is through a combination of new and existing networks investments and procurement of security services through generators using some market mechanism.

[7] EnergyAustralia understand that up until earlier this year there had been at least 1 commercial synchronous unit online in South Australia at all times during an intervention period.
[8] We note the AEMC is also considering looking at how generators are compensated when directed as well as the affected participant framework.
[9] In the NEM this minimum physical generation level must be priced at -$1,000/MWh.

Whatever direction the AEMC decides to take to procure these services, the key point is that these services must be valued and compensated appropriately. The fact that AEMO is reliant on interventions to manage system security indicates that a more dynamic, flexible mechanism is required to secure these services in the NEM.

We look forward to working closely with the AEMC in the future to consider these issues further.

Unexpected outcomes through intervention pricing

The AEMC highlights in their final report that unexpected pricing outcomes can continue to arise when intervention pricing is invoked[10], even after significant improvements have been made to the NEM Dispatch Engine (NEMDE) as identified in the IPWG. EnergyAustralia suggests that the AEMC could explore the potential of AEMO extending their procedures around non-firm pricing in the NEM to potentially process unexpected intervention run outcomes. For example, if a price is identified as 'unexpected' because the settlement run price is lower than the dispatch run[11] during an intervention event, AEMO could flag prices as non-firm and then take the dispatch interval offline for processing before releasing a confirmed price.

Compensation framework

Currently directed participants receive the 90th percentile energy price from the previous 12 months. EnergyAustralia appreciates the concerns raised by the AEMC in their final report around the 90th percentile potentially increasing the costs of directions and that it could be creating incentives for generation to withdraw from the market seeking direction.

We encourage the AEMC to further consider the challenges to participants that are created when a direction is issued in ensuring their plant can comply with the direction, as well as sourcing sufficient transport and fuel, often at additional costs and at short notice. Directions most commonly occur during low demand periods, particularly over the shoulder months meaning that generators are further juggling both planned and opportunistic outages to ensure these generators are available for high demand periods. Additionally, participants generally take a longer-term view of their portfolio and may in fact be attempting to conserve fuel and running hours for times of higher risk where their output is critical to the system. Therefore, compensation needs to reflect these issues and not just simply an approximate short run marginal cost (SRMC).

The AEMC has recommended that there is merit in adopting a cost-based approach to calculating compensation costs for directed participants. While at first glance this seems a logical solution, the AEMC should consider in more detail the challenges highlighted above as well as the difficulty in calculating a reflective cost for each generation, with any accuracy. If directions occur infrequently then a pure compensation based around SRMC with the avenue to claim for additional compensation may be sufficient. If more frequent directions are issued and for longer periods of time (as is occurring now) this naturally moves the compensation away from a pure cost-based approach to one that

[10] Page 29-31, https://www.aemc.gov.au/sites/default/files/2019-08/Investigation%20into%20intervention%20mechanisms%20in%20the%20NEM%20-%20Final%20report%20-%20published%20version.PDF

[11] In simple terms, the settlement price should be higher as it does not include the directed units MW's in the bid stack.

reflect the longer run marginal cost (LRMC) of a generator, or at the very least the opportunity cost of the direction.

The final report discusses utilising the National Transmission Network Development Plan (NTNDP) inputs, now termed the Integrated System Plan (ISP) to determine the compensation amount based on SRMC. While the ISP inputs and assumption book are an improvement on previous work from AEMO we still do not agree with all SRMC that are represented. As an example, consider a generator who forecasts an imminent high demand day (due to hot weather for example) and therefore looks to conserve or build up their storage or line-pack levels of fuel in the expectation of extended running hours. If this unit was then to be directed for an extended period of time before this event, simply paying a static SRMC does not at all reflect the realities or increased risks of the situation. As a further example, EnergyAustralia's current challenges with fuel supply requirements at Mt Piper are widely known and thus a representative SRMC of $23/MWh, as shown in the final report, grossly misrepresents the opportunity cost of this generation. We note that the AEMC is aware of this issue and suggests that a 15% buffer would be used to reflect these uncertainties; unless the underlying SRMC more closely reflect the above then this will not be sufficient.

We understand the AEMC's desire to progress to a compensation payment that is fair across all generators (i.e. does not reward a cheaper generator more than the next) as this will ensure costs are minimised to consumers, but a simplistic SRMC compensation will not adequately address the issues raised previously. The AEMC could considers the following alternative approach whereby a directed generator could receive their average realised spot price (for all generation above their recognised minimum generation level) over a defined period of time, for example the previous few weeks or month. This would act as a proxy to reflect the 'opportunity' cost of generators output and reflect a participant's willingness to generate. To limit the level of compensation per MWh that could be payed this realised spot price could be capped at $300/MWh before averaging, for example. This method would ensure that compensation is generator specific and more closely represent each generator actual opportunity cost and willingness to generate.

While there will remain an avenue for both directed and affected participants to claim additional compensation the mechanism is clunky and challenging for parties to use. While the level of the current 90th percentile may be one reason why limited claims for additional compensation have been lodged (as suggested by AEMO) we would suggest that another reason is that this avenue is challenging to navigate, time and resource intensive and presents another challenge to any directed participant. Any changes to the compensation framework should consider this issue further.

Changes to compensation threshold

EnergyAustralia previously supported AEMO's rule change proposal which aimed to amend the $5,000 compensation threshold for both directed and affected participants from per trading interval to the threshold applying per intervention event. We are happy to see AEMCs decision to change the $5,000 threshold for directed participants to a per direction threshold, particularly if the AEMC decides to make further changes to how directed participants are compensated, noting our concerns already raised above on this issue.

The AEMC's preferable rule sets out that as intervention pricing would no longer be applied for system security directions then the concept of affected participant would no longer be relevant for these directions. To EnergyAustralia this is a secondary issue as our primary concerns sit with the AEMC's decision to remove intervention pricing for system security interventions. Notwithstanding this, not extending the threshold to affected participants could mean that affected parties may be more reliant on utilising the additional compensation pathway. As we highlighted above the additional compensation framework is clunky and challenging for participants to utilise and we urge the AEMC to give this consideration.

Transparency and reporting

We support the AEMC's proposals to improve transparency of the intervention framework including AEMO reporting on the amount of compensation paid to directed and affected participants. As we suggested in our submission to the consultation paper[12] AEMO could produce a simple table (published on their website) detailing the high-level reasons for any intervention event (for common events only), AEMO's timeline of actions, directed units and intervention intervals, among other things.

Transitionary measure

The review of the system strength and intervention frameworks is timely as the NEM continues to change at a rapid pace. EnergyAustralia considers the procurement of security services in the future being based on some market mechanism which provides correct signals for investment in these required services and also rewards providers. If the result of the AEMC's current review of the NEM system strength frameworks[13] recommends moving to some market framework (or some more flexible combination of market and network-based solution) to procure these services which will minimise the need for AEMO to intervene, then removing intervention pricing at this time may be warranted.

Without clarity on future changes to the system strength framework it is EnergyAustralia's view that removing intervention pricing for system security directions at this time is not in the best interest of consumers. We have serious concerns about the potential issues that the AEMC's suggested changes could create, particularly in other states, these changes may result in more interventions and create further distortions.

If you would like to discuss this submission, please contact Andrew Godfrey on 03 8628 1630 or Andrew.Godfrey@energyaustralia.com.au.

Regards

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[12] https://www.aemc.gov.au/sites/default/files/2019-05/Rule%20change%20submission%20EPR0070%20-%20EnergyAustralia%20-%2020190522.PDF

[13] Thies AEMC has indicated that this is expected to be published in November this year.