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Sarah-Jane Derby
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

3 December 2018

Dear Ms. Derby

RE: Enhancement to the reliability and emergency reserve trader, options paper

Thank you for the opportunity to provide feedback on the options paper for the *Enhancement to the reliability and emergency reserve trader* rule change request.

Enel X (formerly EnerNOC) works with commercial and industrial energy users to develop demand-side flexibility and offer it into wholesale capacity, energy and ancillary services markets worldwide, as well as to network businesses. We have over 50 demand response programs in 12 countries, which involve altering customers' consumption patterns and controlling onsite generation. In the NEM, Enel X participates in the energy and FCAS markets, and has developed reserves for AEMO under the RERT framework, including through the ARENA/AEMO demand response trial.

Enel X supports improvements to the clarity and transparency of the RERT framework. This rule change provides a timely opportunity to make changes to the framework so that emergency reserves are available when needed and can be procured at efficient cost.

This submission focuses on those aspects of the rule change request that were explicitly flagged for consultation in the AEMC's options paper. We provide some short comments on other proposed improvements to the RERT framework at this end of this submission, but note that these matters will be consulted on in full in the AEMC's draft determination.

Enel X looks forward to continued engagement with the AEMC on improvements to the RERT framework. If you have any questions relating to this submission, please feel free to get in contact with me.

Regards

Claire Richards
Manager, Industry Engagement and Regulatory Affairs
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Appropriateness of the reliability standard

The options paper notes that the question of whether the reliability standard is appropriate is within the scope of the rule change request.

Enel X does not have any specific views on whether the 0.002 reliability standard is appropriate. We support the AEMC's proposed approach to answering this question in consultation with stakeholders.

Procurement trigger and volume design options

General comments

Enel X notes that the reliability standard has to date been met but that AEMO is forecasting an increased risk that this may not continue to be the case in all NEM regions in future.

Enel X's experiences in the NEM reflect what AEMO describes in its *Summer 2018/19 readiness plan*: system output is becoming much more extreme as a result of the changing generation mix and the widespread uptake of solar PV, with higher peaks later in the evening and deeper troughs in the middle of the day.¹ This trend, and the increased likelihood of extreme weather events, will undoubtedly challenge AEMO's ability to accurately forecast demand and supply, and procure the 'right' amount of emergency reserves to ensure the reliability standard is met.

Enel X appreciates AEMO's uncertainty about the market's ability to deliver a consistently reliable supply in this context, and thus the shortcomings of a reserve framework that is triggered by a static measure of reliability.

This reality means that it may be appropriate for the RERT framework to include flexibility for AEMO to procure reserves that are lower cost than the cost of load shedding. Determining a volume of reserves based on where the marginal value of customer reliability is equal to the marginal cost of supply would, as the AEMC notes, maximise economic welfare, and may be a more appropriate means to deliver politically acceptable combinations of reliability and cost than the reliability standard.

However, certainty regarding the RERT procurement trigger and volume, and the associated procurement processes, is paramount to the success of the RERT framework. A dynamic assessment of costs and risks may be able to more accurately reflect the value of customer reliability at different times, but may lack the certainty and transparency required for providers to develop reserve portfolios and offer RERT contracts at efficient cost.

The existence of reserve mechanisms in energy-only markets is an acknowledgement that energy price signals alone cannot ensure that the reliability standard will be met, and/or that markets are not guaranteed to deliver politically acceptable combinations of reliability and cost. It is for these reasons that most other energy-only markets worldwide, including Texas, Germany, Finland, Sweden and Norway, operate with some form of standing strategic reserve.² Standing reserve frameworks serve to provide assurance that reliability can be delivered. They also give greater certainty to reserve providers and the industry more broadly regarding the volume of reserves required, the procurement process and associated costs.

¹ AEMO, *Summer 2018-19 readiness plan*, November 2018, p. 4.

² We can provide more information on these programmes if that would be helpful.

As noted in our submissions to the *Reliability frameworks review*, Enel X is supportive of reserves being available in a standing minimum quantity at all times, with AEMO having discretion to procure more if needed.³ Under a standing reserve model, reserves are dispatched only when a defined trigger condition is met, indicating that the likelihood of involuntary load shedding is intolerably high. Under such a model, the minimum procurement volume and dispatch trigger is known, which provides certainty to AEMO, reserve providers, energy users and the broader market.

We therefore support AEMO’s recommendation to create a standing reserve to provide an “insurance function” in the reliability framework. However, we are concerned that an entire “de-linking” of the reliability standard from the RERT framework and a move toward a dynamic assessment of risks and costs may induce further complexity and uncertainty in how AEMO procures and activates reserves. It is not clear from AEMO’s additional information over what time horizon the standing reserve requirement is to be set.

Together with product standardisation and longer contract duration, a standing reserve framework with a clear quantity of minimum reserves over a clearly defined time horizon will likely drive transparency and cost efficiencies in the delivery of a reliable power system.

As a RERT provider using demand-side resources, Enel X’s key concerns are that:

- there is sufficient lead time to enable the development of a portfolio of reserves – as noted by the AEMC on page 2 of the options paper, this allows for broader participation in the RERT framework and may put downward pressure on its direct costs
- there is transparency of the procurement trigger and quantity of reserves required (regardless of whether it is a standing or dynamic quantity), and what the trigger condition is for activation
- resources are sufficiently incentivised and rewarded for providing reserves in accordance with the value they provide.

Demand response can be the most cost-effective source of emergency reserves if these three conditions are met. Enel X encourages the AEMC to consider these issues under all of the options proposed.

Option 1: Reliability standard determines procurement trigger and volume

Enel X agrees with the AEMC that this option would provide greater certainty to industry and consumers regarding the circumstances under which the RERT is triggered and how much AEMO will procure.

However, the success of the RERT framework under such an approach will rely on robust forecasting, and information about reliability shortfalls being revealed to potential capacity providers within sufficient time to enable the development of a portfolio of reserves once the decision to procure RERT has been made.

Option 2: Broader risk assessment of procurement trigger and volume

As noted above, Enel X supports AEMO’s recommendation to create a standing reserve to provide an “insurance function” in the reliability framework. However, it is not clear from AEMO’s additional information over what time horizon the standing reserve requirement is to be set.

³ See: <https://www.aemc.gov.au/sites/default/files/2018-02/EnerNOC.pdf>

De-linking the reliability standard entirely from the RERT framework and allowing AEMO to conduct broader risk and economic assessments, particularly for the short and medium-notice RERT, may reduce certainty and predictability of the procurement trigger and volume, and the timeliness with which this information is communicated to potential RERT providers.

In Enel X's experience, at least six months is needed to build a portfolio of demand-side resources capable of providing a RERT product. A very dynamic reserve framework may therefore affect a demand response provider's ability to participate in the RERT framework at an economically efficient cost, which could reduce the pool of potential capacity providers and result in higher overall costs to consumers.

If this option is pursued, Enel X asks that there be obligations on AEMO to conduct its risk assessment in a way that gives potential RERT providers sufficient time and information to build a portfolio of response and submit appropriate tenders.

However, Enel X notes that LOR notices are increasingly being issued for shorter and shorter periods of time, in some cases just one half-hour period. Forecasting and modelling cannot always feasibly account for unexpected weather events and behaviours that threaten the reliability of supply within time periods as short as one 30-minute interval. It may therefore be practical to afford AEMO more flexibility in the quantity of reserves it procures for periods of time that were not foreseen in its longer term assessments of system reliability.

A standing minimum amount of reserves that applies over a longer time horizon, and flexibility for AEMO to procure more in the shorter-term, would provide more certainty for industry and RERT providers than a completely dynamic approach. Such an approach is likely to be less administratively complex for AEMO to administer than if it were required to conduct risk assessments over shorter periods of time.

Option 3: Changes to operationalisation of reliability standard + Option 1

As with option 1, Enel X agrees that this approach would provide greater clarity regarding the procurement trigger and procurement volume required to meet the reliability standard.

Apportioning the standard across shorter time periods may help to address the difficulties in operationalising an annual standard. However, again, if this approach is pursued, robust forecasting and transparency of the projected shortfall would be required within a sufficient period of time for providers to assemble a reserves portfolio and offer RERT contracts in the event the market does not respond. It is unclear whether this would be the case if the approach were to be applied to ST-PASA and pre-dispatch.

Further detail on how this option would work in practice, in particular how it would interact with the RERT procurement process, would be helpful.

Other comments

Enel X provides the following short comments on other aspects of the RERT framework in advance of these issues being addressed in the draft determination.

Enel X, as EnerNOC, has provided comments on its recent experiences and proposed improvements to the RERT framework in submissions to this rule change request, the *Reliability frameworks review* and the *Reinstatement of the long notice RERT* rule change request. We ask that the AEMC consider those submissions in preparing its draft determination, as well as the comments below.

Product standardisation

Enel X supports product standardisation as a means to reduce contracting complexity. Standardised products are likely to yield efficiencies during both the procurement and dispatch of reserves, both for AEMO and for reserve providers. However, care should be taken to make sure that the products are standardised in a technology-neutral way, or in a way that recognises the capabilities and characteristics of different reserves.

Contract duration

Reserves providers will prefer longer duration contracts, including those that exceed one year. Longer contracts allow reserves providers to amortise their fixed costs over a longer timeframe, increase the quantity of reserves proffered, and provide greater certainty regarding the level of organisational capacity (i.e. staffing levels) the provider must maintain. In practice, longer-duration contracts allow aggregators to work with smaller customers: with short contracts, each site must provide significant capacity for the aggregator to be sufficiently confident that they will cover the cost of enabling the site's participation. This ability means providers are likely to offer reserves to AEMO at a lower per-unit-per-year cost than they would do for a single year contract.

Enel X therefore supports AEMO's proposal to have the option to sign multi-year contracts if it will lead to lower costs. Whether longer contracts result in a lower overall cost will depend on the nature of the contracts – and their balance between availability and utilisation costs.

RERT payment structures

Enel X encourages the AEMC to give careful consideration to the impact of RERT payment structures on potential providers of reserves.

While no/low availability payments may be suited to some RERT providers, others (including demand-side resources) are likely to seek availability payments to provide not only revenue certainty for the investments required to provide reserves, but sufficient incentives to choose this option over other potential uses of their capacity.

As NERA Economic Consulting notes:

“All relevant demand-side programs are voluntary, and thus require some affirmative reason for demand-side entities to respond. Electricity consumption is voluntary everywhere. While changing the prices at which that electricity is sold may well have substantial efficiency benefits, it cannot address the dispatchability issue, which requires the consumer to give up consumption flexibility in advance. If these benefits are to be realized in a voluntary program, compensation must be paid to consumers to induce them to cede that flexibility.

...

Demand-side resources represent a potential source of cost-saving and reliability enhancement for any electric system. Successful recruitment of demand-side resources is substantially enhanced by the presence of availability payments.”⁴

⁴ NERA, *Effective use of demand side resources: The continued need for availability payments*, 23 October 2013.

This is backed up by Enel X's experiences in the NEM. Put simply, Enel X (as EnerNOC) would not be offering 50 MW of SN RERT in VIC and NSW were it not for the "availability payments" being provided to our customers through the ARENA/AEMO demand response trial funding agreement.

Low or no availability payments are therefore likely to limit the number of providers offering RERT contracts, as many demand-side resources would not participate. A lack of competition is likely to drive the cost of RERT contracts higher, which is not in the long-term interests of consumers.

Out of market provisions

Enel X supports the development of a clear framework to ensure that in-market reserves are excluded from participation in the RERT.

The potential implementation of a demand response mechanism will likely encourage more demand-side resources to participate 'in-market'. Thus the RERT framework would remain an option for those demand-side resources who cannot or do not want to participate in a DRM, for example if they don't want to be dispatched frequently. Our experience in other markets has taught us that, while wholesale market participation is attractive to some customers, there are significant numbers of customers who can provide a reliable, cost-effective emergency resource, but who would never participate in a wholesale programme.

While Enel X agrees that the framework should encourage in-market participation as much as possible, it will still need to ensure that reserves providers are sufficiently incentivised and rewarded for their services, given the need for reserves in an energy-only market.