John Pierce
Chairman
Australian Energy Market Commission
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Dear Mr Pierce

RELIABILITY FRAMEWORKS REVIEW – ISSUES PAPER

Origin Energy Limited (Origin) welcomes the opportunity to comment on the AEMC's Reliability Frameworks Review. Reliability underpins the trust that consumers have in the national electricity market to deliver electricity when they need it, at any time, day or night. Getting the regulatory framework right amidst a level of policy uncertainty is a difficult task but one which the industry and regulators can achieve through considered analysis of the many issues facing reliability.

Origin's submission will concentrate on three areas that impact reliability in the NEM:

1) Markets versus intervention.
2) Efficient NEM investment allowing better retirement and operational decisions to be made.
3) The Generator Reliability Obligation (GRO) settings.

Markets Versus Intervention

Origin's view is that policy certainty is the key driver to ensure continued investment in generation assets and that market based outcomes will drive the lowest costs for consumers. Therefore, Origin strongly believes the regulatory framework should support market led solutions that aim to meet the reliability standard over time.

The Commission states that intervention-based approaches, however well designed are a second best alternative to well-functioning markets at promoting economically efficient investment that is in the long-term interests of consumers[1]. Origin agrees with this statement and concludes that increasing high levels of market intervention will lead to greater investment uncertainty.

Given that any market intervention should be seen as a last resort, a clear set of principles to guide the circumstances under which any intervention might be warranted, would be useful. For example, intervention may be justified in dealing with emergency situations within a short to medium term timeframe, where a market solution would not be available to facilitate a timely response.

Efficient NEM Investment and Policy Certainty

Origin considers that the energy only market can continue to facilitate efficient investment outcomes. The challenge for the AEMC is to ensure that the recommendations put forward in the reliability frameworks review reflect the significant change that is taking place in the electricity market and provides certainty in the policy responses that will be required to ensure that reliability is maintained, at a level that the consumer is prepared to pay for.

One area of great policy uncertainty is emissions reduction. Origin supports the progressive decarbonisation of the electricity sector in Australia and an eventual goal of net zero emissions by 2050. We believe that policy should ultimately have this long-term target in mind. It is important to be realistic in recognising that the LRET and the current lack of policy clarity around an emissions reduction target could combine to hasten thermal plant exit while stalling capacity investment.

[1] Reliability Frameworks Review, AEMC, p.40

At the highest level this involves the substitution of high emissions sources of electricity for lower ones. Whilst this sounds simple, it involves two key and interlinked policy considerations:

- the promotion and integration of low and zero carbon emissions generation at significant scale; and
- the phased and orderly exit of older, high emissions generation.

All policies considered by the AEMC should assess the interaction between climate and energy policy to achieve outcomes that balance reducing emissions, with retaining reliable energy supply at an affordable cost to consumers. Overall, we believe the introduction of a well-designed cost of carbon abatement for the electricity sector, such as a Clean Energy Target (CET) is crucial in managing this transition.

One of the immediate risks to reliability in the NEM is the potential for disorderly generation exit. The exit of both Northern (SA) and Hazelwood (VIC) power stations have resulted in a tightening of each state's demand/supply balance. One way of safeguarding against disorderly exit is a generator closure notification mechanism – though the design and practical implementation of such a mechanism would not be a straightforward exercise. Additionally, enhancements to existing reliability safety net mechanism such as the RERT; and the contemplation of new approaches, such as a strategic reserve could assist in safeguarding against any potential shortfall in capacity. It is important that these mechanisms remain outside the market, to minimise distortion and are viewed as emergency transitional measures as opposed to permanent features of the investment framework in the NEM.

The Generator Reliability Obligation (GRO)

The current and future challenge for industry and regulators is to maintain high levels of reliability given the changing ratio of synchronous to non-synchronous generators, all at the lowest cost to consumers. Couple this with decreasing costs for investment in renewable energy[2] it becomes apparent that reliability issues must be addressed to ensure that demand is met at all times. The AEMC has rightly pointed out that intermittent generation is predominantly dispatched according to the prevailing weather conditions as opposed to price, and that one way to address a reliability shortfall from intermittent generation is to introduce the GRO as recommended by the Finkel Review.

Where adequate incentives for investment are in place, we would expect the GRO to predominantly serve as a safety net to ensure there is sufficient dispatchable energy to maintain reliability. The frameworks review mentions that regional reliability assessments will be undertaken by AEMO/AEMC/AER to determine the level of obligation that may be required under a GRO[3].

When thinking about a GRO mechanism, it is necessary to discuss potential design issues. Ideally any design would have minimal intervention impacts on the market and continue to allow a market price signal to deliver dispatchable generation. Potential issues include:

- The cost impost of the GRO obligation on new developments and how it will impact renewable energy investment;
- The appropriate size or quantum of the obligation for each new development; and
- Technology considerations in meeting the GRO.

Costs and Obligation Size

It could be argued that intermittent generation will help contribute towards a more reliable NEM simply because of the amount of capacity that is currently being built. Thus, the AEMC should closely scrutinise what impact the additional costs of complying with a GRO will have on the level of future intermittent developments. The assessment should also consider not only the capital requirements but also fuel and transport contracts that may be required (e.g. gas fired generators) to satisfy a GRO.

A further requirement made by the Finkel review said that dispatchable generation should only be sourced from new generators and not existing ones. This is said to increase and encourage the construction of generation in the NEM. Origin would contend that sourcing dispatchable contracts under the GRO should be available to existing generators as it will create greater efficiencies by allowing multiple contracts to be combined and the obligation satisfied by a larger generator.

[2] AEMO have stated there is 21000MW of generation connections in the pipeline, the majority of which are large scale wind and solar.

[3] P.50

A potential inefficiency problem exists where multiple intermittent generators are installed over time, each required to satisfy an individual GRO. This would result in larger numbers of small generators being installed which leads to greater inefficiencies in terms of development timeframes, connection costs, planning approvals and overall dollars per MW outcomes. By allowing existing generators to cover a reliability obligation for an identified timeframe, multiple obligations can be combined and efficiencies of scale achieved. This would minimise multiple construction lead times and warrant only one set of connection costs and planning approvals to be secured. This would ultimately lead to lowest cost outcomes for the consumer and ensure that obligations are met in a timely manner. There may also be potential for competing interests to drive down costs as they compete to secure obligations from new intermittent generators.

The AEMC should also consider whether different intermittent generation technologies should have different obligations. For example, it may be determined that wind generators would have a different sized obligation because they have the ability to generate across the day, however their level of reliability can change considerably depending on the prevailing conditions. Contrast this with solar which may be consistent in its output profile but is unavailable overnight.

Technology
In order to satisfy a GRO, an intermittent generator would have a number of dispatchable options to consider including gas, hydro or batteries. It is currently unclear if all these dispatchable options will be considered equal or if the level of GRO changes according to the system employed.

A gas fired generator has an ability to maintain consistent output over a long period of time. This could be contrasted against a battery system whose ability to maintain stable output would only be for short periods of time, before they must be recharged. By assigning different weightings for each technology, it may be the case that a generators obligation is satisfied by a smaller proportion of dispatchable generation. This places a greater value on the firmness of that technology and its ability to meet extended periods of demand if required.

Should you have any questions or wish to discuss this information further, please contact James Googan on james.googan@originenergy.com.au or (02) 9503 5061.

Yours sincerely,

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