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Mr. Dominic Adams
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Dear Mr. Adams,

Re: Operating reserves directions paper

Flow Power welcomes the opportunity to make a submission in response to the directions paper exploring the role of an operating reserve in the NEM. We thank the AEMC for preparing a clear and informative directions paper.

Flow Power is a licenced electricity retailer that works with business customers throughout the NEM. Our model aims to give customers control over their energy costs through dynamic energy pricing that rewards flexible energy use. Customers can manage price volatility though physical or financial tools, including:

+ A physical hedge in the form of a demand response or onsite generation (supported by our energy management systems).
+ A financial hedge may include purchasing financial hedges from markets such as ASX Energy Futures or entering into a PPA with generators.

Our unique PPA model, Virtual Generation Agreement, plays an important role in supporting the development of large-scale renewables by providing price certainty and confidence to investors, and at the same time creating a product for business customers to access low electricity prices and take control of their energy costs.

Overview

Our submission provides comments on the directions paper published by the AEMC, as well as the ESB's 2025 work program relating to resource adequacy. This is due to the significant inter-linkage between the two projects.

+ **Market design decisions consistent with where the power system is going.** We should be aspiring for a future power system that simultaneously achieves affordability, low-emissions and reliability. To do this, we will need to develop large amounts of renewable generation, a dynamic demand side and energy storage. We strongly believe that reliability reforms that supplement

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the revenue for large thermal generators instead of developing demand-side solutions and storage will add unnecessary costs and delay an orderly transition to this future power system.

The ESB's 2025 work program has highlighted options for improving reliability in the NEM, including expanding the RRO and introducing an operating reserve. An operating reserve has the potential to concurrently support new demand-side resources entering the market, and provide additional certainty to governments, regulators and the market operator that the power system will remain reliable. Alternatively, we believe expanding the RRO would increase costs for all consumers without delivering meaningful reliability gains, because it will:

- disproportionately favour large, vertically integrated retailers (particularly those long in generation), which could lead to further concentration of market power; and
- prevent innovative solutions in the market that seek to bring about efficient reliability measures, such as via widespread demand side responses from consumers.

If the AEMC or ESB are inclined to strengthen the price signals for reliability in the NEM, the obvious, tested framework that has served the NEM to date is to adjust the market price settings. Raising the market price cap and lowering the market price floor would provide stronger signals to market participants to balance supply and demand, offer reserves, and invest in new generation and demand response.

+ **An operating reserve should be designed to encourage new resources to enter the market.** An operating reserve could encourage participation from new, flexible resources which will be needed as we transition to a renewables-based power system. These resources exist, relatively untapped and opaque to the market operator, and we believe more can be available through the use of smart technology. While retailers, aggregators and service providers are developing the dynamism of the demand-side, an operating reserve has the potential to accelerate this development. To do so, the operational requirements and specifications for the operating reserve should reflect the capabilities of demand-side resources. For example, the operating reserve should be designed with response times and operational capability consistent with that of consumers engaging in demand response.

+ **Our preferred option is number 3, a callable operating reserve market.** We consider this option would best support the development of new resources and promote greater reliability out of the options listed in the paper. Option 1 seems to be covered already by the existing FCAS markets, where delayed contingency services act over approximately 15 mins. If there is a need for greater levels of these services, it may be more easily addressed by increasing the quantities of delayed contingency service.

  It is unclear what value could be derived from Option 2, where additional payments are made for future availability but no service being provided over the period where the payment is received. While there is some additional certainty provided by this service, it does not appear to provide material value in managing reliability or security events.

  Unlike the challenges matching supply with demand that Option 3 can address, we do not consider there to necessarily be a challenge associated with ramping. These conditions are foreseeable and have been able to be addressed by the resources within the existing market.

+ **If an operating reserve is progressed, it is important to consider how demand for an operating reserve is determined, and how costs are recovered.** The demand for an operating reserve should be driven by an anticipated reliability issue or an observable frequency control issue. In circumstances where there is no expectation of a reliability issue, or significant unexpected shortfall in renewable generation, the market should either not procure any operating reserves or procure them at very low prices to reduce unnecessary costs. In addition, the cost

recovery arrangements should provide consumers with an opportunity to avoid the costs of the service by reducing the demand.

We have provided further detailed feedback below.

What is the challenge and where are we headed?

The current reliability framework has enabled us to invest in a business model that facilitates demand flexibility which improves reliability outcomes in the NEM. The figure below shows an example of how our Victorian portfolio responded to high wholesale prices in March 2019. This demonstrates how, with the right incentives, customers respond to signals from the wholesale market and act as a resource to help manage tight supply-demand conditions.

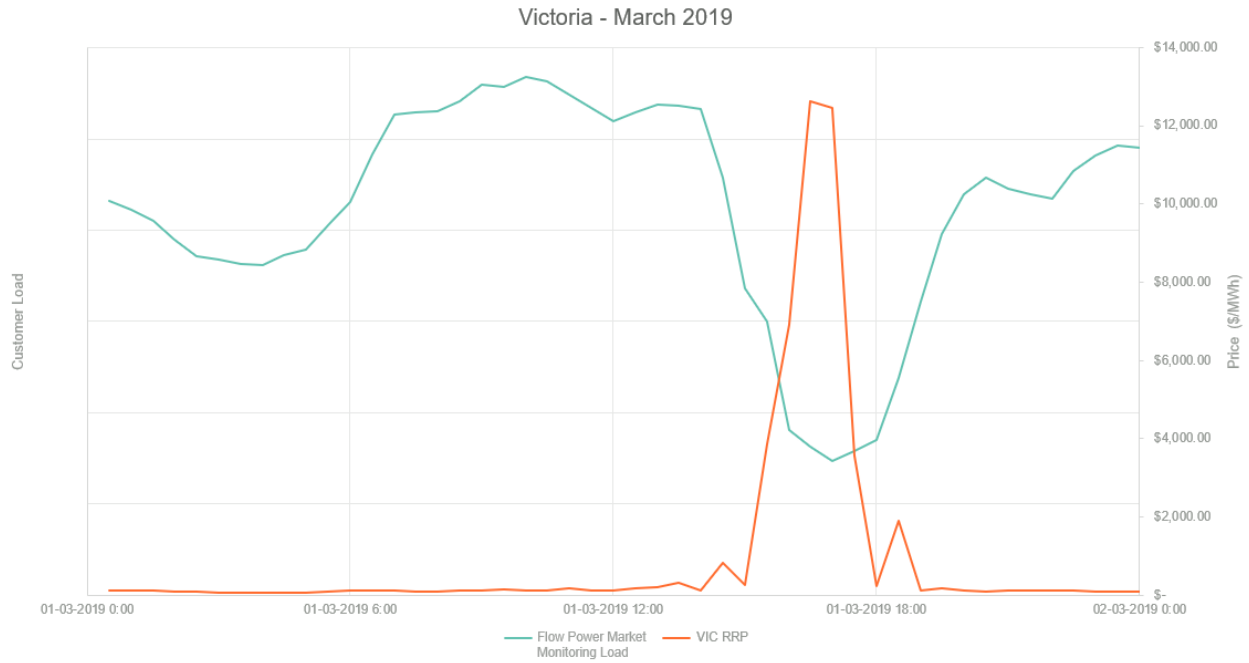

Figure 1: Victorian customers responding to wholesale prices.

Reliability and resource adequacy do not appear to be imminent challenges for the NEM. Expectations of meeting the reliability standard are our most objective measure of whether reliability challenges should be anticipated. In its 2020 ESOO's Central Scenario, AEMO does not forecast the reliability standard being exceeded for the next 10 years.

While there do not appear to be current reliability challenges, as the generation mix becomes more renewable, there will be a growing need for complementary firming resources. These resources will be energy storage and a dynamic demand side supported by distributed energy resources. As such, when considering policy mechanisms to support the entry of these firming resources, the focus should be moving toward a future power system, not supplementing the revenue of thermal generators that will inevitably be leaving the market.

In addition, with greater penetrations of renewable generation, there is an increasing likelihood of coincident solar or wind ramp downs resulting from changes in weather. To mitigate against these ramps, it may be necessary to procure additional reserves.

An operating reserve could provide a mechanism for incentivising new resources to enter the market that both support the reliability of the power system and help manage the frequency implications of ramping challenges associated with large renewable penetrations.

Other options for supporting reliability

The ESB raised other options for supporting reliability in the NEM. In addition to an operating reserve, it suggested:

+ Expanded the RRO by making it ‘always on’ and ‘physically backed’
+ A nationally consistent approach to government underwriting schemes.

We strongly oppose any expansion of the RRO, or an introduction of a decentralised capacity market. Flow Power has consistently argued that the RRO favours traditional ‘vertically integrated’ business models which limits the ability for smaller players to succeed in the market. We also believe the RRO is overly prescriptive, hindering the development of innovative approaches to managing wholesale market exposure, particularly those that encourage demand side participation. Expanding the role of the RRO will exacerbate these issues and impose further costs on consumers.

As the ESB explores more administrative approaches to providing for reliability (i.e., centralised or decentralised capacity markets, the RRO), there will increasingly be the challenge of trying to define nebulous concepts such as ‘firmness’ of different resources. In practice, firmness can be provided by a range of resources with very different characteristics, including generation, demand response and distributed energy resources. The firmness of these resources varies with resource availability, production schedules, contract market positions etc. There is a risk in trying to prescribe market participants meet a level of firmness or capacity that oversimplifies the differences between these types of resources, and favours a particular approach. This introduces an uneven playing field between different resource types. In addition, this introduces significant administrative and compliance burdens on market participants. Instead, it should be left to the market to determine the value of different types of firm resources and appropriately use them.

If the AEMC or ESB are inclined to improve the price signals for reliability in the NEM, the best approach would be to use the Reliability Panel’s review of the market price settings. This process specifically exists to consider what level the market price cap and other price settings need to be to drive sufficient investment in new supply and demand response. This process also has the advantage of low implementation costs, consistent with the current market, and being well understood by market participants. We suggest the ESB focus on this as the primary avenue for assessing whether the current framework is sufficient to encourage the necessary investment.

Impact on other markets and cost recovery

If an operating reserve is developed further, it will be important to explore the impact it could have on the wholesale and FCAS markets. If the operating reserve offers an explicit payment for reserves, this could impact on how wholesale market participants bid. It is possible that additional payments for reserves may reduce the price at which generator’s bid into the wholesale market because short run costs can partially be recovered through the operating reserve. Reduced wholesale prices, particularly in low reserve conditions, would then reduce the incentive for consumers to provide demand response. In effect, generators could receive the same revenue, but consumers would have a diminished price signal to respond to. This would lead to an inefficient utilisation of demand response, increasing total costs from all consumers.

In addition, it is not clear what the impact would be on the contract market, which currently exists to hedge fluctuations in the wholesale electricity price. If generators can access revenue through an operating reserve while generating, this could lower their bids in the wholesale market and consequently, lower contract prices. As a result, this form of operating reserve could diminish the wholesale and contract price signals that support the reliable operation of the power system.

In addition, it will be important to allow the cost recovery for an operating reserve to be hedgeable. Currently, the cost recovery for some ancillary services is smeared across all consumers, giving little opportunity to respond to a price signal to manage these costs. If an operating reserve is designed further, it should allow for parties to hedge against its costs if they are not participating in the operating reserve market. This would allow derivative products to develop, which would in turn could support investment in the ability to provide reserves. However, this could be partially mitigated if the resources that primarily participate in the operating reserve and energy customers. This would allow energy customers to hedge against operating reserve costs by participating in it.

In conclusion

An operating reserve could improve reliability outcomes and provide signals for new entry. In particular, if designed well, it could accelerate the development of demand-side resources that will be integral to a low-cost, low-emissions future power system.

If you have any queries about this submission, please contact me on (02) 9161 9068 or at Declan.Kelly@flowpower.com.au.

Yours sincerely,

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Flow Power