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13 December 2018

Australian Energy Market Commission
Level 6, 201 Elizabeth Street
Sydney
NSW, 2000

Dear Australian Energy Market Commission

Consultation Paper: Wholesale Demand Response Mechanisms

Meridian Energy Australia Pty Ltd and Powershop Australia Pty Ltd (**Meridian**) thank the Australian Energy Market Commission (**AEMC**) for the opportunity to provide comments in relation to the consultation paper on Wholesale Demand Response Mechanisms.

Meridian is the owner and operator of the Mt Mercer and Mt Millar Wind Farms as well as Powershop Australia, an innovative retailer committed to providing lower prices for consumers which recognizes the benefits for consumers of a transition to a more renewable-based and distributed energy system. Early this year, Meridian announced a significant investment in the future of the Australian energy market including the acquisition of three hydro plants in New South Wales and underwriting the development of several wind farms in Victoria and New South Wales.

Meridian supports proposals that help support the expansion of the existing demand response market, without adding unnecessary additional cost, burden or risk, which may outweigh any benefits. To this end, we support processes that improve transparency and information gathering which can be implemented promptly and achieve greater utilisation of demand response at minimal cost, limited risk and without limiting innovation in this expanding and developing market. A prudent and staged approach would enable exploration of the need for further market changes based on information gathered.

Please see Meridian's response to the AEMC's specific questions in Attachment 1.

If you have any queries or would like to discuss this further please feel free to contact me.

Yours sincerely

Ed McManus
Chief Executive Officer
Meridian Energy Australia & Powershop Australia

Attachment 1

Chapter 4 – Assessment Framework

Paper Ref	AEMC Question	Meridian response
Q.1: Assessment Framework	Do stakeholders agree with the proposed assessment framework? Alternatively, are there additional principles that we should be taking into account?	Overall, Meridian supports the proposed framework however, it is important to also assess the impact of these proposals on efficient long term investments in the provision of non-demand response energy services (e.g. reliable and/or dispatchable generation) for the benefit of consumers.

Chapter 5 – Issues for consultation

Paper Ref	AEMC Question	Meridian response
Q.2: Nature of the issue raised	Is it difficult for consumers to participate in wholesale demand response? If so, which consumers face the greatest amount of difficulty? What is the cause of this difficulty?	Traditionally demand side response has generally only been available to large industrial customers, who have significant loads, the ability to control them and the financial and technical capability to assess the benefits and risks of participation. However, there has been significant development in the small to medium consumer space. This has been particularly due to advancements in, and more widely distributed, control capabilities and technologies, and investment in and greater understanding of, behavioural demand response techniques. A significant barrier to participation by wider segments of the market has been the difficulty in ensuring that the full value of demand response is available, where certainty of the response and its scale is unpredictable. The major value of demand response available to be shared with customers is the reduced exposure to short duration and short notice periods of high price and demand events. The absence of certainty means the value of small-scale demand response as an alternative to other solutions (eg financial contracts or new generation) can be extremely diminished. New technologies such as in-home batteries that the retailer can control may change demand response service offerings in the future.
	(a) What demand response providers and products are currently available in the market?	There are a number of retailers and demand response aggregators currently offering products and service in the market. There are a large variety of approaches, including: • behavioural demand response by residential and small business customers; • behind the meter response by residential

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		and small business customers utilising batteries and embedded generation; • contracted response by large commercial and industrial loads; • third-party control of large commercial and industrial loads, batteries and embedded generation; • retailer control of residential air-conditioning, hot water and pool loads; • direct customer response due to forecast price and demand outcomes; and • customer management of maximum demand to meet network demand tariff signals. In addition, a number of new participants have directly and indirectly entered the demand side management market due to the conducive market conditions and AEMO and ARENA initiatives.
	(b) Is there effective competition for demand response as a service to be used by retailers? If not, are consumers able to access the benefits of wholesale demand response directly? Is competition for wholesale demand response as a service increasing?	There has always been significant competition in the large industrial and commercial demand response market. With tightening market conditions, increased volatility and reductions in reserves, as indicated above a number of new entrants, business models and technologies are being developed, trialled and expanded. In Meridian's experience, there has been a significant increase in competition, customer awareness and we expect this to continue to develop.
Q.3: Wholesale demand response currently in the NEM	(a) Do stakeholders have views on the existing levels of wholesale demand response in the NEM? Please provide evidence or data to substantiate these views where possible.	We believe there are significant demand response levels in the NEM, including the use by retailers to manage contract exposures. However this level of response is not generally visible to the market.
	(b) Can retailers indicate to the Commission what they are currently doing to facilitate wholesale demand response?	Meridian has implemented a behavioural demand response program called 'Curb Your Power'. This program rewards customers who reduce usage below identified baselines at periods of high price, low reserves or to meet our internal contract exposures. Over 20% of Meridian's Victorian residential customers have elected to participate in this program and we are currently trialling an extension which could potentially double this participation and enable us to expand into other NEM states.
Q.4: Approach for facilitating transparent, price	Do stakeholders consider there are other regulatory solutions: (a) to providing the demand side with greater access to wholesale prices, and;	As discussed above, the greatest value of demand response is not direct participation in the 30 (or 5) minute wholesale market, but the ability to manage risk exposures across the full purview of a participant's wholesale energy risk positions and

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responsive demand		their contractual exposures. Accordingly, greater exposure to short-term high wholesale price events alone may not deliver significant value to the market. For example, responses predicated on a price or demand prediction will not protect against exposure to unexpected high wholesale prices (e.g. unexpected interconnector outages). In such circumstances, retailers and other participants may be forced to enter into financial products (e.g. caps) to cover these exposures, making any additional demand response of limited value. We don't believe regulatory solutions can address this issue and it is best addressed by retailers and other market participants who can accurately value their exposure.
	(b) to increase the transparency of demand side response to these prices?	Given the significant quantity of less transparent demand response already in the market, there is value in considering increasing transparency by requiring greater disclosure of expected demand response actions. Noting that there are various forms of demand response with differing certainties and drivers for such response it may be difficult to produce a meaningful register. We also note that there have been recent rule changes in this area and that AEMO already publishes a significant quantity of relevant data.
Q.5: Efficient consumption of electricity	(a) Do stakeholders agree with our characterisation of how efficient wholesale demand response would improve outcomes in the wholesale market?	Meridian agrees that efficient use of electricity occurs when consumers shift demand from high priced periods to low priced periods and this could occur as a result of consumers: • reducing electricity in peak periods which will reduce system load flex; and • using more energy in lower demand or higher renewable generation periods (e.g. high solar and wind periods). While consumers may shift their demand, the full benefit of these savings may not be able to be passed through, as consumers may not respond as expected and an allowance for the residual level of risk would need to be passed through or absorbed. As discussed above, retailers would still be required to enter into financial contracts (e.g. caps) and only considering the wholesale market would be insufficient. In addition, due to credit related issues and the complexity of baseline mechanisms (including

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		associated dispute resolution processes), it is unlikely the market will see a contribution to market liquidity from demand response providers selling risk contracts to retailers.
	(b) What are stakeholders views on how facilitating wholesale demand response could affect outcomes in the wholesale energy market?	As demand response is unlikely to address all issues of volatility and high prices it is unlikely to have significant impact on the need for capacity protection and therefore limited impact on long term wholesale price outcomes. It will however, provide valuable competition in the wholesale market at times of low reserves when competition is currently limited. This will assist in ensuring the wholesale market delivers fair prices.
Q.6: Competition for wholesale demand response services	Are consumers able to access competitive offers from retailer or third parties to assist consumers to undertake wholesale demand response? Is the level of competition greater for larger consumers?	Yes, however as discussed above, it is a developing market and competition is increasing in the small consumer space.
Q.7: Demand response participating as a scheduled load	(a) Has the Commission appropriately characterised the benefits of increasing transparency relating to wholesale demand response?	Meridian has no comment.
	(b) Do stakeholders consider that if demand response were to participate in the wholesale market, it should do so as a scheduled load (rather than scheduled "megawatts")? Would the pros and cons of participating as a scheduled load differ for different types of demand response providers, e.g. those that have demand response controls on all or only part of their load?	This is a complex issue with outcomes likely to differ based on the form of the demand response. It is important to ensure that any changes in the wholesale market do not distort important market mechanisms that drive efficient outcomes for consumers. Likewise, it is important that any solution is not a "one-size-fits-all" approach based on today's understanding of expected outcomes as this will have the potential to limit valuable innovation in this space.
	(c) Do stakeholders consider the obligations placed on scheduled load remain appropriate in the context of demand response? If not, how might they be changed to better allow loads to participate in central dispatch?	This is a complex question in respect of which we are not in a position to provide a response.
	(d) Which information provision processes should a demand response provider participate in, i.e. pre-dispatch, ST-PASA, MT-PASA?	There will be a need for some providers to participate in these information provision processes however, it is likely that the majority of demand response will be incorporated via AEMO forecasting expected demand response outcomes,
	(e) How should compliance with	This is a complex question in respect of which we

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	dispatch targets and the causer pays procedure apply to demand response providers?	are not in a position to provide a response.
Q.8: Reducing barriers to a range of demand response	To what extent will these mechanisms facilitate more demand side participation throughout the NEM?	It is unclear whether the more extensive proposals will actually increase demand response significantly, given the potential displacement of existing less visible programs. Increases in transparency are less likely to impact existing programs, while providing the potential to enhance uptake of demand response solutions.
Q.9: Costs of implementing mechanisms	(a) What is the extent of the upfront costs that would be imposed on participants to introduce the proposals outlined in the rule change requests? Please provide evidence or data to substantiate these views where possible.	The introduction of demand response providers and baselining techniques will require significant upfront development costs, especially given the significant impact on data management, billing and metering processes and systems. Our experience from other recent rule changes (e.g. Power of Choice, 5 min settlements) suggests that these particular costs could exceed $1m or $10 per customer in our case in the first year.
	(b) Will demand response providers have sufficient information regarding expected revenue to make commercial decisions regarding the cost/benefit trade-off of incurring upfront costs in order to participate in the mechanism?	It is quite possible that demand response providers will not have sufficient certainty about future revenues to make commercial decisions such as these. This leads to the possibility that consumers will end up bearing significant costs without achieving the corresponding benefits. For this reason, we support a more careful rollout of demand response initiatives, commencing with greater transparency which may provide the commercial certainty required.
Q.10: Reducing extent of upfront costs	Do stakeholders have suggestions for ways these upfront costs could be minimised? For example, is it possible for there to be savings by making changes at the same time as other systems changes?	Our experience indicates combining additional requirements increases complexity and risk of implementation and this impact is exacerbated in industry wide transformations due to shortage of appropriately skilled resources.
Q.11: Indirect costs of proposals	(a) What is the likely extent of any indirect costs imposed through these proposals?	Indirect costs are difficult to measure, but will include significant potential impacts on wholesale risk management costs and on-going IT and operational support costs.
	(b) How could any such costs be minimised?	Given the varied nature of these costs, the different impacts on participants and their costs structures and resource capabilities, it is difficult to envisage a simple method to minimise such costs. It is for this reason that increasing transparency, which is likely to have less cost impacts, is a sensible first step.
Q.12: Risk allocation for baselines	Do stakeholders have views on how risks and costs can be best allocated under a baseline used for demand response?	Our recent experience in assessing the accuracy and appropriateness of baselines shows that they are very difficult to produce accurately and consistently. Baselines for different consumers and structures are variable and sensitive to unrelated activity, leading to inaccurate allocation of demand response actions. This is

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		complicated even further by changes in load and local environmental conditions over time and the increased uptake of solar and behind the meter solutions. In our experience, baseline calculation methodologies all have significant issues which can lead to some level of customer confusion, angst and eventually disengagement in demand response activities. These issues come in two main areas: • false positives – the assessment that demand has been reduced, when the customer has not deliberately or actively changed any behaviour or attempted to reduce load; and • false negatives – the assessment that demand has not been reduced, when in fact the customer has actively changed their behaviour and reduced load. Thus any demand response program involving baselines needs to have a 'dispute' mechanism built in, where the demand response provider, the retailer or the customer can deal with issues around baselining through a set, agreed process. This enables all participants to maintain confidence in the program. Utilisation of a simplistic baseline approach could lead to significant risk re-allocation and unfair outcomes for many classes of consumers. The use of baselines is best suited to consumers with a better understanding of their usage patterns, their ability to impact those patterns and the associated risks. There is the potential for the use of baselines to create risk exposures for consumers that they do not understand. Meridian has significant experience in provision of usage data, including provision of half hour usage patterns that are simple for consumers to comprehend. Notwithstanding this, and the significant data analysis undertaken prior to establishing our demand response program, many of our customers were still unable to understand how their baseline outcomes were calculated and implemented.
Q.13: Retailer participation	(a) Is it necessary to place an obligation on retailers to participate in the mechanism for it to address the issues raised by the proponents?	No. Meridian believes in open market participation whereby each retailer and participant can assess their own circumstances and actions. Clearly each retailer would be required to participate in any increased transparency requirement.
	(b) Are there additional obligations	Yes. The demand response provider solutions

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	these proposals would place on retailers, and do they differ between the proposals?	have the potential to place significant obligations on retailers, when compared to the less onerous and enhanced transparency proposals.
Q.14: Embedded generation and storage	(a) Do stakeholders have preliminary views about the ability for the proposed mechanisms to accommodate embedded generation, in the form of reduced consumption of electricity from the grid in high price periods?	The role of embedded generation and the complexities that it introduces highlights the many difficulties that these proposals expose. Our experience demonstrates that embedded generation is difficult, if not impossible, to include in a fair baseline approach. The impact on Small Generation Aggregators would also need to be carefully assessed.
	(b) Do stakeholders have preliminary views about the ability for the proposed mechanisms to accommodate, as demand response, increased consumption during low price periods (whether due to charging batteries, increasing production or any other action by the customer)?	The need to encourage consumption in these low price periods, via load shifting mechanisms and approaches, are recognised. The proposed baselining approaches are unlikely to be suitable to this method.
Q.15: Thresholds for participation in a mechanism	(a) What thresholds, if any, should apply to participation in the mechanism for individual consumers and aggregated portfolios? For example, large consumers as opposed to small consumers; a MW size threshold?	There is logic in utilising existing market thresholds, for example the maximum exempted generation (30MW) or the current limits for small generation aggregation (5MW).
	(b) Should there be thresholds at which different scheduling obligations apply?	Yes, but as discussed this is a complex area.
Q.16: Implementation Timelines	(a) How long do stakeholders think would be reasonably required to implement the proposals as set out in the rule change requests?	Simpler transparency proposals could be implemented in a relatively short timeframe (e.g. 12 to 18 months). The implementation of the more complex proposals involving demand response providers will require a significantly longer timeframes (e.g. 24-36 months, with transition periods). Meridian notes that the proposals do not include an agreed, standard baseline approach. The process for agreeing and settling the baseline methodology is complex and will require time to design and test as well as a broad range of stakeholder involvement.
	(b) How could the implementation timeframe be reduced? What trade-offs may need to be made to the design to achieve this?	As discussed above, a staged approach commencing with increased transparency and then identifying potential further action from that data will assist managing timeframes, costs and risks.

Appendix A: Wholesale demand response mechanism

Paper Ref	AEMC Question	Meridian response
Q.17: Centrally determined baselines	(a) How important is it to design against the possibility for bias and gaming?	It is imperative that the baseline methodology is robust enough to limit gaming and bias. If the baseline can be easily gamed the total amount of reserve calculated will be inaccurate. This potentially has negative outcomes for the consumer (in general), consumers (in demand response programs) and the market.
	(b) How can a baseline methodology appropriately align incentives such that the risk of systemic bias is minimised?	The risk of systemic bias (e.g. over estimating or underestimating consumption) may have an adverse effect. Errors in baseline calculations may be mitigated if incentives are based on customers achieving a specific directional target or threshold and over achieving the reduction target does not necessarily result in greater rewards.
Q.18: Accuracy of baselines	(a) How important is it that the baseline methodology is able to accurately estimate consumption?	It is very important that a baseline methodology is able to accurately calculate consumption. It is understood a baseline calculation is an estimate and cannot be 100% accurate. However, the baseline methodology is required to provide a reasonable and reliable estimate of consumption.
	(b) What administrative mechanisms would improve baseline accuracy without imposing excessive burdens? For example, regular review of baseline methodologies by independent experts, or cross-checking against consumption data from customers that are similar to the demand response provider but are not engaging in demand response.	Both examples provided are reasonable mechanisms to improve baseline accuracy. The best way to improve accuracy is to have different baseline methodologies for different usage profiles. For example, weather sensitive loads and loads that are influenced by the output of PV systems should be subject to different baselines.
	(c) Can a baseline accurately account for embedded generation and other dynamic resources that might exist behind the meter?	The current baseline used by AEMO (e.g. for RERT) does not accurately account for embedded generation and other dynamic resources that might exist behind the meter. To accurately account for behind the meter resources the baseline calculation must incorporate and take into account additional factors such as cloud coverage and temperature. Meridian has noticed that solar customer participating in its demand response program have been adversely affected by AEMO's current baseline calculation due to the addition of solar incidence as an external factor.
	(d) Should a wholesale demand response mechanism apply only to the types of customers for which baselines can be accurately set, and if so, what types of customers	It would be unfair to limit wholesale demand response to certain participants.

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	should be eligible?	
	(e) How should long-term or permanent changes in a customer's overall level of demand be addressed in baselines? For example, factories may add or retire production lines; households may increase or decrease in size, and may install or remove equipment such as pool pumps or solar panels.	Baseline methodologies should be robust and dynamic enough to allow for long term changes in a customer's overall level of demand. However, overcomplicating the baseline methodology can be expensive and administratively burdensome.
Q.19: Settlement under this proposal	Do stakeholders consider one of the settlement options outlined to be preferable? How would this approach to settlement impose costs and risks on market participants?	Meridian has no comment.
Q.20: Other considerations for the wholesale demand Response mechanism	Do stakeholders have views on these other considerations set out above? Are there other considerations not raised here that should also be considered when designing a wholesale demand response mechanism?	This point has been covered above and Meridian would be happy to discuss our experience in this area further with the AEMC.

Appendix B: Separate wholesale demand response market

Paper Ref	AEMC Question	Meridian response
Q.21: Cost recovery for the separate market	(a) What do stakeholders think about the proposed cost recovery arrangements for the separate market?	Meridian is always concerned about disaggregating the national electricity market into multiple separate markets as this has the potential for undermining some of the core value drivers for consumers that the existing market mechanism provides.
Q.22: Introduction of a separate market	(a) Would the proposal set out in this appendix be faster to implement than the wholesale demand response mechanism discussed in appendix A?	It is difficult to determine this with the absence of more detailed design. Meridian is concerned that ensuring there are not inappropriate interactions between the two markets may mean that there will need to be significant time and effort spent in designing and implementing this proposal.
	(b) If stakeholders do not consider that it would be faster to implement, is there merit in exploring this as an alternative to the other proposed demand response mechanisms? What are the costs and benefits that should be considered in doing so?	N/A
	(c) Are there any additional	As discussed, the introduction of greater

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	mechanisms that could be implemented more quickly than a wholesale demand response mechanism?	transparency, (e.g. a register) has the most potential and least risk to ensure that demand response capabilities are brought promptly to the market.
	(d) What are stakeholder views on the feasibility of co-optimising this separate market with the existing wholesale market?	Co-optimisation is not simple. The current FCAS and energy co-optimisation is designed to produce minimum cost across both markets. This is done on the basis that participants in FCAS and energy markets can alter their bids to ensure their own portfolio is co-optimised for their benefit. The same arrangements are unlikely to work in separate wholesale demand markets as described in the proposal, as the majority of participants in each market will unlikely be able to co-optimise their own bids in multiple markets.

Appendix C: Wholesale demand response register

Paper Ref	AEMC Question	Meridian response
Q.23: Wholesale demand response register mechanism	(a) What are stakeholder views on this option to facilitate demand response?	We support this approach as a means of ensuring that demand response is more transparent.
	(b) What do stakeholders consider the benefits of this option would be?	As discussed above.
	(c) What do stakeholders consider to be the costs associated with this option?	As discussed above.
	(d) Are there any implications (regulatory or otherwise) that are not raised in the discussion of this option?	Meridian has no comment.
Q.24: Standard wholesale demand response offer and Mandatory wholesale price pass through offer	(a) What are stakeholder views on these options to facilitate demand response?	Meridian's preference is that demand response is facilitated initially through greater transparency. Once further information is available through these means, additional information and data will be available to assess the need for and benefits of these alternatives.
	(b) Do stakeholders consider these options to be preferable to a wholesale demand response register?	As discussed above.

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	(c) Do stakeholders consider these options to be complementary to a wholesale demand response register?	As discussed above.

Appendix D: Load shedding compensation mechanism

Paper Ref	AEMC Question	Meridian response
Q.25: Issue addressed by LSCM	(a) Do stakeholders agree that reliability related load shedding inefficiently allocates risks to end consumers? Does the proposed LSCM address this issue?	The government already has in place plans to introduce retailer reliability obligations to help drive investment in generation and demand response. These plans should be allowed to be implemented and assessed before additional obligations are place on retailers. In addition, we would note that almost all involuntary load shedding that occurs is related to network issues, and not a shortage of supply. From a consumer perspective there is no distinction between the two types of outages and this is likely to lead to a distorted outcome where consumers are expected to be compensated by retailers for failures in the network.
	(b) Would a LSCM facilitate greater levels of wholesale demand response?	No.
Q.26: Benefits and issues of an LCSM	(a) Do stakeholders agree with the outline of the benefits and challenges associated with the introduction of an LCSM ?	No. Meridian does not believe this appropriately addresses the many challenges that such a scheme would introduce.
	(b) What other issues would need to be considered ?	There are a vast range of issues which would need to be considered for such a fundamental change to the market, including but not limited to, its potential to undermine the appropriate setting of the Reliability Standard, a transfer of risk to retailers which they are not in a position to manage, potential long-term impacts on investment signals which would undermine reliability and affordability and the interaction with existing and proposed market mechanisms.