POWERSHOP
A better power company

meridian

Meridian Energy Australia Pty Ltd
Powershop Australia Pty Ltd
Level 15, 357 Collins Street
Melbourne VIC 3000

Dear AEMC,

Proposed 5 min rule change

Meridian Energy Australia Pty Ltd (***Meridian***) is pleased to provide this submission to the AEMC in regard to the proposed 5 minute settlement rule change.

Meridian is wholly owned by Meridian Energy Limited, the ASX and NZX listed, largest 100% renewable generator in Australasia. In Australia we own and operate the Mt Mercer Wind Farm (132MW) near Buninyong in Victoria and the Mt Millar Wind Farm (70MW) near Cleve in South Australia. We also operate the fast growing Powershop Australia (***Powershop***) retail electricity business. Powershop operates in Victoria, New South Wales and Queensland.

Meridian's interest in the proposed rule change is based on our interest in the long term viability of the electricity system, the need for its decarbonisation, and the need to put downward pressure on consumer electricity costs. It is important to note that, other than any impact on the viability of the system and by connection our business in the medium to long term, Meridian has no financial interest in the outcome of the current rule change debate. That is to say, from a revenue perspective, we will not be impacted by the outcome of this potential rule change.

The fact that the electricity system is undergoing change is not under debate. What is under debate, and hard to predict, is the rate of change, and our ability to control this change as participants, operators and regulators. In this context, the proposed rule change seems on first principles like a positive move. It would seem likely to encourage fast response (generation) technology and demand response into the market. Both of these are highly likely to be vital to the effective operation of the electricity system of the future. On this basis, Meridian in principle supports the change however, we have a number of questions and concerns outlined below.

- The proposed rule change is to move to 5 minute settlements. This would align to the current system to 5 minute pricing in the NEM. But, why 5 minutes? Have other settlement periods, or mechanisms, been considered that would encourage new technologies to emerge, without the risks of the change under debate currently? Will we be having a similar debate in years to come on 1 minute pricing?
- The AEMC have engaged 'Energy Edge' to produce a report on the potential impact of the rule change on the forward financial market. Meridian congratulates the AEMC and Energy Edge for this report, which effectively explains how the market works, and the risks of the rule change to the $300 cap market in particular. Understanding this risk, unfortunately, requires a deep understanding of both the electricity system and the financial system. The AEMC should ensure that all stakeholders understand the risks associated with the proposed rule change so that these can be balanced with the potential upsides. In plain language, the upsides can be understood by an 8 year old. Understanding the downsides requires a masters degree in corporate finance. Energy Edge has identified the risk of a reduction in liquidity of the $300 cap market as a result of the rule change. Meridian sees this as the single largest risk associated

with the proposed rule change. If the reduction in liquidity, without countervailing effects, was to occur, this would:

- in the absence of a market for new products, financial or otherwise, being created, would undoubtedly lead to an increase in the costs of risk management carried out by retailers on behalf of their customers. In our view, this would lead to an increase in consumer electricity costs at a time when energy affordability is a crisis issue, in businesses and homes across the NEM (and in Canberra) and
- possibly lead to a reduction in retail competition. Independent retailers (i.e. those without generation) rely solely on the forward financial market to manage risk on behalf of their customers. In Meridian's view, a reduction in the liquidity of this market, would impact the viability of these businesses, potentially leading to a reduction in retail competition. It follows that a reduction in competition may have an undesired impact on consumer costs.

- While, as described above, the proposed rule change is likely to lead to at least a short term reduction in financial market viability, it is possible, and likely on a certain timeframe, that the rule change will encourage new technologies into the market, that could, through either financial or physical products, replace the products that are likely to decline in the financial market. Meridian notes that modelling of this was beyond the scope of the Energy Edge report:

"While this report focuses primarily on the incumbent buyers and seller of existing financial contracts, Energy Edge acknowledges that the introduction of 5 minute settlement market would likely promote alternative technologies (i.e. very fast start plant) and that it is possible that the financial market would eventually regain a new equilibrium. The modelling of the impact and timing of this type of transition is beyond the scope of the report" (Page 4 of the Energy Edge report.)

- In the absence of any attempt to model this, the following must be key considerations for the AEMC and industry participants:
  - Can current hydro respond effectively within a 5 minute period? This is not clear from the directions paper, and seems a critical issue.
  - Can new (pumped) hydro respond effectively within a 5 minute period? Meridian notes that any new (pumped) hydro plants that are planned as a result of this rule change are highly unlikely to be operational within a 3 year time frame. Meridian is not aware of any work that has critically analysed this topic.
  - While grid scale batteries are a hugely exciting technology, and will undoubtedly play a critical role in the future, we do not as yet have any good examples of large (>2MW) battery technologies operating in the NEM. While we seem to read that batteries are now 'financially viable' on an almost daily basis[1], Meridian is not aware of any verifiable examples of where grid scale batteries are being deployed outside of the SA and VIC government subsidised battery programs (we exclude off grid and edge of grid applications in this reasoning). Our own analysis, conducted in collaboration with the University of Melbourne's Melbourne Energy Institute suggests battery costs have some way to fall before we will see scalable deployment at a grid scale. With that in mind, it is not clear what volume of grid scale battery deployment will be seen inside a (3-year) timeframe, or indeed, what business model under which such batteries will operate. We remain very positive about the future role of batteries in the grid, so this is not a question of applicability, it is a question of timing. Although AEMO and AEMC are conducting significant activities in the areas of system security, Meridian is not aware of any work that has specifically critically analysed this topic.
  - Demand response at a commercial and industrial level is undoubtedly going to play an ever more important role in the future. It is possible and likely that the proposed rule change will encourage commercial and industrial demand response because on a practical level, some services such as air conditioning and freezers can be switched off for 5 minutes without any impact on the service, whereas switching off for 30 minutes would be problematic. Countering this is the fact that some commercial industrial loads may not be able to execute demand response on a 5 minute basis. With this in mind, it is not clear what increased (net) level of

[1] http://reneweconomy.com.au/why-grid-based-battery-storage-is-already-a-no-brainer-in-australia-85967/

commercial and industrial demand response will be available following the implementation of the 5 minute rule. Meridian is not aware of any work that has critically analysed this topic.

- Likewise, demand response at a residential level may play an important role in the future, involving a customer's load and/or a customer's domestic battery/electric vehicle. Powershop is currently testing a number of technologies, that have either been developed in-house, or in collaboration with technology companies. As with the commercial and industrial market, these exciting technologies have the potential to replace the services provided by the forward financial market today. At a residential level, the challenge will be one of both logistics and of margin. Unlike a commercial or industrial load, hundreds or thousands of home electrician visits are likely to be required to enable the same level of demand response at a residential level. Further, retail margins, for retailers that do not charge the so called 'loyalty tax', are at a level where deploying 'software/hardware as a service' technology models, to enable demand response, will be a challenge. With this in mind, it is not clear what level of demand response will be available at a residential level. Meridian is not aware of any work that has critically analysed this topic.

Meridian considers itself a forward looking company and we are excited to play our role in the electricity system transition. Meridian has invested over a billion dollars in renewable energy in Australia. Meridian is investigating solar/battery, pumped hydro and other technologies at a grid level. Meridian has grown the Powershop retail business to ~100,000 customers. Central to this brand is providing customers with technology to offer information and choice where information and choice were not available in the past. Powershop has championed a fairer pricing approach by being among only a few retailers not to change a 'loyalty tax'. Powershop is testing a number of in-home technologies, all aimed at reducing electricity usage and so enabling customers to save on cost, and reduce demand on the grid.

While the proposed 5-minute rule change has the potential to propel us towards the electricity system of the future, it is Meridian's belief that enormous risk sits with the potential impact to the forward financial market that allows retailers to manage risk (and so cost) on behalf of their customers. This change should be made with a full understanding of the capability of new technologies that might serve a replacement role, and the quantum of such technologies that will be required to fill the gap. Ensuring the availability of such an understanding would allow participants, operators and regulators, along with their stakeholders, to embrace this change with 'eyes wide open' and would certainly be more prudent than an approach of making the change and hoping the new technologies and services just arrive into the market, placing risk onto already stressed businesses and households.

Meridian encourages the AEMC to coordinate a level of analysis to allow an understanding to be developed across all stakeholders, which in Meridian's view is currently lacking. Ensuring decisions are based on such an understanding would avoid the appearance that any final decision was being made to protect the profit of existing players or to underwrite the profit of new entrants.

Yours Sincerely

Ed McManus

CEO Meridian Energy Australia & Powershop Australia