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ElectraNet  
Eyre Peninsula Electricity Supply Options PADR feedback

By email: [consultation@electranet.com.au](mailto:consultation@electranet.com.au)

Dear Sir/Madam

### **Eyre Peninsula Electricity Supply Options**

Meridian Energy Australia Pty Ltd (and its related bodies corporate) (Meridian) welcome the opportunity to provide comments related to the information contained in the Eyre Peninsula Regulatory Investment Test for Transmission (RIT-T) Project Assessment Draft Report (PADR) dated 16 November 2017.

Meridian is both the owner and operator of the 70 MW Mt Millar Wind Farm, located on the Eyre Peninsula. In addition, Meridian is also the owner operator of the 131 MW Mt Mercer Wind Farm in Victoria, is in the process of acquiring several significant hydro power assets in New South Wales and Victoria and supports utility scale renewable energy development (both solar and wind) through seeking long term power purchase arrangements. As the owner of Powershop Australia, an innovative retailer, Meridian recognises the benefits for consumers of a transition to a more renewable-based and distributed energy system and believes that such customer benefit should be the key factor in analysing any developments.

We are committed to best practice development, operation and maintenance of generation plants fuelled by pure renewable sources. The proposed network expansion supports the development of renewable generation in the region, which is consistent with our core business and values.

The Eyre Peninsula has a high potential for wind and solar renewable energy which at present cannot be readily integrated due to network constraints. Alleviating these constraints would allow more generation supply to enter the National Electricity Market (NEM). Renewable generation sources are now among the cheapest forms of new bulk energy generation, and thus consumers can expect to benefit from lower wholesale prices and increased reliability of supply.

This response seeks to support the recommendation of the report (Option 4B), further demonstrating expected market benefits of the proposed investment.

#### Existing network constraints

The existing transmission line consists of a single-circuit 132kV line from Cultana to Yadnarie, and a single-circuit 132kV line from Yadnarie to Port Lincoln, with an existing thermal rating of approximately 300MVA, with actual transfer capacity significantly lower due to stability and voltage constraints.

There are currently two operational wind farms located along the Cultana to Port Lincoln transmission line; Cathedral Rocks Wind Farm (66MW) and Mt Millar Wind Farm (70MW). During periods of high wind generation there is no spare capacity on the transmission network which creates a barrier to entry for new generation.

The current constraints have served to limit investment in even preliminary renewable generation studies within the area. The preferred upgrade option (Option 4B) involves upgrading to Cultana to Yadnarie transmission line to

a double-circuit 275kV line and the Yadnarie to Port Lincoln line to a double-circuit 132kV line, increasing capacity to 1200MVA and 600MVA respectively and alleviating these existing constraints. This transmission augmentation would allow for the development of further renewable resources on the Eyre Peninsula, leading to positive impacts on the efficiency and competitiveness of energy supply into the NEM over the longer term.

#### Potential for connection of new loads

The current maximum energy demand within the region is about 55MW southwest of Cultana, and 35MW at Port Lincoln. The current network infrastructure is unable to support the connection of large industrial loads, such as the potential Iron Road mining development, Whyalla OneSteel, as well as other potential mining loads within the area. These developments contribute to the overall Australian economy, helping to sustain continued growth in one of Australia's largest industries.

#### Improved performance of existing assets

The upgrade will alleviate thermal capacity restrictions on the network, leading to reduced transmission losses from existing generation assets. As such, marginal loss factors for the region can be expected to improve, resulting in a direct market benefit to consumers. In addition, voltage stability constraints imposed on the two existing wind farms require them to "spill" significant quantities of wind which means the energy which could have been provided by these generators must be replaced with more expensive forms of generation. This has the potential to lead to significantly higher prices and costs for South Australian consumers.

#### Renewable energy potential and investment opportunities

Support for the proposed upgrade during a time of major investment in renewables within Australia is critical to sustaining efficient and timely development of renewable generation within the NEM. The Eyre Peninsula is considered a high potential Renewable Energy Zone (REZ) representing the top 10% of potential wind energy sites, with the potential for over 2,000 MW of generation in the region to be developed if appropriate transmission infrastructure is available. The upgrade will support increased renewables investment within the region, providing access to up to 1,000 MW of both wind and/or solar generation.

#### System planning consistent with recommendation from the Finkel Review

One of the key recommendations from the Finkel review was the co-ordination of renewable generation and transmission investment to ensure efficiency, security and reliability of the NEM. The Australian energy mix is progressing towards the development of renewable generators located in REZs, reinforcing the need to co-ordinate and prioritise transmission investment that supports this transition. In this regard, the Australian Energy Market Operator (AEMO) has noted the benefits of potential REZ's aligning well with the proposed expansion. Implementing Option 4B of this RIT-T would be in alignment with the recommendation of the Finkel review.

#### Stability and reliability of supply

Renewables will complement the introduction of large scale battery installations within the network, supporting the grid during contingency events such as loss of regional connectors, and/or large generators. Increased network capacity along with additional renewable generation in the Eyre Peninsula will facilitate the development and integration of battery installations which can support local demand.

Integration of renewables and batteries could also assist in increasing reliability of the network in the region should the Eyre Peninsula be electrically separated from the rest of the state.

Furthermore, the proposed option removes the need for existing network support arrangements (expiring December 2018) at Port Lincoln, currently achieved by 3 x 25MW diesel-fired gas turbines. This directly improves operating costs by \$9 million per annum. Increased transmission capacity promotes stability and security of supply to the region and provides lower cost to consumers on a long-term basis.

Meridian is committed to the developing a sustainable economy where there is efficient investment in the electricity industry by taking a long-term perspective of the market and the benefits that can be provided to consumers. Relieving the existing network constraints in Eyre Peninsula region would allow for meeting this objective by allowing for the integration of the renewable energy generation in this region.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Angus Holcombe". The signature is written in a cursive style with a large initial 'A'.

Angus Holcombe  
Asset Manager  
Meridian Energy Australia