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Submission to ElectraNet SA's,

“Request for Information, Projected Transmission Network limitations:

Lower Eyre Peninsula 132kV Supply Region of South Australia”

due by Friday 9th December

The request paper states at 2.2.5 “Planned Transmission Augmentation” on page 9 that: ‘The need to augment the Whyalla - Yadnarie - Port Lincoln 132kV line was consulted in the 2005 Annual Planning Report (APR) published by ESPIC on 1 July 2005. As no submissions were received, Electra Net is now preparing to proceed with the construction of two new small network augmentations on the Lower Eyre Peninsula to uprate the thermal capability of:-

- The section of line from Whyalla to Middle back from 49 °C to 65°C and the section of line from Middleback to Yadnarie from 49°C to 60°C, and;
- The 132KV line from Yadnarie to Port Lincoln from 49°C to 60°C.’

I am stunned that no submissions were received as I am well aware that because of concern about the adequacy of regional power supplies a major electricity scoping study of regional power requirements including those on Eyre Peninsula was commissioned by the South Australian Organisation of Councils from Watt Power Brokers Pty Ltd and I am sure that the Eyre Peninsula Local Government Association and a number of the individual councils and local businesses would have put in submissions if they had been made aware of the opportunity.

The implication I get from this paper is that **once these augmentations have been done** as outlined above except for the improvements at Cowell **nothing else is on their agenda until 2013/14 which would be totally unacceptable.**

Eyre Peninsula is served by a single 250km 132 KV, 40 year old line from Whyalla to Port Lincoln with lines from this one servicing the ten Councils that cover the region. A major breakdown would leave most of the region without power, possibly for days. There are 10 hospitals and 72 education institutions in the region, private heating, air conditioning and freezing usage plus significant business activity, for example 65% of the state's seafood is sourced from Eyre Peninsula, requiring refrigeration and freezing. Just one seafood industry alone - on-land live abalone farms - are worth millions of dollars in investment and product, and almost all the product is exported.

The **Whyalla to Port Lincoln line** has I believe already been **identified by the Electricity Supply Industry Planning Council (ESIPC) as needing replacement.** However **rather than replacing this line I ask that a second line be built along the West Coast of Eyre Peninsula from Wudinna down through Poldia to link into the Port Lincoln substation to provide triangulation** and security for Eyre Peninsula users. It would provide the reliability that a region of this size and potential needs particularly if it is to progress quickly to provide the wealth and jobs that will eventuate as its potential is achieved.

A line along the west coast would have to be a regulated line and as the \$A110 million SNI link to Victoria did not eventuate I am aware that there is capacity within ElectraNet's current budget to build this as a regulated line. This was confirmed by ACCC some time ago.

If the line is built along the west coast of Eyre Peninsula there are a number of proposed wind farms that would be able to commence and contribute to the cost. One of these, Tunketta Hill, owned by Ausker Energies, already has approval for 50MW and another 100MW waiting. Hydro Tasmania and Pacific Hydro have indicated previously that they would be interested in becoming involved. Babcock and Brown should also be consulted as they may be ready to start planning for their farm south of Port Lincoln and will need significant line capacity to take the energy out through the Port Lincoln substation.

Two wind farms are now located on Eyre Peninsula. Cathedral Rocks 65 MW farm is South of Port Lincoln and links into the Port Lincoln substation where two 25 MW backup turbines leased from International Power-Synergen are also located. As these turbines service only part of the region and are slow to be switched on, many companies and individuals have their own generators. The second 70MW farm is at Mount Millar between Cleve and Cowell and links into the grid at the Yadnarie substation. **There is inadequate capacity to take all the energy into the grid if all turbines are working and the local usage is low.**

There is concern that the wind energy is unreliable and will destabilise the grid. However Lloyd Energy Systems' graphite block energy storage system being trialled in Cooma, and with the first commercial application going into King Island, should overcome this problem. King Island aims to do away with fossil fuel generation entirely. **Lloyd Energy Systems has I understand tendered to place their new graphite blocks at the Port Lincoln substation to hold excess wind energy as heat.** This heat can then be returned as power to take the fluctuations out of the grid when the wind energy is low and the need is high. It can be used to provide the power to desalinate water at a very low cost. Water is a critical issue on Eyre Peninsula at present and to be able to use the spillage from the wind turbines and the existing pipes and pumping systems down at Uley would be a very clean green and cost effective solution to our long term water problems.

The need for power on Eyre Peninsula is already great but there is a latent need that is not being fulfilled that would be stimulated if a second line was put in place in addition to more wind turbines. The Eyre Peninsula is part of the Gawler Craton geological anomaly and I have attached a list of the diverse and valuable minerals that are to be found in the region and a map to show their locations. *Attachments 1,2 and 3.*

At 3.2 of the paper entitled "Load Forecast" on page 11 states:- 'The load forecasts for the four Lower Eyre Peninsula connection points for the coming 10-year period have been provided by ETSA Utilities for Port Lincoln, Wudinna and Yadnarie, and by One Steel for the Middleback connection point, and are tabulated overleaf.' The tabulation shows only a small sustained growth for the substations except for Middleback which has a substantial increased requirement of 18.5 MW in the year 06/07 caused by One Steel. **The expected additional load from mining will not only impact on the Middleback substation as the paper indicates but will also impact on the other substations.** Yadnarie and Wudinna are most likely to have the largest impact during the next 10 to 15 year period with **Mineral Sands** development north west of **Ceduna** with the possible processing in the region. Also imminent is the Centrex Metals Ltd development of **iron ore** deposits particularly the one south of **Lock** which is of great interest to the Chinese who are proposing to expend \$US500 million in the area to take out initially 2,000 million tons of ore via Port Lincoln. Adelaide Resources also have mining operations imminent that should be considered.

I once again emphasise that planning for future power needs on Eyre Peninsula is urgent. In addition to the mining, a number of the on-land abalone farms are expanding to increase supply to an apparently insatiable Asian market. Several marinas are under construction: The marina at Ceduna will have 800 houses, most with air conditioning. Commercial fishing/chillers will be required as the fish are brought to Ceduna instead of being taken to Port Lincoln.

The long term power demands for Eyre Peninsula will be met initially by a triangulated line from Wudinna to Port Lincoln, as described above, to supply increased industrial, domestic and mining usage, while kicking off the development of more wind farms that

will also encourage the development of desalination plants. This conforms with ElectraNet's current analysis about the option of connecting additional generation into the Eyre Peninsula system. The advantages of the increased power supply will be felt across the state through a more secure energy source that copes with fluctuations in demand.

The proposed line would fulfil the state government's strategic plan to triple exports within 10 years while enabling environmentally friendly practices and encouraging innovation and an increase in the state's power providers.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Liz Penfold". The signature is written in a cursive, flowing style.

Mrs. Liz Penfold MP