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**Sent:** Thursday, 18 January 2018 3:27 PM

**To:** Korte, Rainer (ENet) <[Korte.Rainer@electranet.com.au](mailto:Korte.Rainer@electranet.com.au)>; Cock, Lauren (ENet) <[laurenc@electranet.com.au](mailto:laurenc@electranet.com.au)>

**Subject:** RE: Eyre Peninsula Electricity Supply Options RIT-T draft Report - submissions due Friday 19 January

Dear Rainer,

Thanks for the reminder to make a submission. See below three items that I am hereby submitting:

**Consideration of an additional transmission option using one new 132kv transmission line to also reduce the costs of repairing the conductor damage to the existing 132kv transmission line**

As foreshadowed in my question at the public meeting in Adelaide, it is recommended that ElectraNet consider another transmission option, that may satisfy the Regulatory Test trigger for the Eyre Peninsula at a lower cost (both capital cost and operating costs). This option would entail

- (a) Constructing a new single circuit 132kv line along the existing new easement from Cultana to Yadnerie to Port Lincoln. This new line would be single circuit, single conductor, possibly steel lattice masts, designed for a thermal capacity at least similar the existing 132kv line existing line at lowest capital cost.
- (b) Once appropriate sections of the new transmission line have been completed, use those sections of the new line to bypass the sections of the existing line requiring repairs or replacement of relevant sections of the damaged conductor, without the necessity of having to operate the Port Lincoln local generators at high costs to the project.
- (c) It is suggested that consideration be given to the optimal sections for constructing the new line, and then replacing the damaged conductor of the existing line, to minimise line contractor establishment costs and avoid or minimise re-establishment costs for the two components of line construction/refurbishment costs
- (d) Once both lines are completed (ie new single circuit 132kv line and repairs to the damaged conductor of the existing line), install the minimum amount of new substation equipment to enable both 132kv lines to be operated in parallel, and the grid support contract at Port Lincoln to be discontinued.
- (e) Develop a suitable monitoring and control scheme to maximise the operational capacity of both 132kv transmission lines (including dynamic ratings, post-contingent local demand management and post contingent generation management) so that additional transmission capacity is available to support new industrial loads and new wind farm generation (including on a non-firm basis in the unlikely event of a sustained outage of one of the two 132kv transmission lines.
- (f) Assess the market benefits of the combined firm and non firm (post contingent) transmission capability to the Eyre Peninsula.

**Consideration of an additional transmission option using one new 132kv transmission line , to form a meshed Eyre Peninsular network as well as to also reduce the costs of repairing the conductor damage to the existing 132kv transmission line**

This is a similar transmission option to the one above, except that consideration be given to routing the new 132kv single circuit line from

Cultana to Wudinna, instead of from Cultana to Yadnerie. The other section of the new 132kv line would still run from Yadnerie to Port Lincoln. Whilst this transmission option may be more costly, it

may provide larger benefits in being able to support new industrial demand in the Wudinna region on both a firm and non-firm basis under that scenario. The potential benefits from supporting new wind-farms on the Eyre Peninsula may be similar.

#### **TESTING SENSITIVITY TO REDUCTIONS IN SOLAR PV COSTS**

The existing sensitivity studies have identified that the recommended option may only be passing the AER's Regulatory Test because of the assumed higher wind energy potential on the Eyre Peninsular compared with elsewhere in South Australia (that requires substantial additional investment in the Eyre Peninsular transmission network to support new wind generation on the Eyre Peninsula).

It appears that the current assessment is assuming that new wind farm capacity will be built in South Australia regardless. Given the plummeting costs of large scale solar PV farms (eg Saudi Arabia has just committed a 1,500MW solar PV wind farm for a total life cycle cost of less than \$US25/Mwh well below wind-farm life cycle generation costs), it is recommended that the sensitivity of the results to much lower PV farm costs be assessed. Under such a scenario, it may be unlikely that additional wind farms would be developed anywhere in South Australia