



Hugo Klingenberg
Senior Manager Network Development
ElectraNet
Adelaide, South Australia 5000

Lodged via email consultation@electranet.com.au.

Friday, 21 July 2017

Dear Mr Klingenberg,

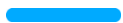
RE: Eyre Peninsula Electricity Supply Options Project Specification Consultation Report

ENGIE appreciates the opportunity to comment on ElectraNet's Project Specification Consultation Report (PSCR) for the Eyre Peninsula electricity supply options.

ENGIE is a global energy operator in the businesses of electricity, natural gas and energy services. ENGIE is the number one independent power producer in the world with 115.3 GW of installed power-production capacity, 19 GW of which is renewable. ENGIE provides generating capacity in Victoria, South Australia and Western Australia. ENGIE also owns Simply Energy which provides electricity and gas to more than 630,000 retail customer accounts across Victoria, South Australia, New South Wales and Queensland.

ElectraNet has noted in the PSCR that sections of the existing Cultana to Yadnarie, and Yadnarie to Port Lincoln 132 kV transmission lines will require replacement conductors in the near future for approximately 120 km of their length. ElectraNet have indicated that this requirement provides an opportunity to consider additional options for ensuring reliable supply to the Eyre Peninsula.

ENGIE notes that in 2012 ElectraNet commenced a regulatory investment test for transmission (RIT-T) which considered options to reinforce the existing 132 kV transmission network on the Eyre Peninsula. That RIT-T process concluded when ElectraNet published their project assessment draft report (PADR) in 2013 which noted there was significant uncertainty in relation to the potential for substantial new loads to be developed on the Eyre Peninsula. It was further noted that the network was expected to continue to meet the reliability criteria until the expiration of the current network support agreement at the end of 2018.





This new RIT-T PSCR report has been initiated by ElectraNet to ensure the that the reliability of electricity supplies to the Eyre Peninsula extend beyond the end of 2018, when the current network support agreement is due to expire.

In addition to ElectraNet RIT-T / PSCR process the South Australian government has asked the Essential Services Commission of South Australia (ESCOSA) to investigate how power reliability can be improved on the Eyre Peninsula. The ESCOSA inquiry¹ was initiated following concerns raised by Eyre Peninsula community members about the customer impacts arising from the level of reliability and quality of supply in the region.

Identified need

In section 3.1 of the PSCR, ElectraNet identifies the two key drivers for exploring electricity supply options for the Eyre Peninsula as:

1. The need to replace major components of the exiting 132 kV transmission lines, and
2. The expiry in 2018 of the existing network support arrangements at Port Lincoln.

The level of transmission reliability that must be maintained by ElectraNet is defined in the South Australian Electricity Transmission Code (ETC) reliability standards. The highest level of reliability on the Eyre Peninsula is ETC 3 at Port Lincoln which requires an 'N-1' level of reliability². This level of reliability is currently achieved at Port Lincoln by supply via the single 132 kV transmission line, backed up by the local generators being ready to start if the transmission line should fail.

The identified need arises due to the network support agreement at Port Lincoln being due to expire in December 2018, and the existing 132 kV transmission line requiring replacement conductors in the near future.

Options to address identified need

ElectraNet has identified five credible options in the PSCR, which are summarised below:

ElectraNet options		Indicative cost
1	Continue network support arrangement / replacement works on the existing 132 kV single-circuit	\$80M ³
2	New double circuit 132 kV line	\$200-300M
3	Two new single circuit 132 kV lines	\$200-350M
4	New double circuit 275 kV line	\$280-380M
5	Two new single circuit 275 kV lines	\$400-550M

¹ Essential Services Commission of South Australia - Inquiry into the reliability and quality of electricity supply on the Eyre Peninsula – Draft Report (May 2017)

² An 'N-1' level of reliability means that electricity supply will not be disrupted if one element of the network fails.

³ This option would also have ongoing operating costs for network support at Port Lincoln



In addition to the above five options outlined by ElectraNet, South Australia Power Networks (SAPN) has identified options for improving the reliability of supply on the Eyre Peninsula as part of the ESCOSA inquiry. The SAPN options are summarised in the table below, along with their estimated reliability benefit (measured as minutes off supply saved) and costs of each option.

SAPN options	Minutes saved (p.a.)	Total cost (p.a.)
Hardening network - reinsulate poles with lightning resistant insulators		
1) 38,000 (95 percent of feeders)	122	\$5.5M
2) 19,000 (48 percent of feeders)	98	\$2.4M
3) 10,000 (25 percent of feeders)	76	\$1.4M
Generation options		
1) Upgrade sub-transmission to allow supply to west from Pt Lincoln	1,000	\$0.4M
2) New generation at Wudinna and upgrade sub-transmission	1,000	\$4.1M
3) New generation at Wudinna, Ceduna and Streaky Bay and upgrade sub-transmission	1,150	\$5.2M
SCADA options - enable remote monitoring and control		
1) All high voltage feeders	23	\$1.1M
2) 235 switches on high voltage feeders	21	\$0.8M
3) 121 switches on high voltage feeders	16	\$0.4M

Uncertainty regarding new loads or generators

As noted in the PSCR, the Eyre Peninsula has long been recognised as an area that has significant mineral resources and exploration potential, as well as very good wind and solar potential. These potential benefits must be weighed up against the fact that the Eyre Peninsula is a very large, sparsely populated area. For example, the Eyre Peninsula is a much larger geographic area than Tasmania, but has less than 10 percent of the population.

Being so large and sparsely populated means that it is difficult to justify building significant transmission infrastructure unless there is a definite and substantial need identified. Although there are a number of potential new projects that have been proposed for the Eyre Peninsula, there remains a level of uncertainty about whether any of these projects will proceed. This uncertainty has been considered previously by ElectraNet, most recently in the 2013 RIT-T which identified that transmission options for the Eyre Peninsula were heavily dependent on whether new loads connect in the area. There was at that time considerable uncertainty regarding these new loads, and ElectraNet noted that the network would continue to meet the reliability criteria at least until 2018 with the existing network supplemented by the Port Lincoln network support agreement.



Since that time as far as ENGIE can ascertain, there have been no announcements of any substantial new load projects being confirmed on the Eyre Peninsula. ENGIE also notes that the iron ore price has fallen since the 2013 assessment was carried out by ElectraNet and so it would seem less likely that any new project based on this commodity would proceed.

ENGIE recognises that there are a number of different minerals that have potential to be developed in the Eyre Peninsula besides iron ore, but notes that commodity prices are generally lower now than they were in 2013⁴

In addition to potential new load projects, the Eyre Peninsula is also regarded as a very good area for

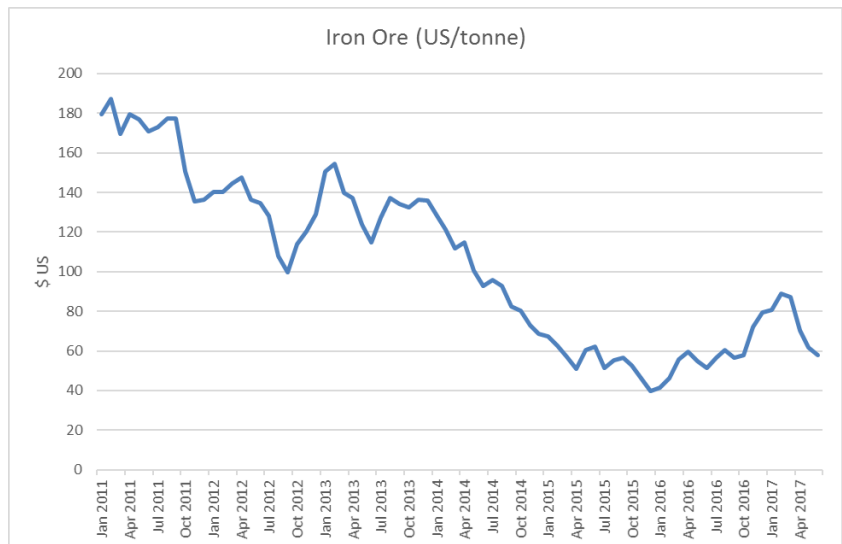
potential wind generation projects. While there is significant potential for renewable energy developments on the Eyre Peninsula, the limited capacity of the existing transmission infrastructure acts as a constraint on the amount of additional generation that can be accommodated.

Under the network investment frameworks of the NEM, ElectraNet cannot simply build a new transmission line in anticipation of new generation or load projects emerging to take advantage of the network. Unless a proponent of a new renewable energy generation project is willing to meet the costs of a new transmission line into the Eyre Peninsula, ElectraNet are unable to justify the expense under the RIT-T process.

Commentary on options

ENGIE understands that option one in the PSCR represents the minimum amount of work and cost that would be required to ensure that the existing 132 kV transmission lines to Port Lincoln remain serviceable. The cost identified for option one is \$80M plus the ongoing operating costs associated with a new network support agreement at Port Lincoln.

The other four options identified by ElectraNet are all significantly higher in cost than option one. Although these options have potential future benefits if there are significant new load or generation developments in the Eyre Peninsula area, as discussed above, there remains a considerable level of uncertainty about any of these projects proceeding. A further uncertainty arises from the fact that there have in the past been proposals for new load projects at a range of different locations spread across the Eyre Peninsula. It would be unfortunate if a decision was taken to build a costly double circuit transmission line south to Port Lincoln, only to then find that a substantial new load project seeks network connection in the northern or western part of the peninsula.



⁴ Reference: Reserve Bank of Australia Index of Commodity Prices at www.rba.gov.au



A further point for consideration of the possible need to support new load projects in the future is the rapidly evolving technology and falling costs associated with renewable energy and battery storage. These developments provide opportunities to consider remote 'off grid' supply installations, which could be combined with a new load project, thus avoiding the need for expensive transmission network support to remote sites.

This alternative approach to network planning is supported in the ESCOSA report which on page three notes:

"The previously clear distinction between monopoly and contestable services is becoming blurred, with the emergence of distributed generation and mini-grids, which may compete with incumbent network businesses. In the case of the Eyre Peninsula, where new technologies and new business models are emerging, more effective joint planning, with some independence in the joint planning process, may lead to better customer outcomes than the current approach"

A possible additional justification for the more costly double circuit options might be that the level of supply reliability to the Eyre Peninsula was not meeting the customer requirements. The findings in the ESCOSA report do not support this justification however, and in fact, notes that in the 2006-07 to 2016-17 period, there have been 209 quality of supply enquiries and only nine complaints⁵.

ENGIE believes that the only option that should be considered is to carry out the upgrade work on the existing single circuit 132 kV transmission line, and seek a new network support agreement to maintain the required reliability level at Port Lincoln.

ENGIE believes that this conclusion is made even more appropriate when it is considered alongside the options put forward by SAPN for improving the reliability of electricity supplies to the Eyre Peninsula more generally. It is very clear from the SAPN analysis that by far the most effective (in terms of reliability improvements) and least cost approach is the first of their generation options. This option is described by SAPN as:

"Upgrade SA Power Networks' sub-transmission network to enable supply of the far west coast of Eyre Peninsula from Pt Lincoln power station in circumstances when the transmission network north of Yadnarie is interrupted."

If this option is to remain feasible, it will be important to maintain a viable source of generation at Port Lincoln with sufficient capability for black start and other services such as frequency and voltage control. These services are currently available at Port Lincoln, in large part as a result of the existing network support agreement with ElectraNet. If the network support agreement were no longer required, it is doubtful that any generation participant would continue to incur additional costs associated with the provision of additional services, where there was no apparent need for them.

⁵ ESCOSA Draft Report (May 2017)



ENGIE trusts that the comments provided in this response are of assistance to ElectraNet in its deliberations. Should you wish to discuss any aspects of this submission, please do not hesitate to contact me on, telephone, 03 9617 8331.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Chris Deague". The signature is fluid and cursive, with a prominent initial "C" and a trailing flourish.

Chris Deague
Wholesale Regulations Manager

