ElectraNet

Newsletter 2
September 2014

EYRE PENINSULA REINFORCEMENT PROJECT

Northern section route alignment identified

ElectraNet has identified a preferred alignment for the future transmission line upgrade between Cultana and Yadnarie, based on the findings of many technical and field surveys of the transmission line corridor and a rigorous multi-criteria analysis process.

ElectraNet will now engage directly with landowners along the northern section to discuss this route and options for acquiring a new easement, as approved by the Australian Energy Regulator to take place before 2018.

Further work is required to identify the preferred alignment for the southern section between Yadnarie and Port Lincoln. ElectraNet will continue these investigations and seek further input from landowners and the wider community.

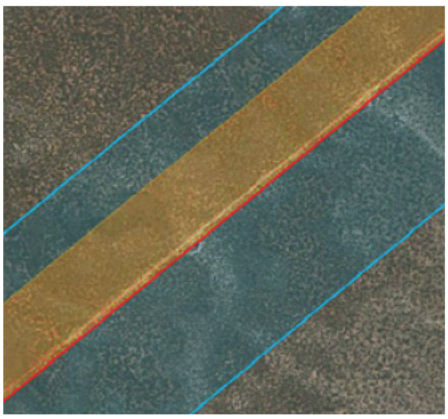
The exact date the new transmission line will be required, depends on electricity load demand. Securing the future route and easement for the new line now ensures the eventual construction can proceed as soon as a load trigger occurs.

To ensure reliable high-voltage electricity supply to the Eyre Peninsula into the future, ElectraNet will continue to closely monitor and test the existing transmission line to better understand how its age and condition influence its need for replacement.

WORKING IN THE COMMUNITY

An ElectraNet stand at the 2014 Eyre Peninsula Field Days provided an update on the project to landowners and members of the community. Since the planning study to identify the new transmission line route started in 2012, ElectraNet has gathered feedback from landowners and the wider Eyre Peninsula community at the 2012 and 2014 Field Days, three community drop-in days at Cleve, Ungarra and Port Lincoln and almost 100 face-to-face meetings with landowners. This information contributed to the social criteria considered when assessing potential route options.

The existing 132,000 V transmission line supplying the Eyre Peninsula is almost 50 years old and is nearing the end of its operational life. This transmission line extends from Whyalla to Port Lincoln and is approximately 290 km long.



Existing line indicated in red, study corridor in blue and proposed new easement in orange. Image is indicative only and not to scale.

Northern section route identified

ElectraNet has identified the preferred route for the future replacement of the northern section of the Eyre Peninsula transmission line, between Cultana and Yadnarie. The preferred route runs almost parallel to the existing transmission line, on its north-western side.

The preferred route was identified by evaluating the information gathered through desk-top research, technical field studies, direct engagement with landowners and the Eyre Peninsula community, as well as extensive ground-truthing. This process included a geo-spatial multi-criteria analysis, which assessed various alignment options to identify the route that best balances environmental, cultural, social, land use, engineering and cost criteria.

KEY STARTING POINTS

The planning study to identify the preferred route for the new replacement transmission line began with an assessment of a corridor spanning 200 metres either side of the existing line. This provided a direct route between the fixed connection points at Cultana, Middleback, Yadnarie and Port Lincoln. The study looked at the opportunities and constraints for a replacement within this corridor and any drivers for deviation. The investigations were based on the potential need for the route to carry a new above ground 275,000 V line, that would cater for the Eyre Peninsula in all potential electricity demand scenarios for the next 50 years.

The new Whyalla Central substation.

CHARACTERISTICS OF THE IDENTIFIED ROUTE

The identified route for the northern section achieves the best balance among environmental, cultural, social, land use, engineering and cost criteria. The route:

- **has the least net environmental impact** as it enables the use of existing access tracks to minimise vegetation clearance. This contains potential environmental impacts to the one area, instead of creating vast new areas of impact. Detailed flora and fauna studies have mapped ecological communities to enable effective micro-siting, further minimising potential impact
- **recognises culturally significant sites** through an Aboriginal Cultural Heritage Management Plan collaboratively established between ElectraNet and the Barngarla Native Title Claimants. The Plan includes ways of managing and protecting identified Aboriginal heritage values within the proposed line corridor, before, during and after construction of the new line
- **reflects community preferences** to contain the new and old infrastructure within the same corridor and be located on the north-western side of the existing line. This was the stronger preference expressed in landowner feedback received by ElectraNet
- **achieves the lowest long-run cost for consumers** as it is the shortest, most direct route between its fixed connection points.

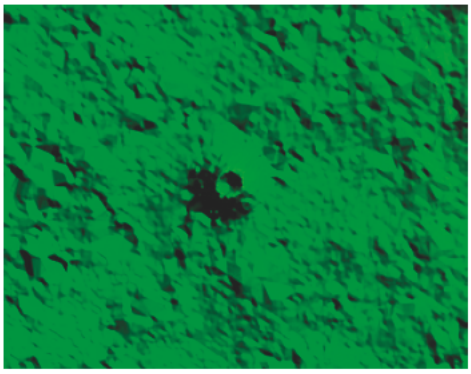
SECURING SUPPLY FOR THE EYRE PENINSULA

While load triggers for building the new transmission line are largely dependent on major projects such as mining, the existing line is near the end of its operational life and is likely to need replacement. ElectraNet will continue to actively monitor and test the line's condition and work on reinforcing the wider Eyre Peninsula transmission network. This reinforcement includes the augmentation of the Cultana substation, which is nearly complete, the replacement of the Whyalla substation with a new site, which was energised in June 2013, and extensive upgrades to internal equipment at the Yadnarie substation.

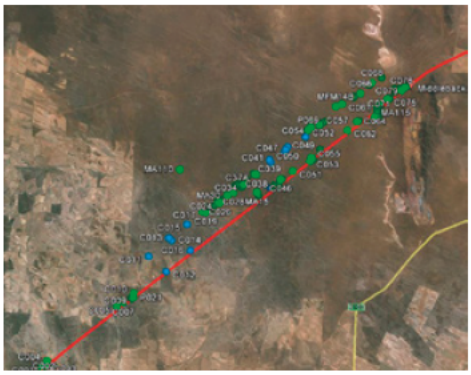
LiDAR TECHNOLOGY HELPS ENVIRONMENTAL SURVEYS

An airborne Light Detection and Ranging (LiDAR) survey was done to collect detailed information on the presence of a vulnerable species, the Malleefowl, in the proposed transmission line corridor. LiDAR uses a high-frequency laser scanner that records the time difference between when the laser pulses are sent out and when a reflected signal from the environment is received.

The use of LiDAR, which can penetrate tree canopies, has provided the most accurate understanding of Malleefowl mound occurrence and location. The results show the density of mounds increase with distance away from the transmission line corridor. This allows a more informed evaluation of the potential impact of the transmission line and ways to plan construction for the least possible impact.



Top: The detailed models created have been an invaluable tool for accurately identifying and locating Malleefowl mounds.



Middle and bottom: The middle map shows known Malleefowl mounds in a section of the study corridor near Middleback before the LiDAR survey. The bottom map shows known mounds mapped after the LiDAR survey.

Ongoing work in the southern section

ElectraNet has yet to identify a preferred route for the future replacement transmission line in the southern section between Yadnarie and Port Lincoln.

Further work needs to take place to explore constraints within the study corridor, including around White Flats and Boston (behind Port Lincoln), where relatively recent residential development has come much closer to the existing transmission line.

This will involve more detailed engineering studies to better understand potential line configurations, and will see further engagement with landowners and the wider community.

THE NEXT STEPS:

Q3 - Q4, 2014

- The identified route for the northern section between Cultana and Yadnarie is announced.
- Commence discussion about the identified route and easement negotiations with landowners.
- Continue further studies on the southern section between Yadnarie and Port Lincoln.

Q1, 2015

- Prepare and lodge statutory referral and approval documentation for northern section, seeking extended approval period of up to 10 years, to be ready to act should load or line condition triggers occur.

Post 2015

- Load or condition triggers -occur (timing unknown).
- Community is informed.
- Applicable planning, regulatory and funding approvals are obtained.
- Construction of new transmission line along acquired easement commences.
- On completion of new transmission line, old line may be de-energised and decommissioned (pending approval from the Australian Energy Regulator).

REINFORCING POWER TO THE Eyre Region

KEEP UP-TO-DATE

If you have any queries, feedback or would like to keep updated, please contact ElectraNet's Community Engagement Consultant at **community.liaison@electranet.com.au**, toll-free on **1800 890 376** or visit electranet.com.au. You may also write in to **PO Box 7096, Hutt Street Post Office, Adelaide SA 5000.**