

Stuart Substation Cable Upgrade Project Update



NETWORK

Part of Energy Queensland

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Overhead and underground we've got major upgrades underway throughout Townsville's Southern Suburbs

Stuart substation cable upgrades

Our project to replace three high-voltage 11,000-volt (11kV) cables connecting the Stuart Substation to supply the surrounding overhead network is well progressed.

Civil works to install cable conduits, run the new underground cables and install new poles and hardware on the overhead network, were completed in July.

During August our specialist underground team have been working at Stuart Substation to connect the new cables to the internal substation equipment. Each of the cables are carefully fed into the substation - see Figure 1 - where the teams measure and cut the cables to size and terminate them on the high voltage switch gear – see Figure 2.



Fig 1 - Our specialist underground crew installing the new cables that connect the substation to the local overhead electricity network.



Fig 2 - The underground crew connecting the cables in Stuart substation.

These upgrades will help to improve the reliability and security of the electricity supply for customers around Alligator Creek, Cape Cleveland, Cluden, Cungulla, Elliot Springs, Julago, Nome and Stuart.

The upgrades to the exit cables at Stuart substation are scheduled to be completed by the end of September.

Major maintenance program on the overhead electricity network

In conjunction with the cable upgrades at Stuart Substation, our overhead crews are taking to the skies to upgrade sections of the local overhead electricity network and deliver a massive maintenance program across the area.

New smart switches protect the network and provide flexibility

We've recently completed the installation of two new automatic switches at Alligator Creek - one at Allendale Drive and a second adjacent to Tindall Court - see Figure 3.



Fig 3 - Local overhead crew installing a new gas switch at Alligator Creek

These smart network protection devices help to make the network safe and limit network damage when there's a fault.

The switches also give our teams more flexibility when operating the network, allowing us to shift loads and reduce the number of customers affected by an outage, whether it is planned or unplanned.

Cross Arm and Conductor Replacement Program

As well as installing the smart switches on the network, the teams have commenced a massive program to replace around 80 high voltage cross arms and hundreds of metres of powerline on the Stuart No 2 and No 5 feeders that supply multiple areas, including Alligator Creek, Cluden, Elliot Springs, Julago, Nome and Stuart - see Figure 4.

While this maintenance program and network upgrades are great for reliability, we understand that completing this level of maintenance on the network increases planned outages.

We are doing everything in we can to plan and bundle the work to limit the number, and duration of outages.

That includes, where its' safe and practical to do so, using our specialist live line teams to complete a range of maintenance tasks.



Fig 4- Local overhead crews completing maintenance including replacing crossarms, conductor, insulators, and other hardware.

Working live line on these high voltage powerlines is highly specialised, complicated, and dangerous work. Our live line teams, along with experienced crane operators, work in tandem to release the 66,000-volt (66kV) powerlines from the crossarms, lifting them away, to provide a safe working environment around the pole for the team to replace the crossarms and hardware - see Figure 5.

This work is all completed without turning off the power to the 66kV powerlines or the 11kV powerlines below them.



Fig 5 - Bringing in the big guns - a large crane was bought in to lift the live 66,000-volt powerline clear of crews while they replace cross arms at Alligator Creek.

We're also bringing in extra crews to simultaneously complete maintenance activities on multiple sections of powerline, to do more work in a single outage, like these jobs at Cape Ferguson that were completed in July and August – see Figure 6.

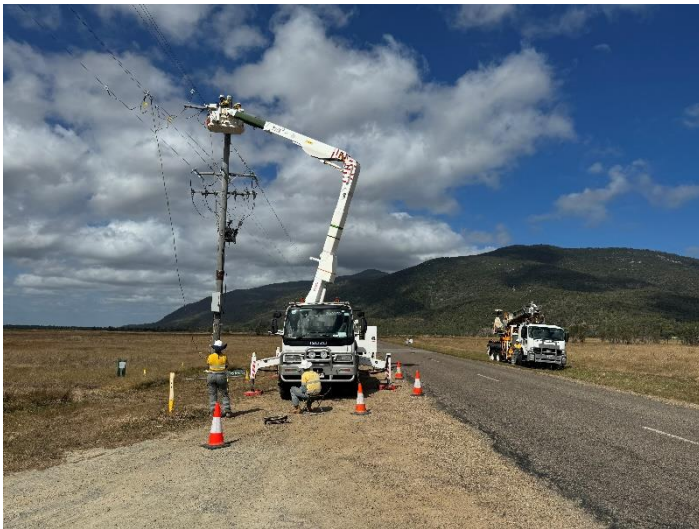


Fig 6 – Multiple crews work in tandem to complete maintenance and network upgrades.

But wait, there's more!

We've completed a mammoth amount of work over the past few months, but we've got more upgrades planned for the overhead network in the area.

The last of our major planned upgrades for the year will be focussed on the network around Julago.

As part of this work, we will be increasing network protection and flexibility by installing a new automatic switch and a remote switch.

We will also be installing a new voltage regulator and upgrading the existing voltage regulator at Julago to help improve the quality of the electricity supply.

We are aiming to complete this work by the end of the year helping to increase network reliability and improve the quality of electricity supply before the next storm season.

Getting in touch with us

To keep up to date on the project, provide feedback, or to **register for future updates via email or SMS**, simply visit our project webpage www.ergon.com.au/stuart-sub-project or scan the QR code.



You can also contact our Senior Community Engagement Advisor, Kate Austin on 1300 653 055 or email us at: NetworkProjectEngagement@energyq.com.au

