

PBSC Update

Powercor REFCL Program

June 2019
Steven Neave
GM Electricity Networks

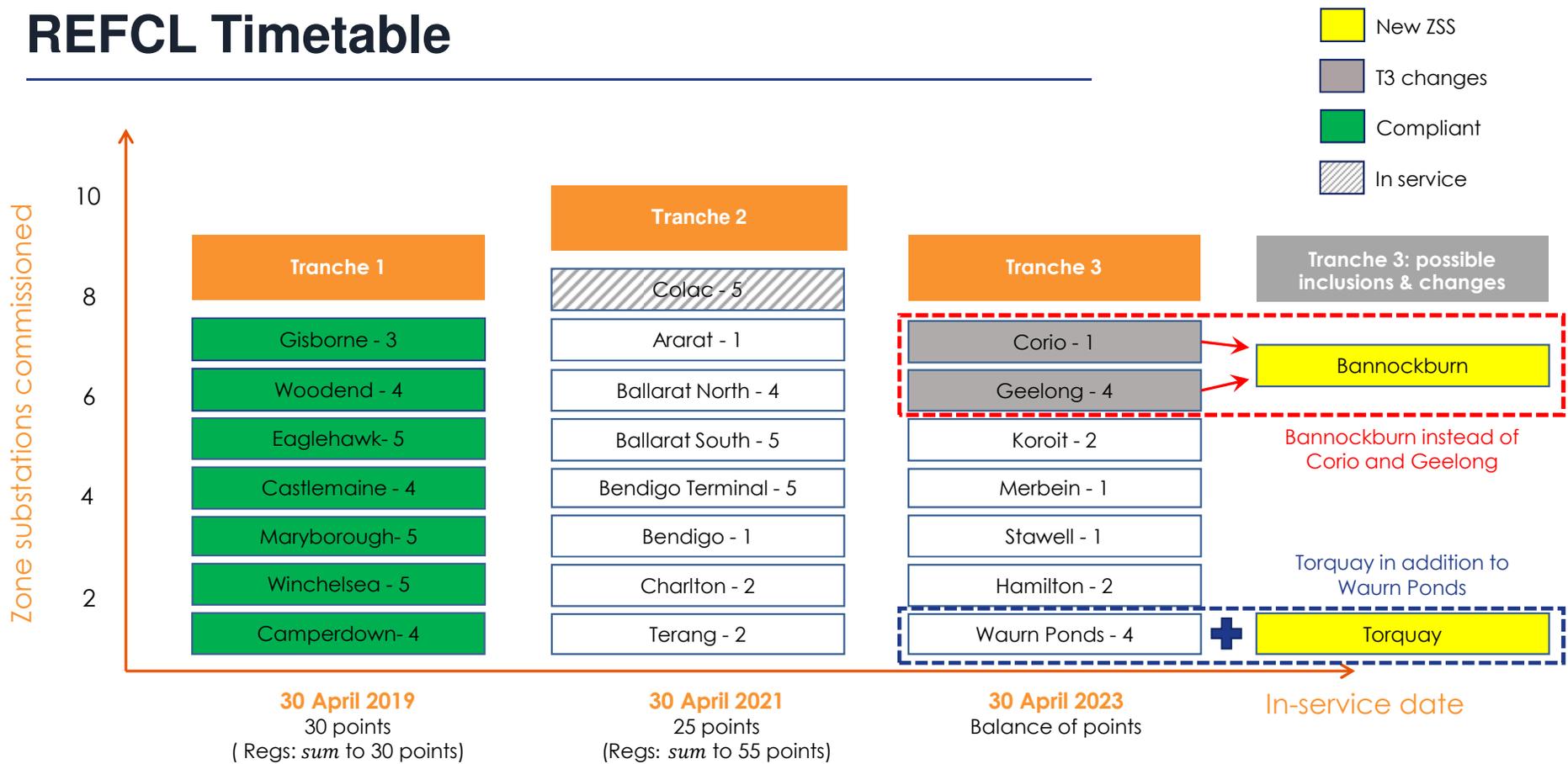


Contents

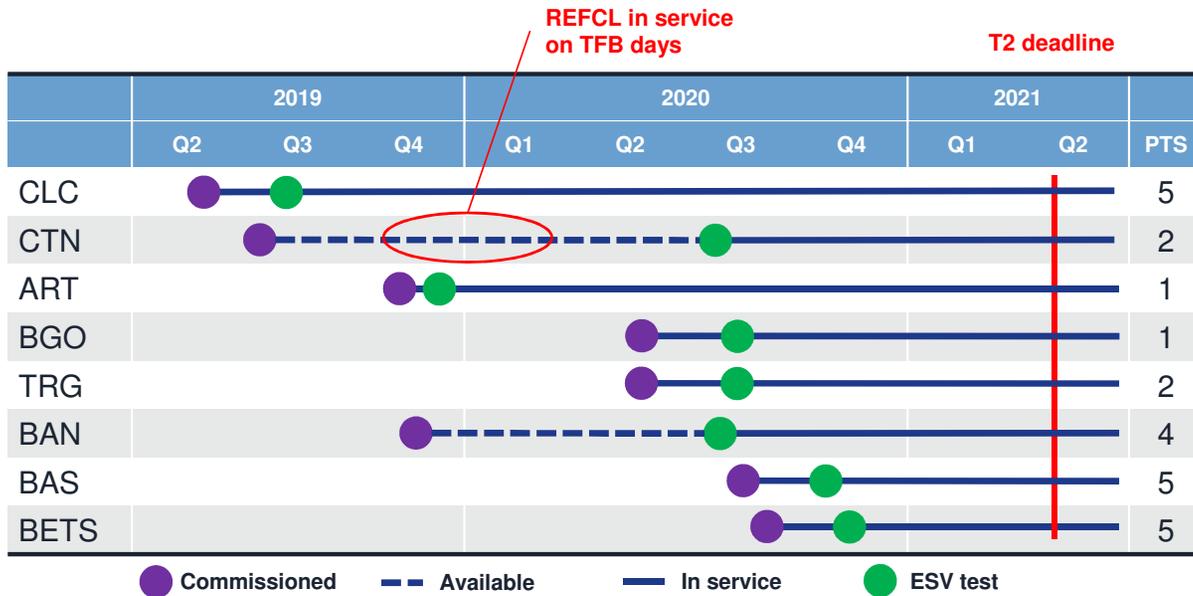
1. REFCL Timetable
2. REFCL T2 Deployment
3. REFCL Performance update
4. REFCL General update
5. SWER ACR Deployment status
6. Powerline Replacement Fund



REFCL Timetable



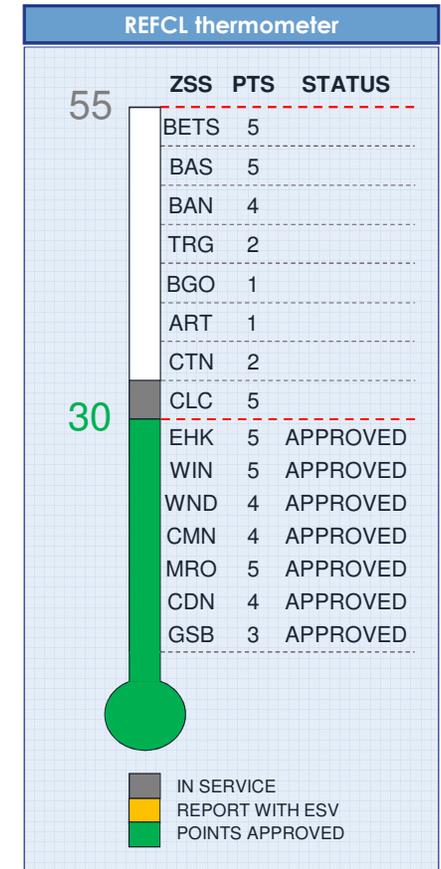
REFCL Deployment timetable – Tranche 2



Powercor has recently placed Colac into service.

We plan to commission three further REFCLs this year: CTN, ART and BAN.

Placing them into service is reliant on HVCs being ready.



REFCL Performance update

Calibration	Harmonics and voltage collapse
<p>Swedish Neutral have provided a beta firmware which shows promise.</p> <p>The output of the RCC is adjusted during compensation to further reduce busbar voltage.</p> <p>This is expected to resolve compliance conditions surrounding calibration and lessen the impact of high harmonic voltages with respect to the 250V threshold.</p> <p>Further development is needed as the function currently takes a few seconds. Powercor has provided suggested improvements to Swedish Neutral on May 9th.</p>	<p>Powercor had minimal harmonic impact on compliance.</p> <p>To understand harmonic reduction options, Powercor is:</p> <ul style="list-style-type: none">• Working with a consultant to analyse the MRO network and identify mitigating options• Explore the GFN's ability to compensate for harmonic voltages <p>We have provided much network data to our consultant to assist with their diagnosis.</p>
Admittance measurement	Inverter tripping
<p>After the first attempted improvement didn't fully resolve the issue, Swedish Neutral have provided another beta firmware (SVN520). Resolution of this problem remains an iterative process.</p> <p>This has been trialled in the fault-free state, demonstrating stable admittance measurements. As a result Powercor undertook additional primary fault tests at Eaglehawk with encouraging results.</p> <p>We have requested a full firmware release from Swedish Neutral, incorporating additional fixes and enhancements. This version will be deployed and tested during annual compliance testing commencing next month.</p>	<p>Powercor (and AusNet) believes a wiring change has resolved this issue.</p> <p>The change tested well during commissioning at Colac, has been trialled at Woodend and has been implemented at Eaglehawk.</p> <p>The resolution of this issue will be demonstrated during annual compliance testing commencing next month.</p>

REFCL general update

Asset Resilience results

- We are encountering higher than expected cable failure rates during resilience testing at Ballarat North (BAN) zone substation

Bushfire Mitigation Plan

- Powercor proposes to update our BMP to reflect our TFB day approach to HVCs

Contingent Project Application

- Powercor is preparing its Contingent Project Application to the AER for Tranche 3
- The application will be submitted on August 23rd

SWER ACR status

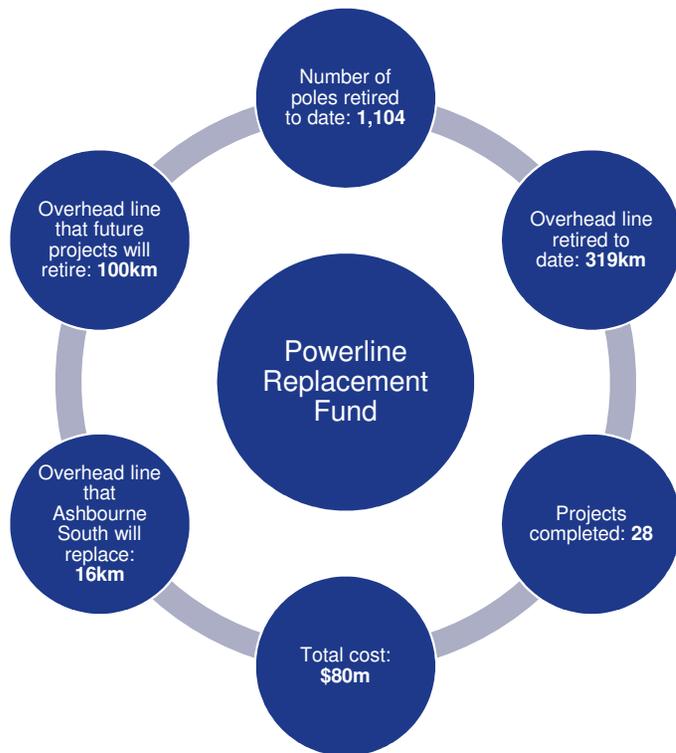
A total of 1,045 SWER systems are to be protected with new functionality ACRs



94 ACRs have been installed in 2019 with 312 remaining to complete the program this year.



Powerline Replacement



Commentary

- The Ashbourne South project commenced construction in May 2019. Completion is anticipated in October 2019.
- Fogarty and Coliban 1 were completed in April 2019. These 2 projects installed 70km of new cable and retired 55km of overhead line.
- Powercor will be completing further powerline replacement works where a total of 100km of overhead line will be retired by the end of 2020.