

# PBSC Update

## Powercor REFCL Program

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September 2018  
Steven Neave  
GM Electricity Networks

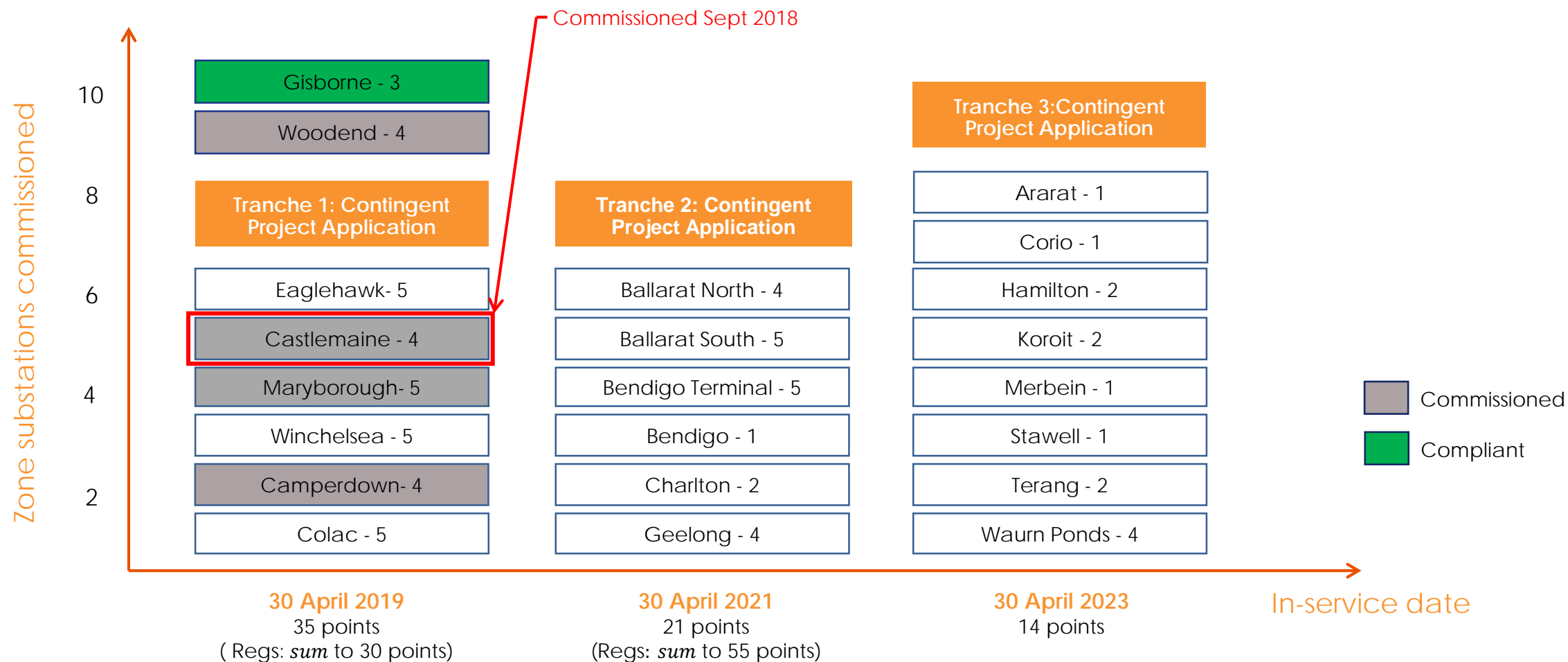


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# REFCL Timetable



# REFCL Implementation Update

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## Gisborne

- Gisborne zone substation meets the definition of a *complying substation*

## Tranche One schedule (subject to change)

- REFCLs are in service at Woodend, Camperdown, Maryborough and Castlemaine
- Compliance testing commences today at Camperdown, then Maryborough from October 1<sup>st</sup> and Castlemaine from October 15<sup>th</sup>
- Winchelsea will be commissioned at the end of October with compliance testing to follow approximately 4 weeks later
- Compliance testing at Woodend is planned for early November
- Eaglehawk and Colac will follow

# REFCL Performance issues update

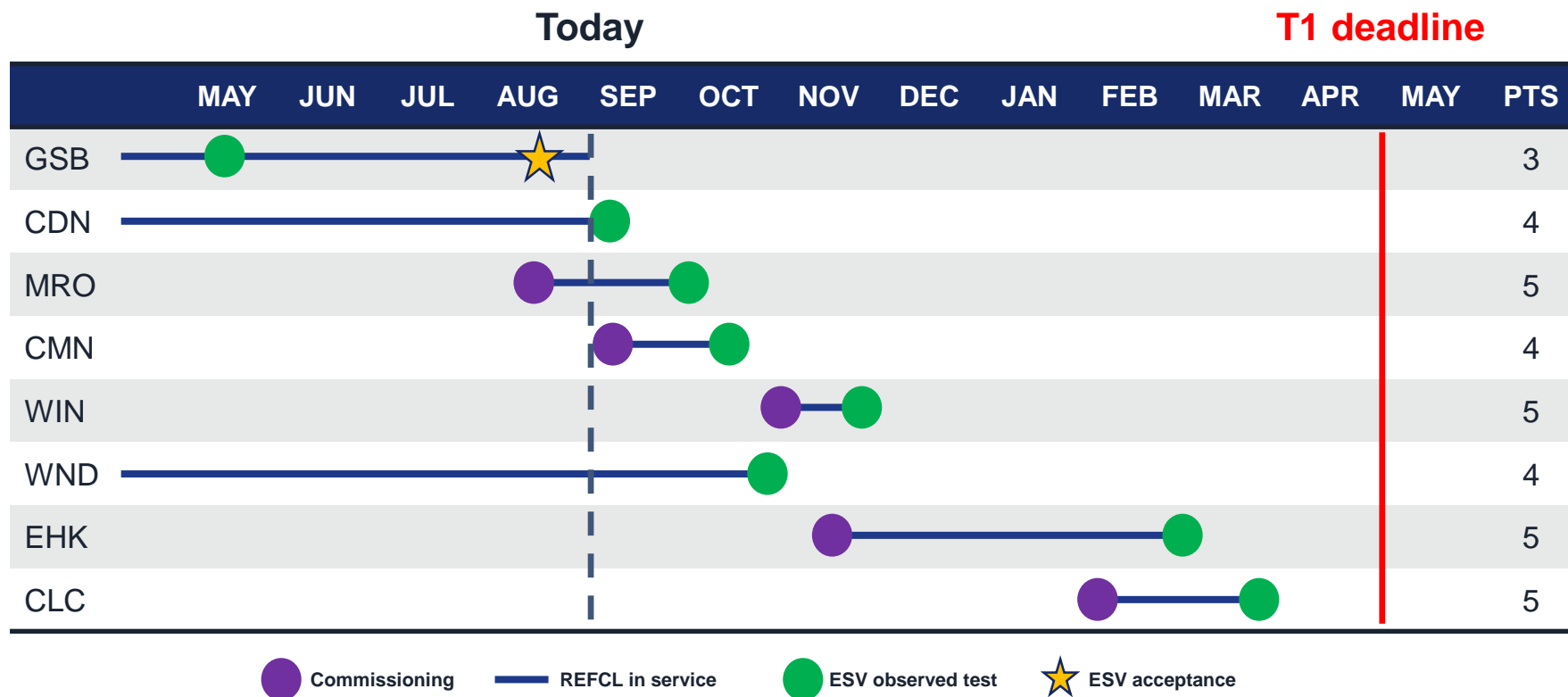
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Last update we spoke about REFCL performance issues. Since then the following has transpired:

- Swedish Neutral have developed and tested updated firmware and software
- Powercor has completed limited testing at Camperdown and will test further at Castlemaine

Powercor has also introduced an additional supervising protection scheme at all our sites. This was a result of the voltage excursion we experienced during calibration at Camperdown in April this year.

# REFCL Deployment timetable – Tranche 1



Powercor will be attempting to bring forward timeline for Eaglehawk and Colac zone substations.

# REFCL Commissioning timetable – Tranches 2 & 3

Zone Substation	HVC	2019				2020				2021				2022				2023	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Charlton	4																		
Bendigo	3																		
Ararat	1																		
Ballarat North	9																		
Bendigo Terminal	4																		
Terang	1																		
Ballarat South	4																		
Hamilton	1																		
Waurin Ponds	4																		
Geelong	1																		
Stawell	2																		
Koriot	4																		
Corio	6																		
Merbein	2																		

# Tranche 1 HV Customers

Zone Sub	Feeder	Customer	Option	6MVA	3MVA	LV	Other	Status
Camperdown	CDN001	Fonterra	Transfer to adjacent station				Cobden	
Castlemaine	CMN005	George Western Foods (Main Factory)	Shared Isolation Substation	1				In service
Castlemaine		George Western Foods (Secondary Factory)						
Castlemaine	CMN005	Flowserve (Hunter St)	Shared Isolation Substation	1				In service
Castlemaine		Flowserve (Parker St)						
Castlemaine	CMN004	AGL Hydro	TBA (temporary option in place)		→		TBA	
Eaglehawk	EHK021	Keech Castings	Shared Isolation Substation	1				
Eaglehawk		Motherson Elastomers						
Eaglehawk	EHK031	Coliban Water 1	Single Isolation Substations		1			Delivered
Eaglehawk	EHK022	Coliban Water 2			1			
Eaglehawk	EHK022	Hofmann Engineering	Shared Isolation Substation		1			
Eaglehawk		Thales Australia						
Eaglehawk	EHK033	Southern Shorthaul Railroad	LV conversion			1		
Eaglehawk	EHK033	Parmalat Australia	Single Isolation Substation		1			
Eaglehawk	EHK034	Bendigo Health Care	Single Isolation Substation	1				
Colac	CLC011	Regal Cream Products (East Fdr)	Single Isolation Substation	1	←			
Colac		Regal Cream Products (West Fdr)						
Colac	CLC011	AKD Softwoods (7-15 Forrest St)	Network hardening				Harden	
Colac	CLC003	AKD Softwoods (Warrowie Rd)	Single Isolation Substation		1			
Colac	CLC003	Australian Lamb Company	Single Isolation Substation		1			
Colac	CLC003	Regal Cream Products (Lot 2 Forrest St)	Single Isolation Substation		1			



# George Weston Foods Isolation substation



# Tranche 1 Exemption requests

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Powercor has submitted Tranche 1 exemption applications for:

- The PAL lines connecting our applicable HV customer sites to their isolating substations
- Two sections of underground cable (total 53.5km) ex-Winchelsea zone substation funded through the Powerline Replacement Fund

The HV customer site exemptions are spread across three zone substations and fourteen sites.

These applications were submitted on June 7<sup>th</sup>.

As per the meeting agenda these exemptions have been referred to the Powerline Bushfire Safety Committee for advice.

# HV Customers

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The ESC finalised their **Review of Voltage Standards for Bushfire Mitigation** on 14<sup>th</sup> August.

To confirm that our customers are aware of the changes, Powercor held a HV customer forum on September 5<sup>th</sup>, where we presented on the code changes and the REFCL program. ESV attended and presented on HV customers' obligations. DELWP attended and delivered a presentation on the HCAP scheme. Forty-one (41) HV customers representatives attended.

We impressed upon HV customers that they must:

- Assess their assets and identify an appropriate REFCL option
- Obtain any necessary approvals (such as ESV approval for isolation)
- Implement their chosen option in accordance with our program timelines

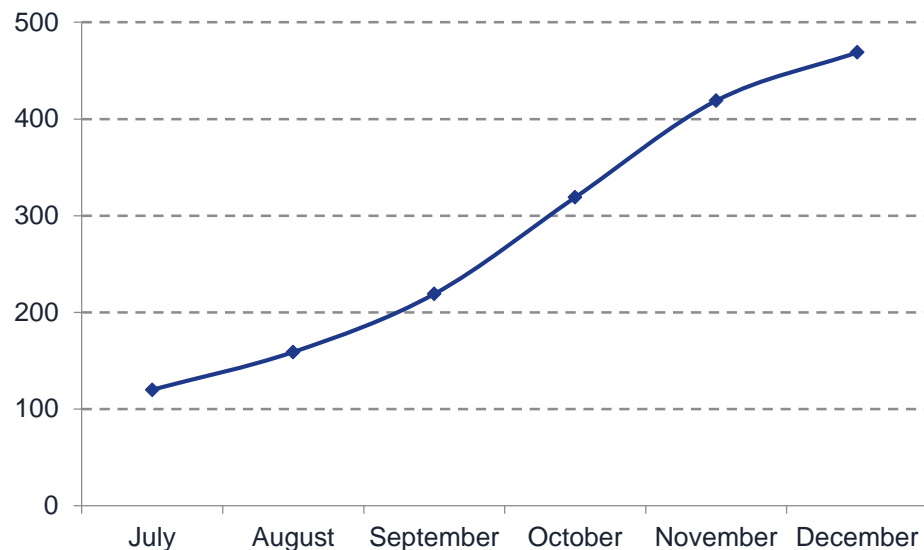
The content was well received and understood. A majority of comments and questions were on costs (for isolation solutions), REFCL testing, program timing and funding.

# SWER ACR status

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

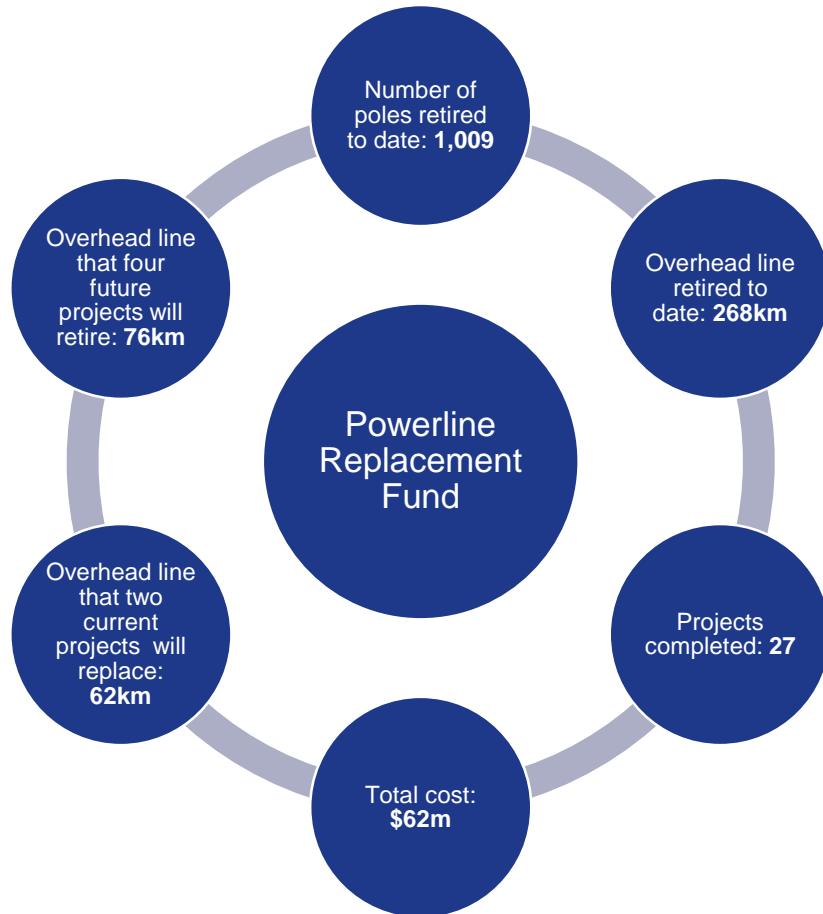


We have committed to install 350 ACRs this year. We are currently forecasting to exceed that.





# Powerline Replacement



## Commentary

- Negotiations continue with ESV around the use of hybrid underground.
- Powercor is not proceeding with LoSag conductor. It has been deemed unsuitable.
- As per our BMP, Powercor has retired approximately 70km of bare conductor in ELCA.

