2020 Compliance Report

Legislated Bushfire Mitigation Programs

Contents

1 Overview

Section 120P of the *Electricity Safety Act 1998* (Vic)[1] (**the Act**) requires Major Electricity Companies (**MECs**), to submit an annual compliance report to Energy Safe Victoria **(ESV)** before 1 August each year, commencing 1 August 2018.

The MEC must include in the report, details of works completed over the previous reporting period and works planned for the next reporting period in relation to the following legislated bushfire mitigation programs:

- Installation of Rapid Earth Fault Current Limiter (**REFCL**) technology within twenty-two of AusNet Services' zone substations by 1 May 2023, (section 120M of the Act);
- Installation of insulated or covered high voltage (1kV-22kV) for any new or replacement of >3 consecutive spans of powerlines within 'electric line construction areas' (**ELCA**), (section 120N of the Act); and
- Installation of remote-controlled Automatic Circuit Reclosers (**ACRs**) on all Single Wire Earth Return (**SWER**) systems, (section 120O of the Act).

This Compliance Report contains the information and presentation in the form required by ESV's 'Specification for S120P Annual Compliance Reports'

AusNet Electricity Services Pty Ltd **(AusNet Services)**, the licence holder for the distribution network, is the MEC responsible for preparation and submission of this Compliance Report.

2 Reporting period

The reporting period means the year beginning 1 May and ending the following 30 April.

This compliance report covers the following reporting periods:

- Reporting period (actual works): 1 May 2019 to 30 April 2020; and
- Next reporting period (planned works): 1 May 2020 to 30 April 2021

[1] Authorised version No. 077 (Authorised Version incorporating amendments as at 1 January 2020)

3 Rapid Earth Fault Current Limiters

3.1 Context

The *Electricity Safety (Bushfire Mitigation) Regulations 2013* (**Bushfire Mitigation Regulations**) prescribe the zone substations in which REFCL technology is to be implemented by 1 May 2023.

Schedule 2 of the Bushfire Mitigation Regulations assigns points to each of the selected zone substations.

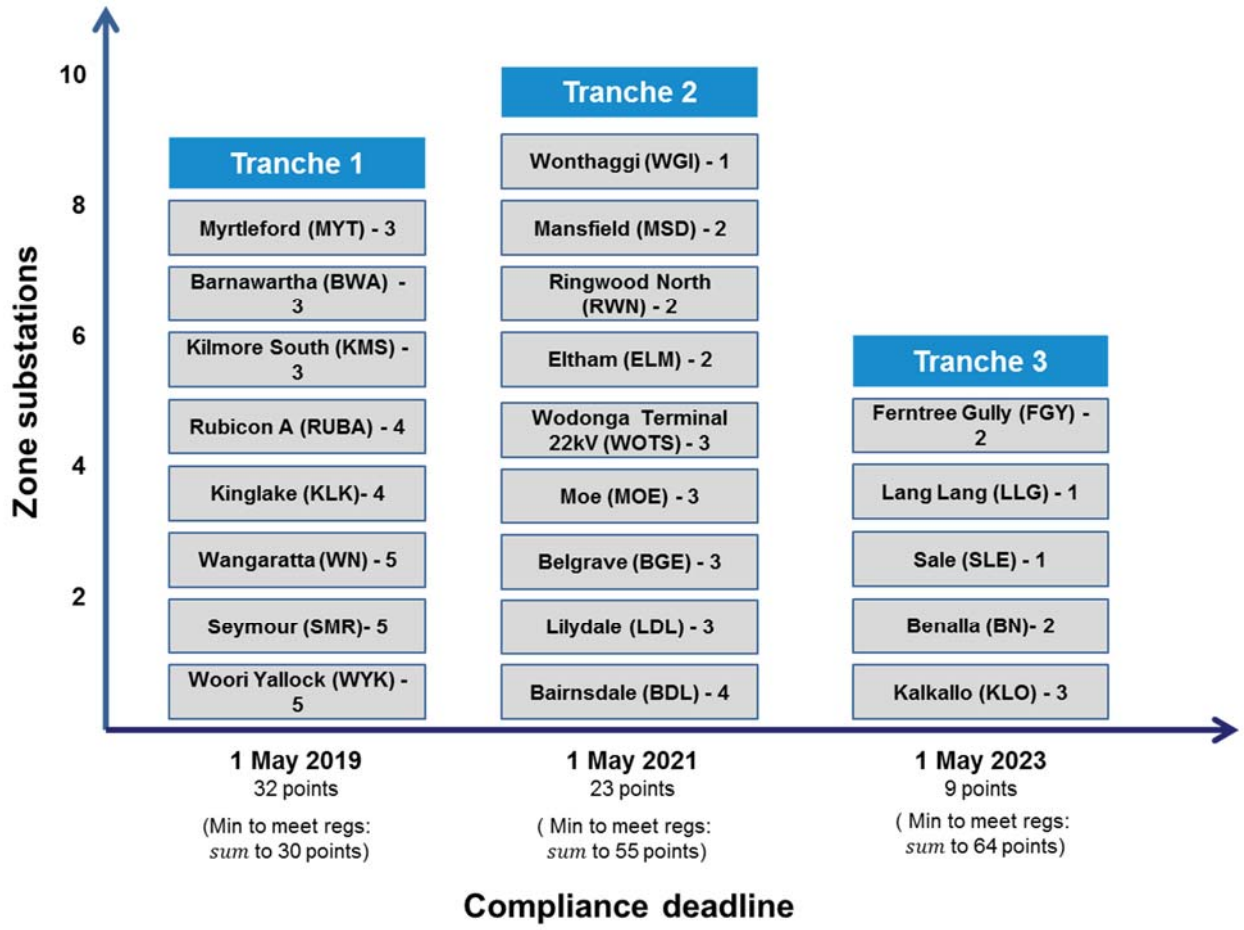
The Bushfire Mitigation Regulations require AusNet Services to ensure:

- at 1 May 2019, the points set out in Schedule 2 in relation to each zone substation upgraded, when totalled, are not less than 30;
- at 1 May 2021, the points set out in Schedule 2 in relation to each zone substation upgraded, when totalled, are not less than 55; and
- on and from 1 May 2023, each polyphase electric line originating from every AusNet Services zone substation specified in Schedule 2 has the required capacity.

Accordingly, the AusNet Services REFCL Program has been structured into three separate tranches in order to achieve the 'points' requirement by the mandated dates.

The following figure shows the specified zone substations by tranche.

Figure 1: Overview of AusNet Services REFCL Program Tranches



Source: AusNet Services

3.2 REFCL Program Status as at 30 April 2020

The tables below contain information, in the prescribed form, for the zone substations requiring REFCL implementation in Tranches 1, 2 and 3.

Each of following tables provides an implementation status as at 30 April 2020.

3.2.1 Tranche 1: Barnawartha (BWA) Zone Substation

BWA REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	01/10/2016	100%	10%
	Business Case approval	03/11/2016		
Design	Design commenced	01/01/2017	100%	15%
	Design complete	21/11/2017		
Procurement	Number of REFCL units required	1		
	REFCL order placed	14/02/2017	100%	10%
	REFCL delivered to site	20/07/2017		
Construction - Lines	Line works commenced	10/12/2016	100%	20%
	Line works complete	27/06/2018		
Construction - Stations	Station works commenced	07/04/2017	100%	20%
	Station works complete	09/10/2017		
Construction - Third Party	Number of affected HV Customer Connections	2		
	HV customer works commenced	01/04/2018	100%	10%
	HV customer works complete	06/11/2018		
Testing / Commissioning	REFCL testing / commissioning commenced	06/11/2017	100%	10%
	REFCL commissioned and operable	13/11/2017		
Close Out	REFCL at "required capacity"[2]	13/12/2018	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -36°10556 latitude, 146°67345 longitude.

[2] Confirmed by ESV as a complying substation on 22 December 2019. ESV observed 2020 Annual Validation Testing scheduled to commence on 24 August 2020.

3.2.2 Tranche 1: Kinglake (KLK) Zone Substation

KLK REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	03/04/2017	100%	10%
	Business Case approval	11/05/2017		
Design	Design commenced	15/05/2017	100%	15%
	Design complete	30/06/2018		
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/06/2017	100%	10%
	REFCL delivered to site	21/05/2018		
Construction - Lines	Line works commenced	19/06/2017	100%	20%
	Line works complete	23/01/2019		
Construction - Stations	Station works commenced	24/10/2017	100%	20%
	Station works complete	18/03/2019		
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	18/03/2019	100%	10%
	REFCL commissioned and operable	04/04/2019		
Close Out	REFCL at "required capacity"		90%[3]	5%
Total Weighted Percentage Complete			90%	

This zone substation is located at -37°51440 latitude, 145°31615 longitude.

[3] As a result of high delta admittance, harmonics and damping-related technical issues, compliance with the performance criteria was unable to be demonstrated by the 1 May 2019 Tranche 1 compliance deadline. On 21 November 2019, the Director of ESV granted an extension of time to 29 April 2021.

3.2.3 Tranche 1: Kilmore South (KMS) Zone Substation

KMS REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	03/04/2017	100%	10%
	Business Case approval	11/05/2017		
Design	Design commenced	04/08/2017	100%	15%
	Design complete	30/06/2018		
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/06/2017	100%	10%
	REFCL delivered to site	01/06/2018		
Construction - Lines	Line works commenced	01/06/2017	100%	20%
	Line works complete	17/09/2018		
Construction - Stations	Station works commenced	01/05/2018	100%	20%
	Station works complete	31/08/2018		
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	01/06/2018	100%	10%
	HV customer works complete	21/12/2018		
Testing / Commissioning	REFCL testing / commissioning commenced	23/08/2018	100%	10%
	REFCL commissioned and operable	21/12/2018		
Close Out	REFCL at "required capacity"	22/03/2019[4]	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -37°31798 latitude, 144°97174 longitude.

[4] Confirmed by ESV as a complying substation on 22 December 2019. Following the successful completion of the 2020 Annual Validation Testing in March 2020, ESV confirmed that KMS remains a complying substation on 28 April 2020.

3.2.4 Tranche 1: Myrtleford (MYT) Zone Substation

MYT REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	03/04/2017	100%	10%
	Business Case approval	11/05/2017		
Design	Design commenced	05/06/2017	100%	15%
	Design complete	27/04/2017		
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/06/2017	100%	10%
	REFCL delivered to site	22/06/2018		
Construction - Lines	Line works commenced	05/08/2017	100%	20%
	Line works complete	30/10/2018		
Construction - Stations	Station works commenced	03/01/2017	100%	20%
	Station works complete	09/11/2018		
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	04/11/2018	100%	10%
	REFCL commissioned and operable	21/12/2018		
Close Out	REFCL at "required capacity"	20/02/2019[5]	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -36°55745 latitude, 146°72525 longitude.

[5] Confirmed by ESV as a complying substation on 22 December 2019. ESV observed 2020 Annual Validation Testing is scheduled to commence on16 September 2020.

3.2.5 Tranche 1: Rubicon A (RUBA) Zone Substation

RUBA REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	01/10/2017	100%	10%
	Business Case approval	03/11/2017		
Design	Design commenced	01/01/2017	100%	15%
	Design complete	30/04/2018		
Procurement	Number of REFCL units required	1		
	REFCL order placed	06/02/2017	100%	10%
	REFCL delivered to site	15/09/2017		
Construction - Lines	Line works commenced	22/08/2017	100%	20%
	Line works complete	30/11/2018		
Construction - Stations	Station works commenced	22/08/2017	100%	20%
	Station works complete	30/11/2017		
Construction - Third Party	Number of affected HV Customer Connections	3		
	HV customer works commenced	01/04/2018	100%	10%
	HV customer works complete[6]	16/03/2019		
Testing / Commissioning	REFCL testing / commissioning commenced	20/11/2017	100%	10%
	REFCL commissioned and operable	27/03/2019		
Close Out	REFCL at "required capacity"	27/03/2019[7]	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -37°29287 latitude, 145°81850 longitude.

6 AGL has elected to harden their HV electrical assets to withstand REFCL operations. AGL assets were disconnected from supply in September 2019 to enable the RUBA REFCL to be placed into service.

7 Confirmed by ESV as a complying substation on 22 December 2019. Following the successful completion of the 2020 Annual Validation Testing in March 2020, ESV confirmed that RUBA remains a complying substation on 6 May 2020.

3.2.6 Tranche 1: Seymour (SMR) Zone Substation

SMR REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	03/04/2017	100%	10%
	Business Case approval	11/05/2017		
Design	Design commenced	18/05/2017	100%	15%
	Design complete	25/07/2018		
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2017	100%	10%
	REFCL delivered to site	29/06/2018		
Construction - Lines	Line works commenced	12/09/2017	100%	20%
	Line works complete	10/05/2019		
Construction - Stations	Station works commenced	23/10/2017	100%	20%
	Station works complete	10/12/2018		
Construction - Third Party	Number of affected HV Customer Connections	2		
	HV customer works commenced	01/04/2018	100%	10%
	HV customer works complete	14/12/2018		
Testing / Commissioning	REFCL testing / commissioning commenced	10/12/2018	100%	10%
	REFCL commissioned and operable	26/04/2019		
Close Out	REFCL at "required capacity"	21/02/2019[8]	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -37°02548 latitude, 145°14068 longitude.

[8] Confirmed by ESV as a complying substation on 22 December 2019. ESV observed 2020 Annual Validation Testing is scheduled to commence on 31 August 2020.

3.2.7 Tranche 1: Wangaratta (WN) Zone Substation

WN REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	03/04/2017	100%	10%
	Business Case approval	11/05/2017		
Design	Design commenced	31/07/2017	100%	15%
	Design complete	17/07/2018		
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2017	100%	10%
	REFCL delivered to site	29/05/2018		
Construction - Lines	Line works commenced	01/08/2017	100%	20%
	Line works complete	12/12/2018		
Construction - Stations	Station works commenced	08/01/2018	100%	20%
	Station works complete	11/12/2018		
Construction - Third Party	Number of affected HV Customer Connections	2		
	HV customer works commenced	01/04/2018	100%	10%
	HV customer works complete	12/12/2018		
Testing / Commissioning	REFCL testing / commissioning commenced	07/12/2018	100%	10%
	REFCL commissioned and operable	01/04/2019		
Close Out	REFCL at "required capacity"[9]	02/04/2019	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -36°35744 latitude, 146°31022 longitude.

[9] Confirmed by ESV as a complying substation on 22 December 2019. ESV observed 2020 Annual Validation Testing is scheduled to commence on 7 September 2020.

3.2.8 Tranche 1: Woori Yallock (WYK) Zone Substation

WYK REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	03/04/2017	100%	10%
	Business Case approval	11/05/2017		
Design	Design commenced	01/03/2017	100%	15%
	Design complete	28/02/2018		
Procurement	Number of REFCL units required	2		
	REFCL order placed	27/03/2017	100%	10%
	REFCL delivered to site	21/09/2017		
Construction - Lines	Line works commenced	15/05/2017	100%	20%
	Line works complete	27/06/2018		
Construction - Stations	Station works commenced	08/09/2017	100%	20%
	Station works complete	21/11/2017		
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	n/a[10]	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	07/12/2017	100%	10%
	REFCL commissioned and operable	05/12/2018		
Close Out	REFCL at "required capacity"[11]		90%	5%
Total Weighted Percentage Complete			90%	

This zone substation is located at -37°77634 latitude, 145°52933 longitude.

10 HV customer hardened their assets and signed a connection agreement variation on 11 December 2017. No HV customer works were undertaken by AusNet Services.

11 As a result of harmonics and damping-related technical issues, a few tests failed to demonstrate compliance with the performance criteria in early April 2019. On 21 November 2019, the Director of ESV granted an extension of time to1 November 2020..

3.2.9 Tranche 2: Wonthaggi (WGI) Zone Substation

WGI REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	03/04/2017	100%	10%
	Business Case approval	11/05/2017		
Design	Design commenced	15/05/2017	100%	15%
	Design complete	30/06/2018		
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/06/2017	100%	10%
	REFCL delivered to site	31/12/2018		
Construction - Lines	Line works commenced	15/09/2017	100%	20%
	Line works complete	19/09/2019		
Construction - Stations	Station works commenced	11/12/2017	100%	20%
	Station works complete	12/09/2019		
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	01/4/2018	100%	10%
	HV customer works complete	20/07/2019		
Testing / Commissioning	REFCL testing / commissioning commenced	30/09/2019	100%	10%
	REFCL commissioned and operable	27/11/2019[12]		
Close Out	REFCL at "required capacity"	20/03/2020	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -38°60885 latitude, 145°58860 longitude.

[12] Confirmed by ESV as a complying substation on 5 May 2020.

3.2.10 Tranche 2: Ringwood North (RWN) Zone Substation

RWN REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	10/07/2017	100%	10%
	Business Case approval	17/04/2018		
Design	Design commenced	18/10/2018	100%	15%
	Design complete	29/11/2019		
Procurement	Number of REFCL units required	1		
	REFCL order placed	16/11/2018	100%	10%
	REFCL delivered to site	08/11/2019		
Construction - Lines	Line works commenced	01/01/2019	64%	20%
	Line works complete			
Construction - Stations	Station works commenced	18/06/2019	93%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	15/04/2020	2%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
			67%	

This zone substation is located at -37°79260 latitude, 145°23449 longitude.

3.2.11 Tranche 2: Wodonga Terminal Station (WOTS)

WOTS REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	24/08/2017	100%	10%
	Business Case approval	03/05/2018		
Design	Design commenced	15/07/2018	99%	15%
	Design complete			
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	75%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	01/01/2019	33%	20%
	Line works complete			
Construction - Stations	Station works commenced	02/08/2019	54%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	5		
	HV customer works commenced	01/07/2018	59%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			56%	

This zone substation is located at -36°15439 latitude, 146°94682 longitude.

3.2.12 Tranche 2: Lilydale (LDL) Zone Substation

LDL REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	31/07/2017	100%	10%
	Business Case approval	26/02/2018		
Design	Design commenced	15/06/2018	100%	15%
	Design complete	19/02/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	16/11/2018	100%	10%
	REFCL delivered to site	03/12/2019		
Construction - Lines	Line works commenced	01/01/2019	53%	20%
	Line works complete			
Construction - Stations	Station works commenced	02/09/2019	88%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	5		
	HV customer works commenced	01/07/2018	43%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced	01/04/2020	4%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			68%	

This zone substation is located at -37°76339 latitude, 145°35840 longitude.

3.2.13 Tranche 2: Mansfield (MSD) Zone Substation

MSD REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	100%	10%
	Business Case approval	04/02/2019		
Design	Design commenced	14/03/2019	100%	15%
	Design complete	19/02/2020		
Procurement	Number of REFCL units required	1		
	REFCL order placed	16/11/2018	100%	10%
	REFCL delivered to site	4/12/2020		
Construction - Lines	Line works commenced	25/03/2019	48%	20%
	Line works complete			
Construction - Stations	Station works commenced	26/08/2019	100%	20%
	Station works complete	16/04/2020		
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	17/02/2020	11%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			76%	

This zone substation is located at -37°05458 latitude, 146°08802 longitude.

3.2.14 Tranche 2: Belgrave (BGE) Zone Substation

BGE REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	01/08/2017	100%	10%
	Business Case approval	25/06/2018		
Design	Design commenced	01/09/2018	100%	15%
	Design complete	20/03/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	16/11/2018	100%	10%
	REFCL delivered to site	05/02/2020		
Construction - Lines	Line works commenced	01/01/2019	49%	20%
	Line works complete			
Construction - Stations	Station works commenced	02/09/2019	75%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	4		
	HV customer works commenced	01/07/2018	46%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			64%	

This zone substation is located at -37°93056 latitude, 145°36096 longitude.

3.2.15 Tranche 2: Moe (MOE) Zone Substation

MOE REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	08/08/2017	100%	10%
	Business Case approval	03/05/2018		
Design	Design commenced	01/07/2018	100%	15%
	Design complete	01/04/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	75%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	01/01/2019	31%	20%
	Line works complete			
Construction - Stations	Station works commenced	30/10/2019	52%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	5		
	HV customer works commenced	01/07/2018	58%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			55%	

This zone substation is located at -38°18424 latitude, 146°25908 longitude.

3.2.16 Tranche 2: Eltham (ELM) Zone Substation

ELM REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	01/08/2017	100%	10%
	Business Case approval	03/05/2018		
Design	Design commenced	01/09/2018	100%	15%
	Design complete	16/03/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	75%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	18/01/2019	39%	20%
	Line works complete			
Construction - Stations	Station works commenced	16/10/2019	26%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	3		
	HV customer works commenced	01/07/2018	15%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			47%	

This zone substation is located at -37°71675 latitude, 145°13881 longitude.

3.2.17 Tranche 2: Bairnsdale (BDL) Zone Substation

BDL REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	26/07/2017	100%	10%
	Business Case approval	08/03/2018		
Design	Design commenced	01/07/2018	94%	15%
	Design complete			
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	100%	10%
	REFCL delivered to site	18/03/2020		
Construction - Lines	Line works commenced	01/01/2019	23%	20%
	Line works complete			
Construction - Stations	Station works commenced	22/11/2019	33%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	01/07/2018	28%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			58%	

This zone substation is located at -37°82537 latitude, 147°61261 longitude.

3.2.18 Tranche 3: Ferntree Gully (FGY) Zone Substation

FGY REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	31/07/2017	100%	10%
	Business Case approval	03/05/2018		
Design	Design commenced	01/07/2018	97%	15%
	Design complete			
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	75%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	01/01/2019	18%	20%
	Line works complete			
Construction - Stations	Station works commenced	05/02/2020	10%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	4		
	HV customer works commenced	01/07/2018	32%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			41%	

This zone substation is located at -37°89304 latitude, 145°29167 longitude.

3.2.19 Tranche 3: Lang Lang (LLG) Zone Substation

LLG REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	45%	10%
	Business Case approval			
Design	Design commenced		0%	15%
	Design complete			
Procurement	Number of REFCL units required	1		
	REFCL order placed		0%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	04/01/2020	0%	20%
	Line works complete			
Construction - Stations	Station works commenced		0%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	01/07/2018	5%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			5%	

This zone substation is located at -38°26605 latitude, 145°56266 longitude.

3.2.20 Tranche 3: Sale (SLE) Zone Substation

SLE REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	45%	10%
	Business Case approval			
Design	Design commenced		0%	15%
	Design complete			
Procurement	Number of REFCL units required	1		
	REFCL order placed		0%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	4/01/2020	0%	20%
	Line works complete			
Construction - Stations	Station works commenced		0%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	01/07/2018	15%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			6%	

This zone substation is located at -38°10364 latitude, 147°06972 longitude.

3.2.21 Tranche 3: Benalla (BN) Zone Substation

BN REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	45%	10%
	Business Case approval			
Design	Design commenced		0%	15%
	Design complete			
Procurement	Number of REFCL units required	1		
	REFCL order placed		0%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	04/01/2020	0%	20%
	Line works complete			
Construction - Stations	Station works commenced		0%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	2		
	HV customer works commenced	01/07/2018	35%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			8%	

This zone substation is located at -36°55160 latitude, 145°98000 longitude.

3.2.22 Tranche 3: Kalkallo (KLO) Zone Substation

KLO REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	35%	10%
	Business Case approval			
Design	Design commenced		0%	15%
	Design complete			
Procurement	Number of REFCL units required	2		
	REFCL order placed		0%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced		0%	20%
	Line works complete			
Construction - Stations	Station works commenced		0%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	3		
	HV customer works commenced	01/07/2018	5%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
Total Weighted Percentage Complete			4%	

This zone substation is located at -37°53833 latitude, 144°94140 longitude.

3.3 Planned Program Status as at 30 April 2021

This section provides the forecast REFCL program status for the Tranche 1, 2 and 3 zone substations by 30 April 2021, noting that Tranche 1 and 2 zone substations with no forecast activities post 30 April 2020 are not included.

3.3.1 Tranche 1: Kinglake (KLK) Zone Substation

KLK REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	03/04/2017	100%	10%
	Business Case approval	11/05/2017		
Design	Design commenced	15/05/2017	100%	15%
	Design complete	30/06/2018		
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/06/2017	100%	10%
	REFCL delivered to site	21/05/2018		
Construction - Lines	Line works commenced	19/06/2017	100%	20%
	Line works complete	23/01/2019		
Construction - Stations	Station works commenced	24/10/2017	100%	20%
	Station works complete	18/03/2019		
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	18/03/2019	100%	10%
	REFCL commissioned and operable	04/04/2019		
Close Out	REFCL at "required capacity"	29/04/2021[13]	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -37°51440 latitude, 145°31615 longitude.

[13] On 21 November 2019, the Director of ESV granted an extension of time to 29 April 2021 to enable AusNet Services to under remediation works to address the technical issues including harmonics, damping and high delta admittance.

3.3.2 Tranche 1: Woori Yallock (WYK) Zone Substation

WYK REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	03/04/2017	100%	10%
	Business Case approval	11/05/2017		
Design	Design commenced	01/03/2017	100%	15%
	Design complete	28/02/2018		
Procurement	Number of REFCL units required	2		
	REFCL order placed	27/03/2017	100%	10%
	REFCL delivered to site	21/09/2017		
Construction - Lines	Line works commenced	15/05/2017	100%	20%
	Line works complete	27/06/2018		
Construction - Stations	Station works commenced	08/09/2017	100%	20%
	Station works complete	21/11/2017		
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	n/a	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	07/12/2017	100%	10%
	REFCL commissioned and operable	05/12/2018		
Close Out	REFCL at "required capacity"	01/11/2020[14]	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -37°77634 latitude, 145°52933 longitude.

[14] On 21 November 2019, the Director of ESV granted an extension of time to 1 November 2020 to enable AusNet Services to under remediation works to address the technical issues including harmonics and high delta admittance.

3.3.3 Tranche 2: Ringwood North (RWN) Zone Substation

RWN REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	10/07/2017	100%	10%
	Business Case approval	17/04/2018		
Design	Design commenced	18/10/2018	100%	15%
	Design complete	29/11/2019		
Procurement	Number of REFCL units required	1		
	REFCL order placed	16/11/2018	100%	10%
	REFCL delivered to site	08/11/2019		
Construction - Lines	Line works commenced	01/01/2019	100%	20%
	Line works complete	28/07/2020		
Construction - Stations	Station works commenced	18/06/2019	100%	20%
	Station works complete	25/06/2020		
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	15/04/2020	100%	10%
	REFCL commissioned and operable	07/09/2020		
Close Out	REFCL at "required capacity"	18/09/2020	100%	5%
			100%	

This zone substation is located at -37°79260 latitude, 145°23449 longitude.

3.3.4 Tranche 2: Wodonga Terminal Station (WOTS)

WOTS REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	24/08/2017	100%	10%
	Business Case approval	03/05/2018		
Design	Design commenced	15/07/2018	100%	15%
	Design complete	22/06/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	100%	10%
	REFCL delivered to site	08/07/2020		
Construction - Lines	Line works commenced	01/01/2019	100%	20%
	Line works complete	11/09/2020		
Construction - Stations	Station works commenced	23/08/2019	100%	20%
	Station works complete	28/08/2020		
Construction - Third Party	Number of affected HV Customer Connections	5		
	HV customer works commenced	01/07/2018	100%	10%
	HV customer works complete	31/08/2020		
Testing / Commissioning	REFCL testing / commissioning commenced	22/06/2020	100%	10%
	REFCL commissioned and operable	12/11/2020		
Close Out	REFCL at "required capacity"	24/11/2020	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -36°15439 latitude, 146°94682 longitude.

3.3.5 Tranche 2: Lilydale (LDL) Zone Substation

LDL REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	31/07/2017	100%	10%
	Business Case approval	26/02/2018		
Design	Design commenced	15/06/2018	100%	15%
	Design complete	19/02/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	16/11/2018	100%	10%
	REFCL delivered to site	03/12/2019		
Construction - Lines	Line works commenced	01/01/2019	100%	20%
	Line works complete	23/07/2020		
Construction - Stations	Station works commenced	02/09/2019	100%	20%
	Station works complete	29/07/2020		
Construction - Third Party	Number of affected HV Customer Connections	5		
	HV customer works commenced	01/07/2018	91%	10%
	HV customer works complete	05/08/2021[15]		
Testing / Commissioning	REFCL testing / commissioning commenced	01/04/2020	100%	10%
	REFCL commissioned and operable	22/10/2020		
Close Out	REFCL at "required capacity"	19/02/2021	100%	5%
Total Weighted Percentage Complete			99%	

This zone substation is located at -37°76339 latitude, 145°35840 longitude.

15 Metro Trains Melbourne (MTM) has advised they are unable to meet the 1 May 2021 compliance date. ESV has provided feedback on the draft extension of time request ahead of formal submission in July 2020. An extension of time to 1 November 2022 is being requested. Note: temporary transfers of the two MTM HV Connections to non-REFCL networks are being pursued to enable the Lilydale REFCL commissioning and testing activities to commence ahead of the Tranche 2 compliance deadline. Department of Transport approval for the temporary transfers is expected to be received by end July 2020.

3.3.6 Tranche 2: Mansfield (MSD) Zone Substation

MSD REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	100%	10%
	Business Case approval	04/02/2019		
Design	Design commenced	14/03/2019	100%	15%
	Design complete	19/02/2020		
Procurement	Number of REFCL units required	1		
	REFCL order placed	16/11/2018	100%	10%
	REFCL delivered to site	4/12/2020		
Construction - Lines	Line works commenced	25/03/2019	100%	20%
	Line works complete	22/05/2020		
Construction - Stations	Station works commenced	26/08/2019	100%	20%
	Station works complete	16/04/2020		
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	17/02/2020	100%	10%
	REFCL commissioned and operable	16/06/2020		
Close Out	REFCL at "required capacity"[16]	17/07/2020	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -37°05458 latitude, 146°08802 longitude.

16 ESV-observed compliance testing was successfully completed on 15 July 2020.

3.3.7 Tranche 2: Belgrave (BGE) Zone Substation

BGE REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	01/08/2017	100%	10%
	Business Case approval	25/06/2018		
Design	Design commenced	01/09/2018	100%	15%
	Design complete	20/03/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	16/11/2018	100%	10%
	REFCL delivered to site	05/02/2020		
Construction - Lines	Line works commenced	01/01/2019	100%	20%
	Line works complete	12/08/2020		
Construction - Stations	Station works commenced	02/09/2019	100%	20%
	Station works complete	03/08/2020		
Construction - Third Party	Number of affected HV Customer Connections	4		
	HV customer works commenced	01/07/2018	83%	10%
	HV customer works complete	30/11/2021[17]		
Testing / Commissioning	REFCL testing / commissioning commenced	19/06/2020	100%	10%
	REFCL commissioned and operable	04/11/2020		
Close Out	REFCL at "required capacity"	19/02/2021	100%	5%
Total Weighted Percentage Complete			98%	

This zone substation is located at -37°93056 latitude, 145°36096 longitude.

[17] Metro Trains Melbourne (MTM) has advised they are unable to meet the 1 May 2021 compliance date. ESV has provided feedback on the draft extension of time request ahead of formal submission in July 2020. An extension of time to 1 November 2022 is being requested. Note: temporary transfer of the MTM HV Connection to non-REFCL network is being pursued to enable the Belgrave REFCL commissioning and testing activities to commence ahead of the Tranche 2 compliance deadline. Department of Transport approval for the temporary transfer is expected to be received by end July 2020.

3.3.8 Tranche 2: Moe (MOE) Zone Substation

MOE REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	08/08/2017	100%	10%
	Business Case approval	03/05/2018		
Design	Design commenced	01/07/2018	100%	15%
	Design complete	01/04/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	100%	10%
	REFCL delivered to site	12/05/2020		
Construction - Lines	Line works commenced	01/01/2019	100%	20%
	Line works complete	19/10/2020		
Construction - Stations	Station works commenced	30/10/2019	100%	20%
	Station works complete	07/10/2020		
Construction - Third Party	Number of affected HV Customer Connections	5		
	HV customer works commenced	01/07/2018	100%	10%
	HV customer works complete	11/11/2020		
Testing / Commissioning	REFCL testing / commissioning commenced	16/09/2020	100%	10%
	REFCL commissioned and operable	22/01/2021		
Close Out	REFCL at "required capacity"	05/02/2021	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -38°18424 latitude, 146°25908 longitude.

3.3.9 Tranche 2: Eltham (ELM) Zone Substation

ELM REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	01/08/2017	100%	10%
	Business Case approval	03/05/2018		
Design	Design commenced	01/09/2018	100%	15%
	Design complete	16/03/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	100%	10%
	REFCL delivered to site	24/07/2020		
Construction - Lines	Line works commenced	18/01/2019	100%	20%
	Line works complete	08/12/2020		
Construction - Stations	Station works commenced	16/10/2019	100%	20%
	Station works complete	30/10/2020		
Construction - Third Party	Number of affected HV Customer Connections	3		
	HV customer works commenced	01/07/2018	70%	10%
	HV customer works complete	08/07/2022[18]		
Testing / Commissioning	REFCL testing / commissioning commenced	30/10/2020	10%	10%
	REFCL commissioned and operable	22/09/2022		
Close Out	REFCL at "required capacity"	02/12/2022	0%	5%
Total Weighted Percentage Complete			83%	

This zone substation is located at -37°71675 latitude, 145°13881 longitude.

[18] Metro Trains Melbourne (MTM) has advised they are unable to meet the 1 May 2021 compliance date. ESV has provided feedback on the draft extension of time request ahead of formal submission in July 2020. An extension of time to 29 April 2023 is being requested. Note: There is no opportunity to undertake temporary transfers of the 3 MTM HV Connections to non-REFCL networks to enable the Eltham REFCL commissioning and testing to commence ahead of the Tranche 2 compliance deadline.

3.3.10 Tranche 2: Bairnsdale (BDL) Zone Substation

BDL REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	26/07/2017	100%	10%
	Business Case approval	08/03/2018		
Design	Design commenced	01/07/2018	100%	15%
	Design complete	30/07/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	100%	10%
	REFCL delivered to site	18/03/2020		
Construction - Lines	Line works commenced	01/01/2019	100%	20%
	Line works complete	21/10/2020		
Construction - Stations	Station works commenced	22/11/2019	100%	20%
	Station works complete	23/09/2020		
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	01/07/2018	100%	10%
	HV customer works complete	23/10/2020		
Testing / Commissioning	REFCL testing / commissioning commenced	23/09/2020	100%	10%
	REFCL commissioned and operable	04/01/2021		
Close Out	REFCL at "required capacity"	22/01/2021	100%	5%
Total Weighted Percentage Complete			100%	

This zone substation is located at -37°82537 latitude, 147°61261 longitude.

3.3.11 Tranche 3: Ferntree Gully (FGY) Zone Substation

FGY REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	31/07/2017	100%	10%
	Business Case approval	03/05/2018		
Design	Design commenced	01/07/2018	95%	15%
	Design complete	20/07/2020		
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2019	100%	10%
	REFCL delivered to site	03/07/2020		
Construction - Lines	Line works commenced	01/01/2019	100%	20%
	Line works complete	30/11/2020		
Construction - Stations	Station works commenced	05/02/2020	100%	20%
	Station works complete	13/10/2020		
Construction - Third Party	Number of affected HV Customer Connections	4		
	HV customer works commenced	01/07/2018	85%	10%
	HV customer works complete	05/11/2021		
Testing / Commissioning	REFCL testing / commissioning commenced	13/10/2020	10%	10%
	REFCL commissioned and operable	20/01/2022		
Close Out	REFCL at "required capacity"	05/04/2022	0%	5%
Total Weighted Percentage Complete			84%	

This zone substation is located at -37°89304 latitude, 145°29167 longitude.

3.3.12 Tranche 3: Lang Lang (LLG) Zone Substation

LLG REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	90%	10%
	Business Case approval	19/08/2020		
Design	Design commenced	01/10/2020	80%	15%
	Design complete	06/08/2021		
Procurement	Number of REFCL units required	1		
	REFCL order placed	23/09/2020	52%	10%
	REFCL delivered to site	18/11/2021		
Construction - Lines	Line works commenced	04/01/2020	17%	20%
	Line works complete	17/12/2021		
Construction - Stations	Station works commenced	31/08/2021	0%	20%
	Station works complete	18/08/2022		
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	01/07/2018	71%	10%
	HV customer works complete	30/06/2022		
Testing / Commissioning	REFCL testing / commissioning commenced	19/08/2022	0%	10%
	REFCL commissioned and operable	24/11/2022		
Close Out	REFCL at "required capacity"	13/02/2023	0%	5%
Total Weighted Percentage Complete			37%	

This zone substation is located at -38°26605 latitude, 145°56266 longitude.

3.3.13 Tranche 3: Sale (SLE) Zone Substation

SLE REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	100%	10%
	Business Case approval	14/08/2020		
Design	Design commenced	28/09/2020	75%	15%
	Design complete	04/08/2021		
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/09/2020	53%	10%
	REFCL delivered to site	15/11/2021		
Construction - Lines	Line works commenced	04/01/2020	17%	20%
	Line works complete	04/02/2022		
Construction - Stations	Station works commenced	27/08/2021	0%	20%
	Station works complete	16/08/2022		
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	01/07/2018	71%	10%
	HV customer works complete	30/06/2022		
Testing / Commissioning	REFCL testing / commissioning commenced	17/08/2022	0%	10%
	REFCL commissioned and operable	22/11/2022		
Close Out	REFCL at "required capacity"	09/02/2023	0%	5%
Total Weighted Percentage Complete			37%	

This zone substation is located at -38°10364 latitude, 147°06972 longitude

3.3.15 Tranche 3: Benalla (BN) Zone Substation

BN REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	100%	10%
	Business Case approval	14/08/2020		
Design	Design commenced	29/09/2020	80%	15%
	Design complete	04/08/2021		
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/09/2020	52%	10%
	REFCL delivered to site	16/11/2021		
Construction - Lines	Line works commenced	04/01/2020	22%	20%
	Line works complete	20/09/2021		
Construction - Stations	Station works commenced	27/08/2021	0%	20%
	Station works complete	20/10/2022		
Construction - Third Party	Number of affected HV Customer Connections	2		
	HV customer works commenced	01/07/2018	46%	10%
	HV customer works complete	30/06/2022		
Testing / Commissioning	REFCL testing / commissioning commenced	21/10/2022	0%	10%
	REFCL commissioned and operable	07/11/2022		
Close Out	REFCL at "required capacity"	19/04/2023	0%	5%
Total Weighted Percentage Complete			36%	

This zone substation is located at -36°55160 latitude, 145°98000 longitude.

3.3.16 Tranche 3: Kalkallo (KLO) Zone Substation

KLO REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	16/11/2018	100%	10%
	Business Case approval	30/06/2020		
Design	Design commenced	01/07/2020	45%	15%
	Design complete	04/01/2021		
Procurement	Number of REFCL units required	1		
	REFCL order placed	01/10/2020	50%	10%
	REFCL delivered to site	01/12/2021		
Construction - Lines	Line works commenced	01/04/2020	17%	20%
	Line works complete	17/12/2021		
Construction - Stations	Station works commenced	01/10/2021	0%	20%
	Station works complete	15/09/2022		
Construction - Third Party	Number of affected HV Customer Connections	3		
	HV customer works commenced	01/07/2018	71%	10%
	HV customer works complete	30/06/2022		
Testing / Commissioning	REFCL testing / commissioning commenced	06/10/2022	0%	10%
	REFCL commissioned and operable	07/01/2023		
Close Out	REFCL at "required capacity"	12/03/2023	0%	5%
Total Weighted Percentage Complete			32%	

This zone substation is located at -37°53833 latitude, 144°94140 longitude.

4 Insulated Powerlines in Electric Line Construction Areas

This section reports the volume of high voltage bare wire and insulated powerlines within prescribed 'electric line construction areas'.

The *Electricity Safety (Bushfire Mitigation) Regulations 2013* require all new and replacement (≥4 consecutive spans) powerlines be constructed with insulated or covered wire.

4.1 Program Status as at 30 April 2020

The table below indicates the change in volumes (km) of bare and insulated powerline between 1 May 2019 and 30 April 2020.

Total HV Electric Line Volumes	At 1 May 2019	At 30 April 2020	Progress over Reporting Period
Bare construction in ELCA	Route km	Route km	Route km
Polyphase	786.55	783.80	(2.75)
SWER	644.47	624.11	(20.36)
Covered or underground construction in ELCA	Route km	Route km	Route km
Polyphase	296.25	297.95	1.70
SWER	5.05	28.07	23.02

As at the 30 April 2020 the percentage of total route kilometres of all bare conductors remaining within Electric Line Construction Areas is 81%.

Information relating to changes to these powerlines over the reporting period is provided in the required form below.

Electric Line Construction Area	Feeder	Reason/Driver	Previous Construction	Previous Phasing	Length(km)	New Construction	New Phasing	Length (km)	Completion Date	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	1.6589	17/05/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	2.0258	25/07/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	1.8519	30/07/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	1.9494	22/08/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	0.1788	4/09/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	1.7876	17/09/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	1.4617	20/09/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	4.2896	25/10/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	1.2977	6/11/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	0.1091	20/11/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	0.5099	18/12/2019	
LEGL./16-217	ELM33	New electric line				Underground cable	12.7 kV	0.5119	unset	
LEGL./16-223	SMR14	New electric line				Underground cable	22 kV	0.4312	22/03/2019	(1)
LEGL./16-223	SMR14	New electric line				ABC	22 kV	0.1088	22/03/2019	(1)
LEGL./16-224	LDL14	New electric line				Underground cable	12.7 kV	0.3989	8/05/2019	
LEGL./16-224	LDL14	New electric line				Underground cable	12.7 kV	3.0079	7/08/2019	
LEGL./16-224	LDL14	New electric line				Underground cable	12.7 kV	0.5786	19/09/2019	
LEGL./16-224	LDL14	New electric line				Underground cable	12.7 kV	1.5857	19/11/2019	
LEGL./16-224	LDL14	New electric line				Underground cable	12.7 kV	0.2682	unset	
LEGL./16-224	KLK11	New electric line				Underground cable	22 kV	0.0381	6/08/2019	
LEGL./16-229	BGE13	New electric line				ABC	22 kV	0.5715	24/03/2020	
LEGL./16-229	FGY33	New electric line				ABC	22 kV	0.0348	7/04/2020	
LEGL./16-231	WYK13	New electric line				Underground cable	12.7 kV	0.0624	23/09/2019	
LEGL./16-212	BWA22	Decommissioned	Bare	22 kV	0.3312				1/01/1980	
LEGL./16-213	BWA23	Decommissioned	Bare	22 kV	0.3115				1/01/1980	
LEGL./16-217	ELM33	Decommissioned	Bare	12.7 kV	13.3187				1/01/1970	
LEGL./16-217	ELM33	Decommissioned	Bare	12.7 kV	0.4848				1/01/1980	
LEGL./16-217	ELM33	Decommissioned	Bare	12.7 kV	0.2530				3/06/1998	
LEGL./16-217	ELM33	Decommissioned	Bare	12.7 kV	0.3225				24/03/2000	
LEGL./16-217	ELM33	Decommissioned	Bare	12.7 kV	0.0392				20/10/2000	
LEGL./16-217	ELM33	Decommissioned	Bare	12.7 kV	0.3514				30/10/2003	
LEGL./16-217	ELM33	Decommissioned	Bare	12.7 kV	0.0202				1/04/2004	
LEGL./16-217	ELM33	Decommissioned	Bare	12.7 kV	0.1366				6/03/2007	
LEGL./16-217	ELM33	Decommissioned	Underground	12.7 kV	0.0311				unset	
LEGL./16-222	SMR12	Decommissioned	Bare	22 kV	0.2466				1/01/1980	
LEGL./16-223	KLK11	Decommissioned	Bare	22 kV	0.7815				18/01/1989	
LEGL./16-223	SMR14	Decommissioned	ABC	22 kV	0.0322				1/01/1980	
LEGL./16-223	SMR14	Decommissioned	Bare	22 kV	0.2540				1/01/1980	
LEGL./16-224	LDL14	Decommissioned	Bare	12.7 kV	4.7368				1/01/1970	
LEGL./16-224	LDL14	Decommissioned	Bare	12.7 kV	0.2411				3/12/1998	
LEGL./16-224	LDL14	Decommissioned	Bare	12.7 kV	0.3778				4/09/2007	
LEGL./16-225	WYK24	Decommissioned	Bare	22 kV	0.0415				1/01/1970	
LEGL./16-225	WYK24	Decommissioned	ABC	22 kV	0.1450				10/07/2017	
LEGL./16-226	RUBA22	Decommissioned	Bare	22 kV	0.3799				1/01/1980	
LEGL./16-229	BGE11	Decommissioned	Bare	22 kV	0.0585				1/01/1970	
LEGL./16-229	BGE24	Decommissioned	Bare	22 kV	0.3453				1/01/1970	
LEGL./16-229	FGY33	Decommissioned	Underground	22 kV	0.0897				1/01/1970	
LEGL./16-229	LDL13	Decommissioned	Underground	22 kV	0.0576				1/01/1970	
LEGL./16-229	LDL21	Decommissioned	ABC	22 kV	0.0257				16/01/2015	
0	WYK13	Decommissioned	Bare	12.7 kV	0.0787				11/10/2018	

Note

(1) Delayed system recording of asset prior to the current reporting period

(2) "Unset" data means incomplete recording in system

4.2 Planned Program Works 1 May 2020 to 30 April 2021

The table below indicates the planned change in volumes (km) of bare and insulated powerline between 1 May 2020 and 30 April 2021.

Total HV Electric Line Volumes	At 1 May 2020	At 30 April 2021	Progress over Reporting Period
Bare construction in ELCA	Route km	Route km	Route km
Polyphase	783.80	783.80	
SWER	624.11	624.11	
Covered or underground construction in ELCA	Route km	Route km	Route km
Polyphase	297.95	297.95	
SWER	28.07	28.07	

The planned percentage of total route kilometres of bare conductor remaining within Electric Line Construction Areas as at 30 April 2021 is forecast to remain 81%.

5 Automatic Circuit Reclosers on SWER Networks

AusNet Services completed the installation of Automatic Circuit Reclosers on all SWER networks in December 2015.

6 Board Approval

The Board of AusNet Electricity Services Pty Ltd has reviewed and approved this Compliance Report.

Tony Narvaez

Managing Director