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# 2018 Compliance Report

## Legislated Bushfire Mitigation Programs



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## 1 Overview

Section 120P of the *Electricity Safety Act 1998 (Vic)*<sup>1</sup> (**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 2017 to 30 April 2018; and
- Next reporting period (planned works): 1 May 2018 to 30 April 2019.

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<sup>1</sup> Authorised version No. 073

### 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.

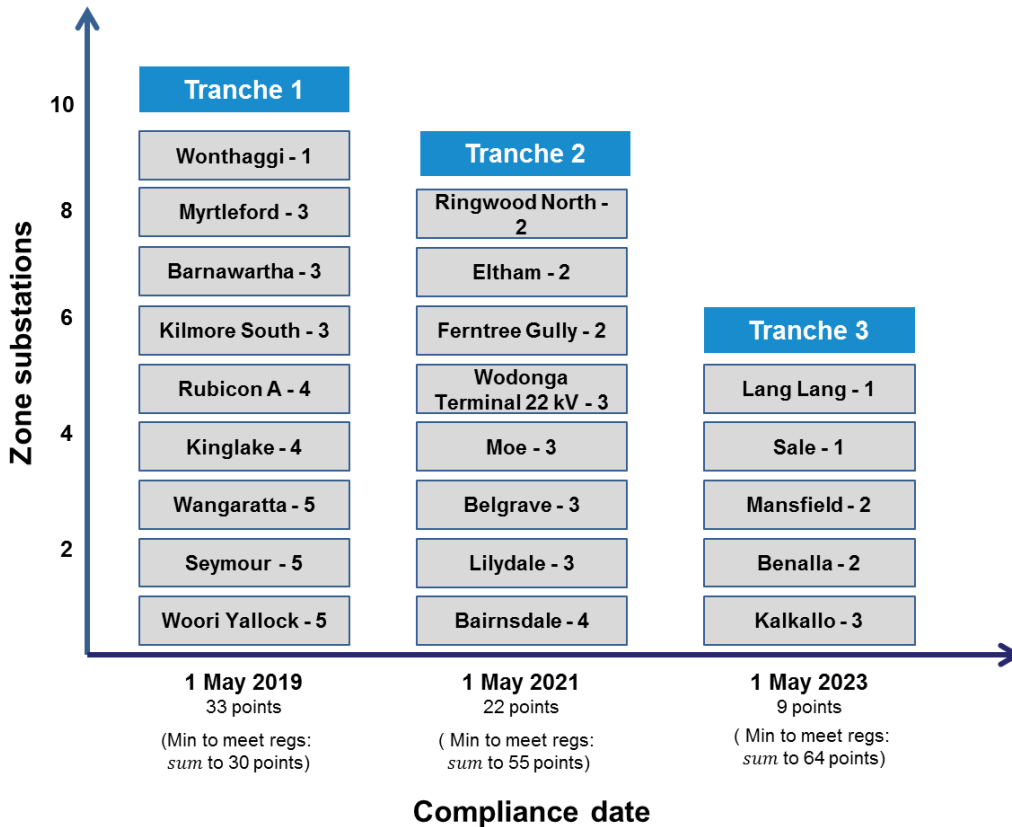
The Bushfire Mitigation Regulations require AusNet Services to ensure:

- 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 2018

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

No activities were under in relation to the zone substations in Tranche 3 in the reporting period from 1 May 2017 to 30 April 2018.

Each of following tables provides an implementation status as at 30 April 2018.

#### 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	45%	20%
	Line works complete			
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		0%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced	06/11/2017	76%	10%
	REFCL commissioned and operable	13/11/2017 <sup>2</sup>		
Close Out	REFCL at "required capacity"		13%	5%
<b>Total Weighted Percentage Complete</b>			<b>72%</b>	

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

<sup>2</sup> Whilst the REFCL commissioned in November 2017, the HV customers' solutions have not yet been implemented and hence, the REFCL cannot be placed in service.

## 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	91%	15%
	Design complete			
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/06/2017	93%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	19/06/2017	32%	20%
	Line works complete			
Construction - Stations	Station works commenced	24/10/2017	24%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	n/a	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
<b>Total Weighted Percentage Complete</b>			52%	

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

## 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	84%	15%
	Design complete			
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/06/2017	95%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	01/06/2017	11%	20%
	Line works complete			
Construction - Stations	Station works commenced			20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	1 <sup>3</sup>		
	HV customer works commenced			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%
<b>Total Weighted Percentage Complete</b>			<b>34%</b>	

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

<sup>3</sup> The HV customer will be transferred to SMR prior to the commencement of compliance testing

## 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	93%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	05/08/2017	22%	20%
	Line works complete			
Construction - Stations	Station works commenced	03/01/2017	26%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	n/a	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced		0%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
<b>Total Weighted Percentage Complete</b>			52%	

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



**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	44%	20%
	Line works complete			
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		0%	10%
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced	20/11/2017	95%	10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"		0%	5%
<b>Total Weighted Percentage Complete</b>			<b>73%</b>	

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

## 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	83%	15%
	Design complete			
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2017	93%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	12/09/2017	21%	20%
	Line works complete			
Construction - Stations	Station works commenced	23/10/2017	36%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	2		
	HV customer works commenced		0%	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%
<b>Total Weighted Percentage Complete</b>			43%	

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

## 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	88%	15%
	Design complete			
Procurement	Number of REFCL units required	2		
	REFCL order placed	21/06/2017	93%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	01/08/2017	26%	20%
	Line works complete			
Construction - Stations	Station works commenced	08/01/2018	54%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	2		
	HV customer works commenced		0%	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%
<b>Total Weighted Percentage Complete</b>			48%	

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

## 3.2.8 Tranche 1: 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	92%	15%
	Design complete			
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/06/2017	93%	10%
	REFCL delivered to site			
Construction - Lines	Line works commenced	15/09/2017	21%	20%
	Line works complete			
Construction - Stations	Station works commenced	11/12/2017	10%	20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced		0%	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%
<b>Total Weighted Percentage Complete</b>			39%	

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

## 3.2.9 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	38%	20%
	Line works complete			
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 <sup>4</sup>	100%	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	07/12/2017	95%	10%
	REFCL commissioned and operable	21/12/2017		
Close Out	REFCL at "required capacity"		0%	5%
<b>Total Weighted Percentage Complete</b>			82%	

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

<sup>4</sup> HV customer hardened their assets and signed a connection agreement variation on 11 December 2017. No HV customer works were undertaken by AusNet Services

**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			15%
	Design complete			
Procurement	Number of REFCL units required	1		
	REFCL order placed			10%
	REFCL delivered to site			
Construction - Lines	Line works commenced			20%
	Line works complete			
Construction - Stations	Station works commenced			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			10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"			5%
			10%	

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

**3.2.11 Tranche 2: Eltham (ELM) Zone Substation**

ELM REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	01/08/2017	99%	10%
	Business Case approval			
Design	Design commenced			15%
	Design complete			
Procurement	Number of REFCL units required	2		10%
	REFCL order placed			
	REFCL delivered to site			
Construction - Lines	Line works commenced			20%
	Line works complete			
Construction - Stations	Station works commenced			20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	3		10%
	HV customer works commenced			
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced			10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"			5%
<b>Total Weighted Percentage Complete</b>			10%	

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

**3.2.12 Tranche 2: Ferntree Gully (FGY) Zone Substation**

FGY REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	31/07/2017	99%	10%
	Business Case approval			
Design	Design commenced			15%
	Design complete			
Procurement	Number of REFCL units required	2		10%
	REFCL order placed			
	REFCL delivered to site			
Construction - Lines	Line works commenced			20%
	Line works complete			
Construction - Stations	Station works commenced			20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	4		10%
	HV customer works commenced			
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced			10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"			5%
<b>Total Weighted Percentage Complete</b>			10%	

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



## 3.2.13 Tranche 2: Wodonga Terminal Station (WOTS)

WOTS REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	24/08/2017	99%	10%
	Business Case approval			
Design	Design commenced			15%
	Design complete			
Procurement	Number of REFCL units required	2		10%
	REFCL order placed			
	REFCL delivered to site			
Construction - Lines	Line works commenced			20%
	Line works complete			
Construction - Stations	Station works commenced			20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	5		10%
	HV customer works commenced			
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced			10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"			5%
<b>Total Weighted Percentage Complete</b>			10%	

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

**3.2.14 Tranche 2: Moe (MOE) Zone Substation**

MOE REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	08/08/2017	99%	10%
	Business Case approval			
Design	Design commenced			15%
	Design complete			
Procurement	Number of REFCL units required	2		10%
	REFCL order placed			
	REFCL delivered to site			
Construction - Lines	Line works commenced			20%
	Line works complete			
Construction - Stations	Station works commenced			20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	5		10%
	HV customer works commenced			
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced			10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"			5%
<b>Total Weighted Percentage Complete</b>			10%	

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

**3.2.15 Tranche 2: Belgrave (BGE) Zone Substation**

BGE REFCL Project Activities		Completion Date	Percentage Complete	Weighting
Initiate	Business Case commenced	01/08/2017	83%	10%
	Business Case approval			
Design	Design commenced			15%
	Design complete			
Procurement	Number of REFCL units required	2		10%
	REFCL order placed			
	REFCL delivered to site			
Construction - Lines	Line works commenced			20%
	Line works complete			
Construction - Stations	Station works commenced			20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	4		10%
	HV customer works commenced			
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced			10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"			5%
<b>Total Weighted Percentage Complete</b>			<b>8%</b>	

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

## 3.2.16 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%
	Design complete			
Procurement	Number of REFCL units required	2		10%
	REFCL order placed			
	REFCL delivered to site			
Construction - Lines	Line works commenced			20%
	Line works complete			
Construction - Stations	Station works commenced			20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	5		10%
	HV customer works commenced			
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced			10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"			5%
<b>Total Weighted Percentage Complete</b>			10%	

This zone substation is located at -37°76339 latitude, 145°35840 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			15%
	Design complete			
Procurement	Number of REFCL units required	2		10%
	REFCL order placed			
	REFCL delivered to site			
Construction - Lines	Line works commenced			20%
	Line works complete			
Construction - Stations	Station works commenced			20%
	Station works complete			
Construction - Third Party	Number of affected HV Customer Connections	1		10%
	HV customer works commenced			
	HV customer works complete			
Testing / Commissioning	REFCL testing / commissioning commenced			10%
	REFCL commissioned and operable			
Close Out	REFCL at "required capacity"			5%
<b>Total Weighted Percentage Complete</b>			10%	

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

### 3.3 Planned Program Status as at 30 April 2019

This section provides the forecast REFCL program status for the Tranche 1 and 2 zone substations by 30 April 2019.

No implementation activities are forecast to be undertaken in the next reporting period, 1 May 2018 to 30 April 2019, for zone substations in Tranche 3.

#### 3.3.1 Tranche 1: Barnawartha (BWA) Zone Substation

BWA REFCL Project Activities		Completion Date	Percentage Complete	Weighting
<b>Initiate</b>	Business Case commenced	01/10/2016	100%	10%
	Business Case approval	03/11/2016		
<b>Design</b>	Design commenced	01/01/2017	100%	15%
	Design complete	21/11/2017		
<b>Procurement</b>	Number of REFCL units required	1		
	REFCL order placed	14/02/2017	100%	10%
	REFCL delivered to site	20/07/2017		
<b>Construction - Lines</b>	Line works commenced	10/12/2016	100%	20%
	Line works complete	<b>27/06/2018</b>		
<b>Construction - Stations</b>	Station works commenced	07/04/2017	100%	20%
	Station works complete	09/10/2017		
<b>Construction - Third Party</b>	Number of affected HV Customer Connections	2		
	HV customer works commenced	<b>23/07/2018</b>	100%	10%
	HV customer works complete	<b>09/11/2018</b>		
<b>Testing / Commissioning</b>	REFCL testing / commissioning commenced	06/11/2017	100%	10%
	REFCL commissioned and operable	<b>13/11/2017</b>		
<b>Close Out</b>	REFCL at "required capacity"	<b>30/11/2018</b>	100%	5%
<b>Total Weighted Percentage Complete</b>			100%	

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

## 3.3.2 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	31/07/2018		
Construction - Stations	Station works commenced	24/10/2017	100%	20%
	Station works complete	27/07/2018		
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	n/a	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	04/07/2018	100%	10%
	REFCL commissioned and operable	02/10/2018 <sup>5</sup>		
Close Out	REFCL at "required capacity"	2/11/2018	100%	5%
<b>Total Weighted Percentage Complete</b>			100%	

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

<sup>5</sup> Whilst the REFCL will be commissioned and compliance tested by early November 2018, it cannot be placed into service until at least one of the 5 MVA supply transformers has been replaced. The forecast in service date is 21 December 2018.

## 3.3.3 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	04/07/2018		
Construction - Third Party	Number of affected HV Customer Connections	1 <sup>6</sup>		
	HV customer works commenced	05/11/2018	100%	10%
	HV customer works complete	31/12/2018		
Testing / Commissioning	REFCL testing / commissioning commenced	23/08/2018	100%	10%
	REFCL commissioned and operable	05/09/2018		
Close Out	REFCL at "required capacity"	28/09/2018	100%	5%
<b>Total Weighted Percentage Complete</b>			100%	

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

<sup>6</sup> The HV customer will be transferred to SMR prior to the commencement of compliance testing.



## 3.3.4 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	29/08/2018		
Construction - Stations	Station works commenced	03/01/2017	100%	20%
	Station works complete	12/10/2018		
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	n/a	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	15/10/2018	100%	10%
	REFCL commissioned and operable	12/10/2018		
Close Out	REFCL at "required capacity"	21/11/2018	100%	5%
<b>Total Weighted Percentage Complete</b>			100%	

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

### 3.3.5 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	<b>31/07/2018</b>		
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	<b>27/09/2018</b>	100%	10%
	HV customer works complete	<b>26/02/2019</b>		
Testing / Commissioning	REFCL testing / commissioning commenced	20/11/2017	100%	10%
	REFCL commissioned and operable	<b>26/07/2018</b>		
Close Out	REFCL at "required capacity"	<b>13/08/2018</b> <sup>7</sup>	100%	5%
<b>Total Weighted Percentage Complete</b>			100%	

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

<sup>7</sup> Whilst the REFCL will be commissioned and compliance tested by August 2018, it cannot be placed in service until the 3 HV customer connections are able to withstand REFCL operations. 2 HV connection points are being hardened by the Customer whilst the 3 HV connection point will be isolated by the installation of an isolating substation.

## 3.3.6 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	07/11/2018		
Construction - Stations	Station works commenced	23/10/2017	100%	20%
	Station works complete	12/11/2018		
Construction - Third Party	Number of affected HV Customer Connections	2		
	HV customer works commenced	05/11/2018	100%	10%
	HV customer works complete	16/01/2019		
Testing / Commissioning	REFCL testing / commissioning commenced	29/10/2018	100%	10%
	REFCL commissioned and operable	30/11/2018		
Close Out	REFCL at "required capacity"	31/01/2019	100%	5%
<b>Total Weighted Percentage Complete</b>			100%	

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

## 3.3.7 Tranche 1: Wangaratta (WN) 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	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	27/09/2018		
Construction - Stations	Station works commenced	08/01/2018	100%	20%
	Station works complete	14/09/2018		
Construction - Third Party	Number of affected HV Customer Connections	2		
	HV customer works commenced	31/07/2018	100%	10%
	HV customer works complete	12/11/2018		
Testing / Commissioning	REFCL testing / commissioning commenced	17/09/2018	100%	10%
	REFCL commissioned and operable	14/09/2018		
Close Out	REFCL at "required capacity"	28/11/2018	100%	5%
<b>Total Weighted Percentage Complete</b>			100%	

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

## 3.3.8 Tranche 1: 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	<b>28/05/2018</b>		
Procurement	Number of REFCL units required	1		
	REFCL order placed	21/06/2017	100%	10%
	REFCL delivered to site	<b>08/10/2018</b>		
Construction - Lines	Line works commenced	15/09/2017	100%	20%
	Line works complete	<b>30/10/2018</b>		
Construction - Stations	Station works commenced	11/12/2017	100%	20%
	Station works complete	<b>30/11/2018</b>		
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	<b>29/11/2018</b>	100%	10%
	HV customer works complete	<b>23/01/2019</b>		
Testing / Commissioning	REFCL testing / commissioning commenced	<b>18/10/2018</b>	100%	10%
	REFCL commissioned and operable	<b>07/12/2018</b>		
Close Out	REFCL at "required capacity"	<b>28/02/2019</b>	100%	5%
<b>Total Weighted Percentage Complete</b>			100%	

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

## 3.3.9 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	31/07/2018		
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 <sup>8</sup>	n/a	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	07/12/2017	100%	10%
	REFCL commissioned and operable	21/12/2017		
Close Out	REFCL at "required capacity"	31/08/2018	100%	5%
<b>Total Weighted Percentage Complete</b>			100%	

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

<sup>8</sup> HV customer hardened their assets and signed a connection agreement variation on 11 December 2017. No HV customer works were undertaken by AusNet Services

## 3.3.10 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	01/06/2018	100%	15%
	Design complete	31/03/2019		
Procurement	Number of REFCL units required	1		
	REFCL order placed	01/10/2018	87%	10%
	REFCL delivered to site	01/06/2019		
Construction - Lines	Line works commenced	01/04/2019	16%	20%
	Line works complete	30/09/2019		
Construction - Stations	Station works commenced	01/04/2019	16%	20%
	Station works complete	30/09/2019		
Construction - Third Party	Number of affected HV Customer Connections	0		
	HV customer works commenced	n/a	n/a	10%
	HV customer works complete	n/a		
Testing / Commissioning	REFCL testing / commissioning commenced	01/10/2019	0%	10%
	REFCL commissioned and operable	30/11/2019		
Close Out	REFCL at "required capacity"	31/01/2020	0%	5%
			48%	

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

## 3.3.11 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	80%	15%
	Design complete	30/06/2019		
Procurement	Number of REFCL units required	2		
	REFCL order placed	01/10/2018	39%	10%
	REFCL delivered to site	01/04/2020		
Construction - Lines	Line works commenced	01/04/2019	6%	20%
	Line works complete	31/08/2020		
Construction - Stations	Station works commenced	01/07/2019	0%	20%
	Station works complete	31/08/2020		
Construction - Third Party	Number of affected HV Customer Connections	3		
	HV customer works commenced	01/07/2018	47%	10%
	HV customer works complete	31/03/2020		
Testing / Commissioning	REFCL testing / commissioning commenced	01/09/2020	0%	10%
	REFCL commissioned and operable	31/10/2020		
Close Out	REFCL at "required capacity"	31/12/2020	0%	5%
<b>Total Weighted Percentage Complete</b>			32%	

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



## 3.3.12 Tranche 2: 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	83%	15%
	Design complete	30/06/2019		
Procurement	Number of REFCL units required	2		
	REFCL order placed	01/10/2018	43%	10%
	REFCL delivered to site	01/02/2020		
Construction - Lines	Line works commenced	01/07/2019	0%	20%
	Line works complete	31/05/2020		
Construction - Stations	Station works commenced	01/04/2019	7%	20%
	Station works complete	31/05/2020		
Construction - Third Party	Number of affected HV Customer Connections	4		
	HV customer works commenced	01/07/2018	47%	10%
	HV customer works complete	31/03/2020		
Testing / Commissioning	REFCL testing / commissioning commenced	01/06/2020	0%	10%
	REFCL commissioned and operable	31/07/2020		
Close Out	REFCL at "required capacity"	30/09/2020	0%	5%
<b>Total Weighted Percentage Complete</b>			33%	

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

## 3.3.13 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	83%	15%
	Design complete	30/06/2019		
Procurement	Number of REFCL units required	2		
	REFCL order placed	01/10/2018	41%	10%
	REFCL delivered to site	01/03/2020		
Construction - Lines	Line works commenced	01/07/2019	0%	20%
	Line works complete	30/06/2020		
Construction - Stations	Station works commenced	01/07/2019	0%	20%
	Station works complete	30/06/2020		
Construction - Third Party	Number of affected HV Customer Connections	5		
	HV customer works commenced	01/07/2018	47%	10%
	HV customer works complete	31/03/2020		
Testing / Commissioning	REFCL testing / commissioning commenced	01/07/2020	0%	10%
	REFCL commissioned and operable	31/08/2020		
Close Out	REFCL at "required capacity"	31/10/2020	0%	5%
<b>Total Weighted Percentage Complete</b>			31%	

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

**3.3.14 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	83%	15%
	Design complete	30/06/2019		
Procurement	Number of REFCL units required	2		
	REFCL order placed	01/10/2018	43%	10%
	REFCL delivered to site	01/02/2020		
Construction - Lines	Line works commenced	01/07/2019	0%	20%
	Line works complete	31/05/2020		
Construction - Stations	Station works commenced	01/07/2019	0%	20%
	Station works complete	31/05/2020		
Construction - Third Party	Number of affected HV Customer Connections	5		
	HV customer works commenced	01/07/2018	50%	10%
	HV customer works complete	28/02/2020		
Testing / Commissioning	REFCL testing / commissioning commenced	01/06/2020	0%	10%
	REFCL commissioned and operable	31/07/2020		
Close Out	REFCL at "required capacity"	30/09/2020	0%	5%
<b>Total Weighted Percentage Complete</b>			32%	

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

## 3.3.15 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	80%	15%
	Design complete	30/06/2019		
Procurement	Number of REFCL units required	2		
	REFCL order placed	01/10/2018	53%	10%
	REFCL delivered to site	01/11/2019		
Construction - Lines	Line works commenced	01/04/2019	7%	20%
	Line works complete	30/04/2020		
Construction - Stations	Station works commenced	01/07/2019	0%	20%
	Station works complete	30/04/2020		
Construction - Third Party	Number of affected HV Customer Connections	4		
	HV customer works commenced	01/07/2018	50%	10%
	HV customer works complete	28/02/2020		
Testing / Commissioning	REFCL testing / commissioning commenced	01/05/2020	0%	10%
	REFCL commissioned and operable	30/06/2020		
Close Out	REFCL at "required capacity"	31/08/2020	0%	5%
<b>Total Weighted Percentage Complete</b>			34%	

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

## 3.3.16 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	84%	15%
	Design complete	30/06/2019		
Procurement	Number of REFCL units required	2		
	REFCL order placed	01/10/2018	41%	10%
	REFCL delivered to site	01/03/2020		
Construction - Lines	Line works commenced	01/07/2019	0%	20%
	Line works complete	31/07/2020		
Construction - Stations	Station works commenced	01/06/2019	0%	20%
	Station works complete	31/07/2020		
Construction - Third Party	Number of affected HV Customer Connections	5		
	HV customer works commenced	01/07/2018	47%	10%
	HV customer works complete	31/03/2020		
Testing / Commissioning	REFCL testing / commissioning commenced	01/08/2020	0%	10%
	REFCL commissioned and operable	30/09/2020		
Close Out	REFCL at "required capacity"	30/11/2020	0%	5%
<b>Total Weighted Percentage Complete</b>			31%	

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

## 3.3.17 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	83%	15%
	Design complete	30/06/2019		
Procurement	Number of REFCL units required	2		
	REFCL order placed	01/10/2018	53%	10%
	REFCL delivered to site	01/11/2019		
Construction - Lines	Line works commenced	01/07/2019	0%	20%
	Line works complete	31/03/2020		
Construction - Stations	Station works commenced	01/04/2019	8%	20%
	Station works complete	31/03/2020		
Construction - Third Party	Number of affected HV Customer Connections	1		
	HV customer works commenced	01/07/2018	55%	10%
	HV customer works complete	31/12/2019		
Testing / Commissioning	REFCL testing / commissioning commenced	01/04/2020	0%	10%
	REFCL commissioned and operable	31/05/2020		
Close Out	REFCL at "required capacity"	31/07/2020	0%	5%
<b>Total Weighted Percentage Complete</b>			35%	

This zone substation is located at -37°82537 latitude, 147°61261 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 (>3 consecutive spans) powerlines to be constructed with insulated or covered wire.

### 4.1 Program Status as at 30 April 2018

The table below indicates the change in volumes (km) of bare and insulated powerline between 1 May 2017 and 30 April 2018.

Total HV Electric Line Volumes	At 1 May 2017	At 30 April 2018	Progress over Reporting Period
<b>Bare construction in ELCA</b>	Route km	Route km	Route km
Polyphase	865.46	816.51	(48.95)
SWER	650.48	646.68	(3.81)
<b>Covered or underground construction in ELCA</b>	Route km	Route km	Route km
Polyphase	217.09	264.39	47.30
SWER	0.43	0.43	-

As at the 30 April 2018 the percentage of total route kilometres of all bare conductors remaining within Electric Line Construction Areas is 85%.

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			New Construction			Completion Date
			Construction	Phasing	Length (km)	Construction	Phasing	Length (km)	
LEGL/16-217	RWN34	Proactive replacement/direction	Bare Conductor	Polyphase	0.27860	Aerial Bundled Cable	Polyphase	0.27860	26/03/2018
LEGL/16-224	KLK1	Proactive replacement/direction	Bare Conductor	SWER	0.07547	Bare Conductor	SWER	0.07547	28/06/2017
LEGL/16-224	KLK1	Proactive replacement/direction	Aerial Bundled Cable	Polyphase	0.16838	Aerial Bundled Cable	Polyphase	0.16938	7/03/2018
LEGL/16-224	KLK1	Proactive replacement/direction	Aerial Bundled Cable	Polyphase	0.84431	Aerial Bundled Cable	Polyphase	0.63840	16/03/2018
LEGL/16-224	KLK1	Proactive replacement/direction	Bare Conductor	Polyphase	0.34355	Aerial Bundled Cable	Polyphase	0.34355	24/04/2018
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	0.76526	Aerial Bundled Cable	Polyphase	0.76526	26/07/2017
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	0.32875	Covered Conductor	Polyphase	0.47106	13/10/2017
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	0.79767	Covered Conductor	Polyphase	0.72166	20/10/2017
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	0.76783	Aerial Bundled Cable	Polyphase	0.58044	3/11/2017
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	2.22680	Covered Conductor	Polyphase	2.28658	21/11/2017
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	0.20638	Aerial Bundled Cable	Polyphase	0.07267	28/11/2017
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	0.14957	Aerial Bundled Cable	Polyphase	0.13271	1/12/2017
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	1.76387	Aerial Bundled Cable	Polyphase	1.15107	19/01/2018
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	0.23313	Aerial Bundled Cable	Polyphase	0.17754	2/02/2018
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	0.83263	Aerial Bundled Cable	Polyphase	0.63866	21/02/2018
LEGL/16-224	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	0.02598	Aerial Bundled Cable	Polyphase	0.02598	7/03/2018
LEGL/16-225	LDL23	Proactive replacement/direction	Bare Conductor	Polyphase	1.46979	Covered Conductor	Polyphase	1.46977	30/06/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.17733	Aerial Bundled Cable	Polyphase	0.17733	16/05/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.20438	Aerial Bundled Cable	Polyphase	0.20556	14/06/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.26018	Aerial Bundled Cable	Polyphase	0.26010	30/06/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.79238	Aerial Bundled Cable	Polyphase	0.83018	10/07/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.49856	Aerial Bundled Cable	Polyphase	0.61820	21/07/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.82268	Aerial Bundled Cable	Polyphase	0.66838	4/08/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	1.98001	Aerial Bundled Cable	Polyphase	1.66090	25/08/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	1.47627	Covered Conductor	Polyphase	1.78620	15/09/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.46437	Aerial Bundled Cable	Polyphase	0.46437	4/10/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.59979	Covered Conductor	Polyphase	0.89050	27/10/2017
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.31564	Aerial Bundled Cable	Polyphase	0.31564	25/01/2018
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.54206	Covered Conductor	Polyphase	0.72462	2/02/2018
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.30965	Aerial Bundled Cable	Polyphase	0.34586	2/03/2018
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.51217	Covered Conductor	Polyphase	0.47594	2/03/2018
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.06795	Aerial Bundled Cable	Polyphase	0.06795	9/04/2018
LEGL/16-225	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.31413	Covered Conductor	Polyphase	0.18296	9/04/2018
LEGL/16-229	LDL21	Proactive replacement/direction	Bare Conductor	Polyphase	0.16678	Aerial Bundled Cable	Polyphase	0.10380	27/07/2017
LEGL/16-229	SFS1	Proactive replacement/direction	(blank)	Polyphase	0.05861	Aerial Bundled Cable	Polyphase	0.05861	2/05/2017
LEGL/16-229	UWY1	Proactive replacement/direction	Bare Conductor	Polyphase	0.50008	Aerial Bundled Cable	Polyphase	0.50008	31/05/2017
LEGL/16-231	WYK23	Proactive replacement/direction	Bare Conductor	Polyphase	0.18058	Bare Conductor	Polyphase	0.18058	24/01/2018
LEGL/16-231	WYK24	Proactive replacement/direction	Bare Conductor	Polyphase	0.25284	Covered Conductor	Polyphase	0.25284	15/09/2017
LEGL/16-213	BWA23	New electric line	-	-	-	Bare Conductor	Polyphase	0.04700	23/08/2017
LEGL/16-213	WN3	New electric line	-	-	-	Bare Conductor	Polyphase	0.00300	23/08/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Bare Conductor	Polyphase	0.00900	19/06/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.12260	21/09/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.05020	27/11/2017
LEGL/16-224	LDL23	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.42604	3/11/2017
LEGL/16-224	LDL23	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.14962	1/12/2017
LEGL/16-224	LDL23	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.17200	19/01/2018
LEGL/16-224	LDL23	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.07280	2/02/2018
LEGL/16-225	WYK24	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.10295	21/07/2017



Electric Line Construction Area	Feeder	Reason/Driver	Previous Construction			New Construction			Completion Date
			Construction	Phasing	Length (km)	Construction	Phasing	Length ( km)	
LEGL/16-225	WYK24	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.06396	4/08/2017
LEGL/16-225	WYK24	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.31810	25/08/2017
LEGL/16-225	WYK24	New electric line	-	-	-	Covered Conductor	Polyphase	0.04290	15/09/2017
LEGL/16-226	RUBA22	New electric line	-	-	-	Bare Conductor	Polyphase	0.19549	5/09/2017
LEGL/16-229	BGE24	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.02750	27/07/2017
LEGL/16-229	SFS1	New electric line	-	-	-	Aerial Bundle Cable	Polyphase	0.06429	2/05/2017
LEGL/16-231	WYK23	New electric line	-	-	-	Bare Conductor	Polyphase	0.06450	24/01/2018
LEGL/16-212	BWA22	New electric line	-	-	-	Underground Cable	Polyphase	4.20890	7/12/2017
LEGL/16-212	BWA22	New electric line	-	-	-	Underground Cable	Polyphase	0.80606	20/12/2017
LEGL/16-217	RWN34	New electric line	-	-	-	Underground Cable	Polyphase	0.44659	7/05/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	0.30185	11/08/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	0.84791	6/09/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	2.13585	12/09/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	0.55649	20/09/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	0.55221	22/09/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	0.06875	28/09/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	0.81315	31/10/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	0.87022	27/11/2017
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	0.42227	12/01/2018
LEGL/16-224	KLK1	New electric line	-	-	-	Underground Cable	Polyphase	0.14990	23/03/2018
LEGL/16-224	LDL23	New electric line	-	-	-	Underground Cable	Polyphase	0.211858	20/10/2017
LEGL/16-224	LDL23	New electric line	-	-	-	Underground Cable	Polyphase	0.29399	19/01/2018
LEGL/16-224	LDL23	New electric line	-	-	-	Underground Cable	Polyphase	1.08577	2/02/2018
LEGL/16-224	LDL23	New electric line	-	-	-	Underground Cable	Polyphase	0.51412	21/02/2018
LEGL/16-224	LDL23	New electric line	-	-	-	Underground Cable	Polyphase	0.98563	7/03/2018
LEGL/16-225	LDL23	New electric line	-	-	-	Underground Cable	Polyphase	0.72930	30/06/2017
LEGL/16-225	WYK24	New electric line	-	-	-	Underground Cable	Polyphase	0.19895	21/07/2017
LEGL/16-225	WYK24	New electric line	-	-	-	Underground Cable	Polyphase	0.75228	12/10/2017
LEGL/16-225	WYK24	New electric line	-	-	-	Underground Cable	Polyphase	1.15189	10/11/2017
LEGL/16-225	WYK24	New electric line	-	-	-	Underground Cable	Polyphase	0.71235	24/11/2017
LEGL/16-225	WYK24	New electric line	-	-	-	Underground Cable	Polyphase	0.10192	27/03/2018
LEGL/16-229	BGE24	New electric line	-	-	-	Underground Cable	Polyphase	1.10746	27/07/2017
LEGL/16-229	LDL13	New electric line	-	-	-	Underground Cable	Polyphase	0.05954	11/05/2017
LEGL/16-229	LDL21	New electric line	-	-	-	Underground Cable	Polyphase	0.43445	27/07/2017
LEGL/16-229	SFS1	New electric line	-	-	-	Underground Cable	Polyphase	0.37393	15/06/2017
LEGL/16-229	SFS1	New electric line	-	-	-	Underground Cable	Polyphase	0.61808	4/09/2017
LEGL/16-229	UWY1	New electric line	-	-	-	Underground Cable	Polyphase	0.15623	31/05/2017
LEGL/16-229	UWY1	New electric line	-	-	-	Underground Cable	Polyphase	0.23671	22/09/2017
LEGL/16-229	UWY1	New electric line	-	-	-	Underground Cable	Polyphase	0.68639	30/11/2017
LEGL/16-231	WYK13	New electric line	-	-	-	Underground Cable	Polyphase	2.87374	27/05/2017
LEGL/16-231	WYK13	New electric line	-	-	-	Underground Cable	Polyphase	0.94995	1/08/2017
LEGL/16-231	WYK13	New electric line	-	-	-	Underground Cable	Polyphase	0.71837	31/08/2017
LEGL/16-231	WYK13	New electric line	-	-	-	Underground Cable	Polyphase	1.05842	29/03/2018
LEGL/16-200	MOE14	Decommissioned	Bare Conductor	Polyphase	0.00004	-	-	-	1/01/1980
LEGL/16-200	MOE14	Decommissioned	Bare Conductor	SWER	0.00004	-	-	-	1/01/1980
LEGL/16-206	MYT2	Decommissioned	Bare Conductor	SWER	0.00003	-	-	-	24/08/1998
LEGL/16-212	BWA22	Decommissioned	Bare Conductor	Polyphase	4.98864	-	-	-	1/01/1980
LEGL/16-212	BWA22	Decommissioned	Bare Conductor	Polyphase	0.34870	-	-	-	1/01/1992
LEGL/16-212	BWA22	Decommissioned	Bare Conductor	Polyphase	0.87251	-	-	-	23/11/2001
LEGL/16-212	BWA22	Decommissioned	Bare Conductor	Polyphase	0.31218	-	-	-	2/10/2009

Electric Line Construction Area	Feeder	Reason/Driver	Previous Construction			New Construction			Completion Date
			Construction	Phasing	Length (km)	Construction	Phasing	Length (km)	
LEGL/16-217	RWN34	Decommissioned	Aerial Bundled Cable	Polyphase	0.04049	-	-	-	1/01/1970
LEGL/16-217	RWN34	Decommissioned	Aerial Bundled Cable	Polyphase	0.04721	-	-	-	15/07/2015
LEGL/16-219	KMS21	Decommissioned	Bare Conductor	Polyphase	0.00100	-	-	-	1/01/1980
LEGL/16-222	SMR5	Decommissioned	Bare Conductor	Polyphase	0.20874	-	-	-	1/01/1980
LEGL/16-223	KLK1	Decommissioned	Bare Conductor	Polyphase	0.00004	-	-	-	1/01/1970
LEGL/16-223	KLK1	Decommissioned	Bare Conductor	Polyphase	0.00004	-	-	-	18/01/1989
LEGL/16-223	KLK1	Decommissioned	Bare Conductor	SWER	0.53091	-	-	-	12/02/1993
LEGL/16-223	SMR5	Decommissioned	Bare Conductor	SWER	0.00003	-	-	-	30/01/2008
LEGL/16-224	KLK1	Decommissioned	Aerial Bundled Cable	Polyphase	0.00100	-	-	-	1/01/1970
LEGL/16-224	KLK1	Decommissioned	Bare Conductor	Polyphase	4.31299	-	-	-	1/01/1970
LEGL/16-224	KLK1	Decommissioned	Aerial Bundled Cable	Polyphase	0.63849	-	-	-	29/03/1993
LEGL/16-224	KLK1	Decommissioned	Aerial Bundled Cable	Polyphase	0.35971	-	-	-	11/09/1995
LEGL/16-224	KLK1	Decommissioned	Aerial Bundled Cable	Polyphase	0.12419	-	-	-	11/04/1996
LEGL/16-224	KLK1	Decommissioned	Aerial Bundled Cable	Polyphase	0.05763	-	-	-	23/01/2015
LEGL/16-224	KLK1	Decommissioned	Bare Conductor	Polyphase	0.02676	-	-	-	12/03/2015
LEGL/16-224	KLK1	Decommissioned	Bare Conductor	Polyphase	0.04472	-	-	-	21/10/2015
LEGL/16-224	LDL23	Decommissioned	Bare Conductor	Polyphase	2.86748	-	-	-	1/01/1970
LEGL/16-225	LDL23	Decommissioned	Bare Conductor	Polyphase	0.34467	-	-	-	1/01/1970
LEGL/16-225	LDL23	Decommissioned	Bare Conductor	Polyphase	0.41294	-	-	-	19/03/1999
LEGL/16-225	LDL23	Decommissioned	Bare Conductor	Polyphase	0.29414	-	-	-	16/12/2007
LEGL/16-225	WYK24	Decommissioned	Bare Conductor	Polyphase	2.99567	-	-	-	1/01/1970
LEGL/16-225	WYK24	Decommissioned	Aerial Bundled Cable	Polyphase	0.10561	-	-	-	26/03/2001
LEGL/16-225	WYK24	Decommissioned	Aerial Bundled Cable	Polyphase	0.21194	-	-	-	3/02/2003
LEGL/16-225	WYK24	Decommissioned	Bare Conductor	Polyphase	0.14851	-	-	-	31/03/2005
LEGL/16-225	WYK24	Decommissioned	Aerial Bundled Cable	Polyphase	0.02922	-	-	-	24/03/2017
LEGL/16-229	BGE24	Decommissioned	Bare Conductor	Polyphase	2.12780	-	-	-	1/01/1970
LEGL/16-229	BGE24	Decommissioned	Bare Conductor	Polyphase	0.00034	-	-	-	1/01/1970
LEGL/16-229	BGE24	Decommissioned	Aerial Bundled Cable	Polyphase	0.00004	-	-	-	28/06/1994
LEGL/16-229	BGE24	Decommissioned	Bare Conductor	Polyphase	0.03693	-	-	-	15/05/1997
LEGL/16-229	BGE24	Decommissioned	Bare Conductor	Polyphase	0.00100	-	-	-	22/05/1997
LEGL/16-229	BGE24	Decommissioned	Aerial Bundled Cable	Polyphase	0.00045	-	-	-	30/08/2012
LEGL/16-229	BGE24	Decommissioned	Aerial Bundled Cable	Polyphase	0.05873	-	-	-	19/12/2014
LEGL/16-229	BGE24	Decommissioned	Bare Conductor	Polyphase	0.00100	-	-	-	17/03/2015
LEGL/16-229	BGE24	Decommissioned	Bare Conductor	Polyphase	0.02467	-	-	-	18/11/2015
LEGL/16-229	BGE24	Decommissioned	Bare Conductor	Polyphase	0.00099	-	-	-	21/01/2016
LEGL/16-229	BWR13	Decommissioned	Aerial Bundled Cable	Polyphase	0.00003	-	-	-	1/05/2014
LEGL/16-229	CYN21	Decommissioned	Bare Conductor	Polyphase	0.00150	-	-	-	1/01/1970
LEGL/16-229	CYN33	Decommissioned	Aerial Bundled Cable	Polyphase	0.00049	-	-	-	1/01/1970
LEGL/16-229	CYN33	Decommissioned	Bare Conductor	Polyphase	0.26986	-	-	-	1/01/1970
LEGL/16-229	CYN33	Decommissioned	Aerial Bundled Cable	Polyphase	0.02170	-	-	-	21/06/2014
LEGL/16-229	CYN33	Decommissioned	Aerial Bundled Cable	Polyphase	0.51720	-	-	-	1/07/2014
LEGL/16-229	FGY34	Decommissioned	Bare Conductor	Polyphase	2.15999	-	-	-	1/01/1970
LEGL/16-229	LDL13	Decommissioned	Bare Conductor	Polyphase	0.11217	-	-	-	1/01/1970
LEGL/16-229	LDL21	Decommissioned	Bare Conductor	Polyphase	0.37232	-	-	-	1/01/1970
LEGL/16-229	LDL21	Decommissioned	Bare Conductor	Polyphase	0.06400	-	-	-	23/09/1996
LEGL/16-229	MDG1	Decommissioned	Aerial Bundled Cable	Polyphase	0.00004	-	-	-	26/03/1996
LEGL/16-229	MDG1	Decommissioned	Aerial Bundled Cable	Polyphase	0.00046	-	-	-	12/08/1997
LEGL/16-229	SFS1	Decommissioned	Bare Conductor	Polyphase	0.89929	-	-	-	1/01/1970
LEGL/16-229	SFS1	Decommissioned	Aerial Bundled Cable	Polyphase	0.00039	-	-	-	23/05/1994
LEGL/16-229	UWY1	Decommissioned	Aerial Bundled Cable	Polyphase	0.05349	-	-	-	1/01/1970
LEGL/16-229	UWY1	Decommissioned	Bare Conductor	Polyphase	0.00003	-	-	-	1/01/1970
LEGL/16-229	UWY1	Decommissioned	Bare Conductor	Polyphase	1.11399	-	-	-	1/01/1970
LEGL/16-229	UWY1	Decommissioned	Aerial Bundled Cable	Polyphase	0.07321	-	-	-	1/04/1997
LEGL/16-229	UWY1	Decommissioned	Bare Conductor	Polyphase	0.13479	-	-	-	1/04/1997
LEGL/16-229	UWY1	Decommissioned	Bare Conductor	Polyphase	0.12877	-	-	-	22/12/2009
LEGL/16-231	WYK23	Decommissioned	Bare Conductor	Polyphase	1.48130	-	-	-	1/01/1970
LEGL/16-231	WYK23	Decommissioned	Bare Conductor	SWER	2.00854	-	-	-	1/01/1970
LEGL/16-231	WYK23	Decommissioned	Aerial Bundled Cable	Polyphase	1.03671	-	-	-	3/08/1998
LEGL/16-231	WYK23	Decommissioned	Aerial Bundled Cable	Polyphase	0.09148	-	-	-	6/08/2003
LEGL/16-231	WYK23	Decommissioned	Bare Conductor	Polyphase	1.17927	-	-	-	6/08/2003
LEGL/16-231	WYK23	Decommissioned	Aerial Bundled Cable	Polyphase	0.17106	-	-	-	18/08/2015
LEGL/16-231	WYK23	Decommissioned	Bare Conductor	Polyphase	0.00202	-	-	-	30/07/2016
LEGL/16-231	WYK24	Decommissioned	Bare Conductor	Polyphase	0.00004	-	-	-	1/01/1970

## 4.2 Planned Program Works 1 May 2018 to 30 April 2019

The table below indicates the planned change in volumes (km) of bare and insulated powerline between 1 May 2018 and 30 April 2019.

Total HV Electric Line Volumes	At 1 May 2018	At 30 April 2019	Progress over Reporting Period
<b>Bare construction in ELCA</b>	Route km	Route km	Route km
Polyphase	816.51	789.58	(26.93)
SWER	646.68	636.69	(9.98)
<b>Covered or underground construction in ELCA</b>	Route km	Route km	Route km
Polyphase	264.39	291.33	26.93
SWER	0.43	12.10	11.67

The planned percentage of total route kilometres of bare conductor remaining within Electric Line Construction Areas as at 30 April 2019 is forecast to be 83%.

The table below contains information in the prescribed form for works planned for completion between the 1 May 2018 and 30 April 2019.

Electric Line Construction Area	Feeder	Reason / Driver	Current Construction			Future Construction		
			Construction	Phasing	Length (km)	Construction	Phasing	Length (km)
LEGL/16-224	LDL14	Other Proactive replacement or direction	Bare Conductor	SWER	9.982	Underground Cable	SWER	11.665
LEGL/16-224	LDL14	Other Proactive replacement or direction	Bare Conductor	Single Phase	2.057	Underground Cable	Polyphase	2.355
LEGL/16-225	WYK24	Other Proactive replacement or direction	Bare Conductor	Single Phase	1.691	Underground Cable	Polyphase	1.66
LEGL/16-225	WYK24	Other Proactive replacement or direction	Bare Conductor	Polyphase	0.903	Underground Cable	Polyphase	1
LEGL/16-224	KLK1	Other Proactive replacement or direction	Bare Conductor	Single Phase	0.949	Aerial Bundled Cable	Polyphase	0.949
LEGL/16-224	KLK1	Other Proactive replacement or direction	Bare Conductor	Single Phase	0.595	Underground Cable	Polyphase	0.595
LEGL/16-224	KLK1	Other Proactive replacement or direction	Bare Conductor	Polyphase	4.018	Underground Cable	Polyphase	4.662
LEGL/16-224	KLK1	Other Proactive replacement or direction	Bare Conductor	Polyphase	0.07	Aerial Bundled Cable	Polyphase	0.07
LEGL/16-224	KLK1	Other Proactive replacement or direction	Bare Conductor	Polyphase	0.107	Covered Conductor	Polyphase	0.107
LEGL/16-224	KLK1	Other Proactive replacement or direction	Bare Conductor	Polyphase	6.089	Underground Cable	Polyphase	6.863
LEGL/16-224	KLK1	Other Proactive replacement or direction	Bare Conductor	Single Phase	1.233	Underground Cable	Polyphase	2.357
LEGL/16-224	KLK1	Other Proactive replacement or direction	Bare Conductor	Single Phase	1.21	Aerial Bundled Cable	Polyphase	1.21
LEGL/16-224	KLK1	Other Proactive replacement or direction	Bare Conductor	Polyphase	8.013	Underground Cable	Polyphase	8.673

## 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.



Nino Ficca  
Managing Director