TRIM: DSYD2020/319370

Sydney Trains Electricity Distribution Network

Bushfire Preparedness Report

2019 – 2020

Version control

Version	*Date*	*Comment*
1.0	16 October 2020	First issue

Contents

1. Bushfire Preparedness Report

1.1. Introduction

This report presents the status of activities carried out over the calendar year ending 30th September 2020 in preparation for the spring/summer bushfire season.

This report is produced in accordance with the Electricity Supply (Safety and Network Management) Regulation 2014 and is based on the template provided by the regulator (IPART) in Appendix B of their Electricity Networks Reporting Manual.

1.2. Context

Sydney Trains is the operator and maintainer of the electric passenger heavy-rail network throughout the greater metropolitan Sydney region as shown on Sydney Trains website at https://www.transport.nsw.gov.au/sydneytrains.

As an essential part of this enterprise, Sydney Trains operates a high-voltage electricity distribution network which provides reliable power to the railway assets including traction for the rolling stock, signalling and other infrastructure necessary for the safe operation of the railway, refer Figure 1 (next page).

In this context the "customer" is the railway network operation - Sydney Trains does not supply electricity to high-voltage customers outside the rail corridor - ie does not have "aerial consumer mains" – and hence this data as described by the reporting manual is not provided.

1.3. Bushfire risk profile

Sydney Trains has mapped its electricity distribution network and assessed the risk present at each pole location, based on the local conditions (local terrain, vegetation, soil type, wind) and the proximity of urban development potentially at risk. The risk is assigned a priority (1 = highest, 4 = lowest) at each location and used to prioritise the planning of inspections, maintenance and the treatment of hazard trees.

Figure 1 (next page) shows the average season bushfire risk profile for the Sydney Trains network. This comprises both the risk to adjacent external property and lives from fires caused by network assets, as well as the risk posed by external fire to the network (with the potential to disrupt rail services and destroy assets). In figure 1 the X-Y axes are longitude and latitude, respectively, while the colour coding represents risk (blue lowest, red highest). The data is based on analysis of:

- In the North, there are several pockets of elevated risk, with the most significant being closer to Sydney.
- In the West, there is risk all the way along the corridor but a hot-spot is at lower altitude to the East.
- In the South, there is an intense area near the end of the feeder with high risk per pole.
- In the Illawarra, there is mid-range risk in a small area but generally the risk is present but not as high as it is further inland.

1.4. Bushfire risk management activities

Bushfire risk management activities are detailed in Sydney Trains Bushfire Risk Management Plan, published on RAILSAFE. The following sections present the status of those activities as at 30 September, 2020.

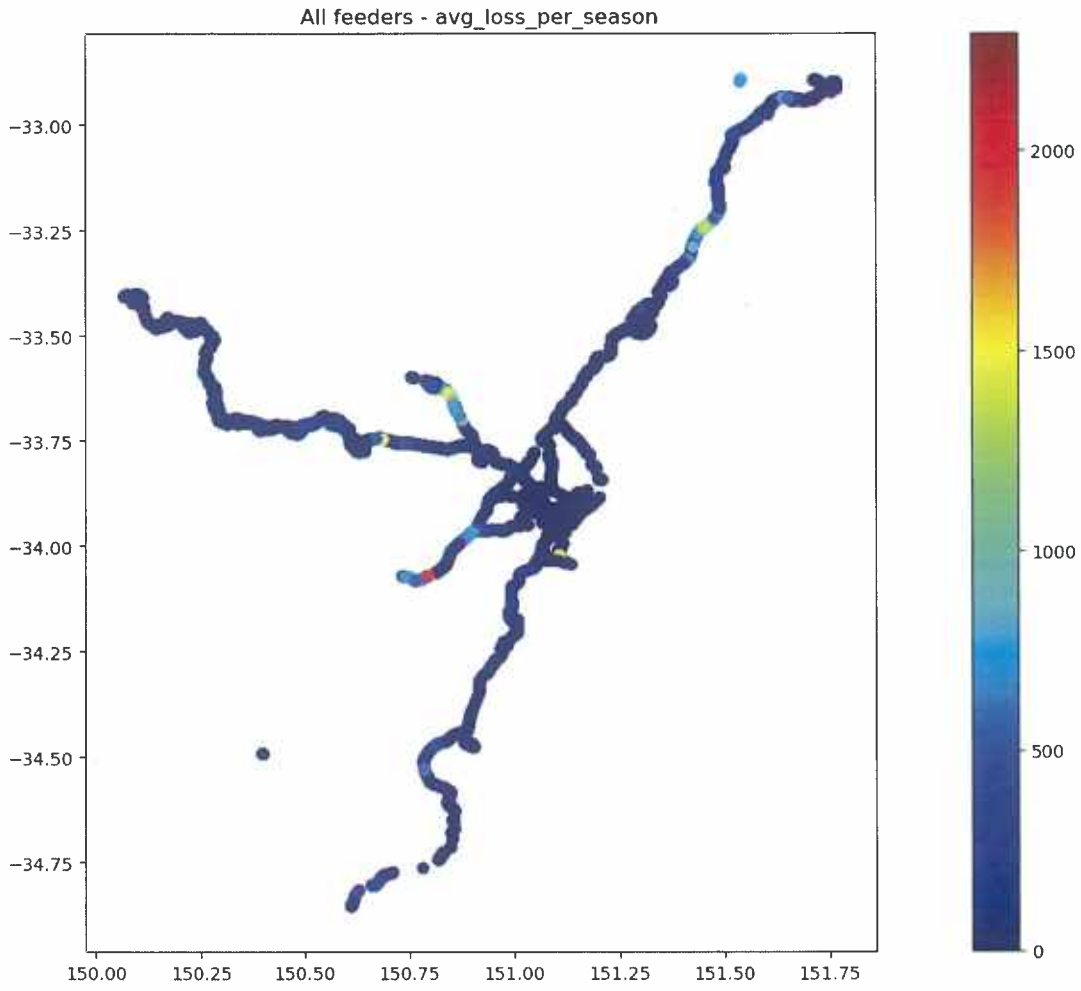

Figure 1. Mapping of average season risk for the Sydney Trains network

1.5. Aerial consumer mains on bushfire prone land (HV and LV)

Sydney Trains does not have aerial consumer mains on bushfire-prone land.

1.6. Performance Target

Sydney Trains defect targets are:

- Zero defects outstanding in priority 1 or 2 locations by 1 September,
- Zero defects (categories 1-4) outstanding by 15 December.

2. Bushfire Preparedness Status – 2020

Table B.1 – Aerial consumer mains on bush fire prone private land

Sydney Trains has no private LV lines on private land and no HV customers.

Table B.2 – Pre-summer bushfire inspections

Performance measure	Population (Feeders)	Target (poles)	Achieved	Outstanding	Comments
Inspections – North Region	31 Feeders	2179	2179	0	
Inspections – Blue Mountains	22 Feeders	2052	2052	0	
Inspections – South & Illawarra	13 Feeders	753	753	0	
Inspections - Metropolitan	0 Feeders	0	0	0	
Inspections - Total	**129 Feeders**	**4984**	**4984**	**0**	

Sydney Trains has completed its inspection program as at 30th September, with zero inspections outstanding.

Table B.3 – Vegetation Tasks

Region	Vegetation Defects - by bushfire risk priority			
	1[a] (worst)	2[b]	3-4[c]	Hazard Trees
North - Central Coast				
Open	0	0	5	11
Outstanding	0	0	0	11
Blue Mountains				
Open	0	0	74	47
Outstanding	0	0	5	47
South & Illawarra				
Open	0	0	1	6
Outstanding	0	0	0	6
Metropolitan				
Open	0	0	0	0
Outstanding	0	0	0	0
Defects - Total	**0**	**0**	**80**	**64**

[a] Category 1 Defects: Refers to defects that are to be completed between 1-7 days.
[b] Category 2 Defects: Refers to defects that are to be completed between 8-31 days.
[c] Category 3+4 Defects: Refers to defects that are to be completed after 31 days or more.

All outstanding hazard trees are planned to be treated by 30 November 2020.

Table B.4 - Network asset tasks

Region	Asset tasks - by bushfire risk priority		
	1[a] (worst)	2[b]	3-4[c]
North - Central Coast			
Open	0	0	62
Outstanding	0	0	0
Blue Mountains			
Open	0	0	123
Outstanding	0	0	21
South & Illawarra			
Open	0	0	9
Outstanding	0	0	0
Metropolitan			
Open	0	0	0
Outstanding	0	0	0
Defects - Total	**0**	**0**	**194**

[a] Category 1 Defects: Refers to defects that are to be completed between 1-7 days.
[b] Category 2 Defects: Refers to defects that are to be completed between 8-31 days.
[c] Category 3+4 Defects: Refers to defects that are to be completed after 31 days or more.

As at 30 September there are 134 asset maintenance activities open (planned), with 21 outstanding in low-risk locations, these will be completed before 30 November 2020.

3. Notes

3.1. Glossary

The following abbreviations, acronyms and definitions are used in this report.

EAM	Enterprise Asset Management (system), a whole-of-business data system adopted by Sydney Trains
ENSMS	Electricity Network Safety Management System
ESSNM	Electricity Supply (Safety and Network Management) Regulation 2014
IPART	Independent Pricing and Regulatory Tribunal of NSW, a state government authority
LIDAR	Light detection and ranging – an optical surveying method used to determine the size, volume and geographic location of the target.
TfNSW	Transport for New South Wales, a state government authority

3.2. Referenced Documents

Electricity Supply (Safety and Network Management) Regulation 2014

Electrical Networks Reporting Manual, IPART, September 2020

Sydney Trains Bushfire Risk Management Plan SP D 79036

Appendix A – Endorsement

Annual Bushfire Preparedness Report for 2019-2020

Submitted by Sydney Trains ABN 38 284 779 682

To: The Chief Executive Officer
Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop
NSW 1240

Sydney Trains reports as follows:

This report documents compliance with bushfire preparedness requirements for the period 1 October 2019 through to 30 September 2020 in accordance with all obligations to which Sydney Trains is subject to under the Electricity Supply (Safety and Network Management) Regulation 2014.

This report has been prepared by Sydney Trains with all due care and skill in full knowledge of conditions to which it is subject and in compliance with IPART's Electricity Network Reporting Manual.

This compliance report is approved by the Chief Executive:

Date: 30/10/20

Signed:

Name: Suzanne Holden

Designation: Chief Executive