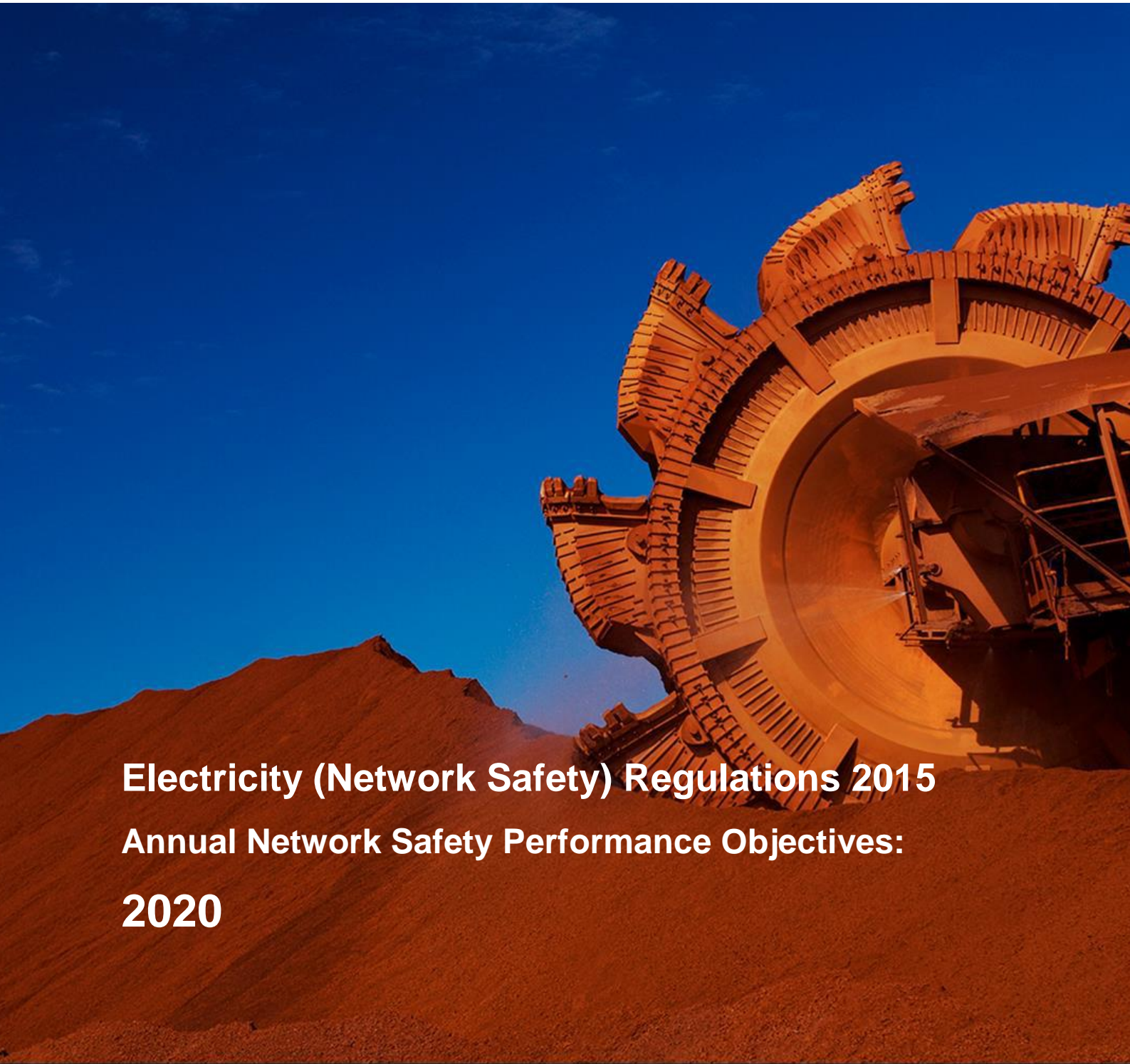




**BHPIO – Mount Newman Supply
Authority**



**Electricity (Network Safety) Regulations 2015
Annual Network Safety Performance Objectives:
2020**

Executive summary

Mount Newman Supply Authority annual network safety performance objectives

Regulation 30 - Network safety performance incident			2020/21	2021/22	2022/23	2023/24
(a)	Total Electric Shock		0	0	0	0
	i) Electric Shock - No Injury		0	0	0	0
	ii) Electric Shock – Injury		0	0	0	0
	iii) Electric Shock – Death		0	0	0	0
	iv) Livestock – Death		0	0	0	0
(b)	Property Damage (Not Fire)		0	0	0	0
(c)	Property Damage (Fire)		0	0	0	0
(d)	Pole fire	T ¹	0	0	0	0
		D	0	0	0	0
(e)	Conductor clashing	T	0	0	0	0
		D	0	0	0	0
(f)	Unassisted pole failures ²	T ¹	0	0	0	0
		D	0	0	0	0
(g)	Unassisted overhead conductor failures	T	0	0	0	0
		D	0	0	0	0
(h)	Unassisted stay wire failures	T	0	0	0	0
		D	0	0	0	0
(i)	Unassisted underground cable failure	T	0	0	0	0
		D	0	0	0	0

1. All steel poles for the Transmission and Distribution system.

2. Refer to section 3.6 on pole types and failure rates.

Prepared By: BHPBIO – Mount Newman Supply Authority

Contents page

Overview	4
1. Purpose	4
2. Definitions	4
2.1. Mount Newman Supply Authority	4
2.2. Mount Newman Supply Authority Network	4
Network Safety Performance	6
3. Network Safety Performance Incidents	6
3.1. Electric shock, injury or death	6
3.2. Property damage (non-fire)	6
3.3. Property damage (fire)	6
3.4. Pole fire – transmission/distribution	6
3.4.1. Transmission System	6
3.4.2. Distribution System	6
3.5. Conductor clashing – transmission/distribution	7
3.5.1. Transmission System	7
3.5.2. Distribution System	7
3.6. Unassisted pole failure – transmission/distribution including type & rate	7
3.6.1. Transmission System	7
3.6.2. Distribution System	7
3.7. Unassisted overhead conductor failure – transmission/distribution	7
3.7.1. Transmission System	7
3.7.2. Distribution System	7
3.8. Unassisted stay failure – transmission/distribution	8
3.8.1. Transmission System	8
3.8.2. Distribution System	8
3.9. Unassisted cable failure – transmission/distribution	8
3.9.1. Transmission System	8
3.9.2. Distribution System	8

Overview

1. Purpose

This report details the network safety performance objectives for the Mount Newman Supply Authority with respect to the requirements of the Electricity (Network Safety) Regulations 2015, the report is to be published on the BHP Billiton website on or before each 30th of November and is compiled to meet the requirements of regulation 31.

2. Definitions

2.1. Mount Newman Supply Authority

For the purpose of this report, Mount Newman Supply Authority refers to the collective Network Operator listed in regulation 4(1) (f), 4(1) (g) and 4(3).

2.2. Mount Newman Supply Authority Network

The Mount Newman Supply Authority, own, operate and maintain the generation, transmission and distribution electricity network within the Pilbara region which supplies power to its iron ore operations and to the Newman Township, associated bore fields, Newman Airport and Capricorn roadhouse.

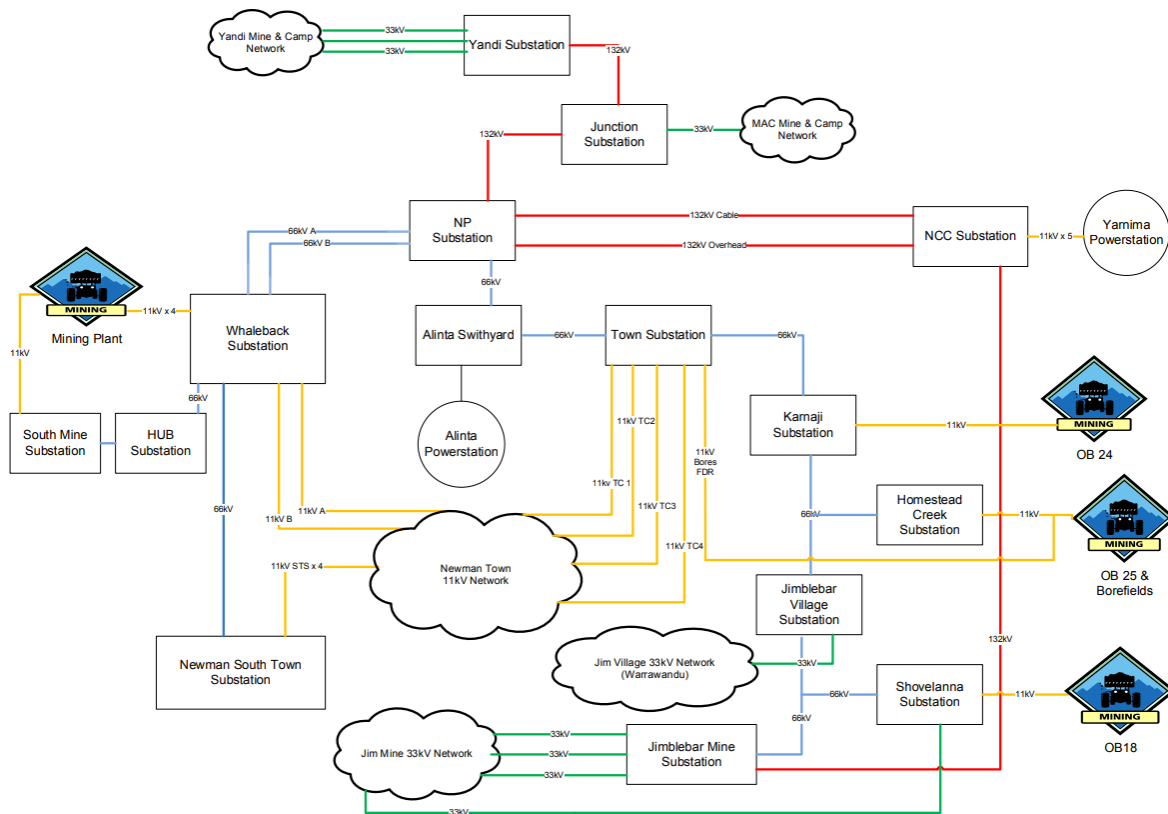


Figure 1: Mount Newman Supply Authority, Transmission and Distribution networks (Block)

NEWMAN HV NETWORK

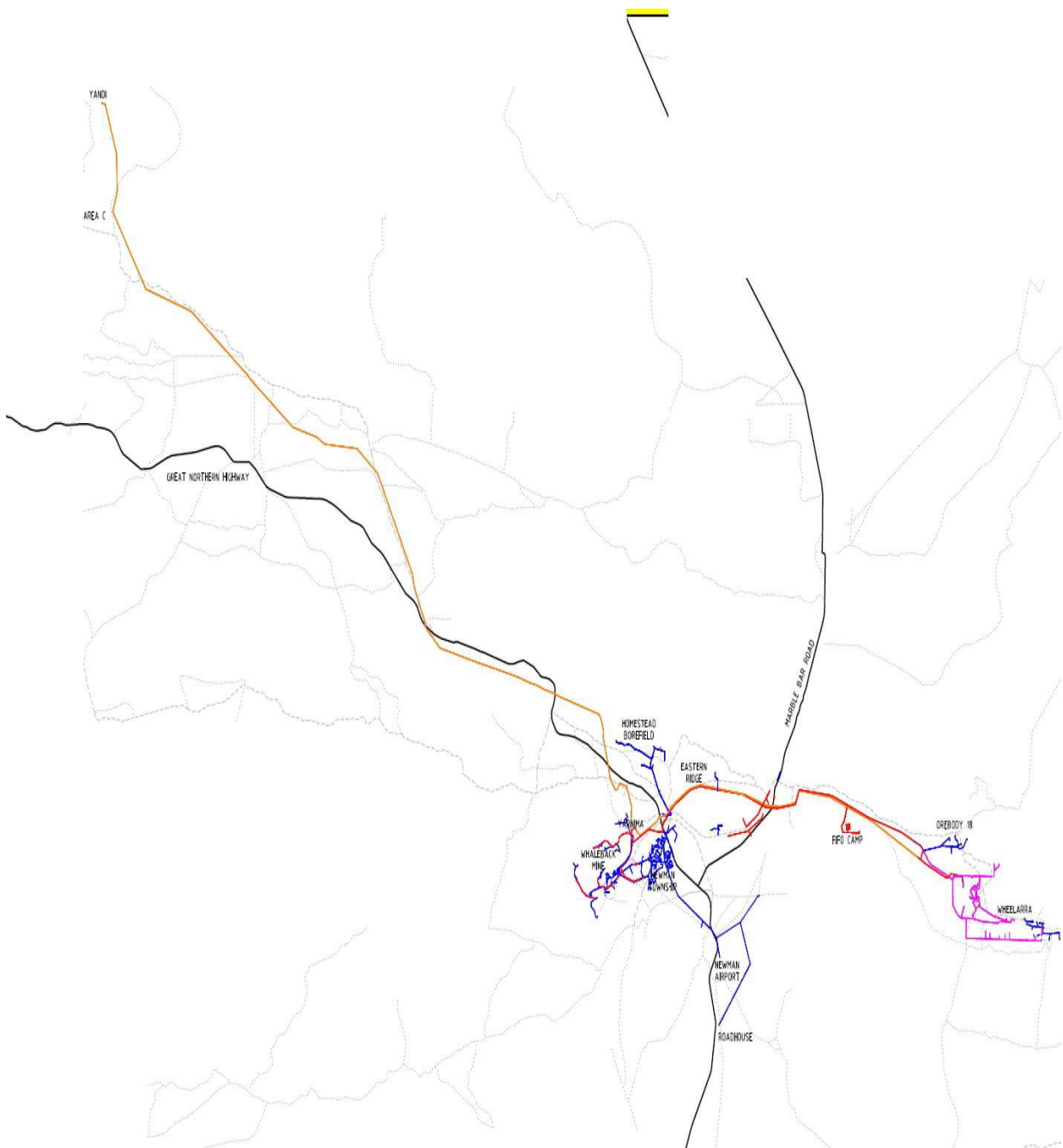


Figure 2: Mount Newman Supply Authority, Transmission and Distribution networks (topographic)

The following are network safety performance objectives to comply with regulation 31:

Network Safety Performance

3. Network Safety Performance Incidents

3.1. Electric shock, injury or death

Definition as per regulation 30 (1) (a): “A discharge of electricity from the network that causes the electric shock, injury or death of a person or the death of livestock”.

Mount Newman Supply Authority regularly inspects and maintains the network to ensure the company’s charter value of Sustainability is first and foremost. Mount Newman Supply Authority actively promotes electrical safety both internally and within the community.

3.2. Property damage (non-fire)

Definition as per regulation 30 (1) (b): “An incident caused by the network, other than a fire, that causes damage to property other than to the network”.

Mount Newman Supply Authority regularly inspect and maintain the network in accordance with BHPBIO work management process. The inspection and maintenance strategy is developed to ensure a reduction of risk, whilst also seeking industry guidance enabling optimisation and continual improvement of the strategy.

3.3. Property damage (fire)

Definition as per regulation 30 (1) (c): “A fire caused by the network that causes damage to property other than to the network”.

Mount Newman Supply Authority regularly inspect and maintain the network in accordance with BHPBIO work management process. The inspection and maintenance strategy is developed to ensure a reduction of risk, whilst also seeking industry guidance enabling optimization and continual improvement of the strategy.

3.4. Pole fire – transmission/distribution

Definition as per regulation 30 (1) (d): “A fire, on a pole that is a part of the network, which originated on the pole”;

3.4.1. Transmission System

Mount Newman Supply Authority has experienced one (1) pole fire event. The inspection regime consists of Visual Inspection and Non-Intrusive Testing (steel poles only) to ensure accurate asset integrity assessment.

3.4.2. Distribution System

The inspection regime consists of Visual Inspection and Non-Intrusive Testing (steel poles only) to ensure accurate asset integrity assessment.

3.5. Conductor clashing – transmission/distribution

Definition as per regulation 30 (1) (e): “The contacting of 2 or more conductors of the network, of different phases, caused by temperature variations or wind”.

3.5.1. Transmission System

Mount Newman Supply Authority has experienced no evidence of faults triggered by conductor clashing impacting on the Transmission Network. The inspection regime consists of Visual Inspection, Non-Intrusive Testing and Electrical Testing, to ensure accurate asset integrity assessment.

3.5.2. Distribution System

Mount Newman Supply Authority has experienced one (1) event since 2017 that was characteristic of a fault triggered by conductor clashing impacting on the Distribution Network. The inspection regime consists of Visual Inspection, Non-Intrusive Testing and Electrical Testing, to ensure accurate asset integrity assessment.

3.6. Unassisted pole failure – transmission/distribution including type & rate

Definition as per regulation 30 (1) (f): “An unassisted failure of a pole that is a part of the network”.

3.6.1. Transmission System

All steel construction. No historical evidence of reported incident with the steel construction. The inspection regime consists of Visual Inspection and Non-Intrusive Testing to ensure accurate asset integrity assessment.

3.6.2. Distribution System

Predominantly of steel construction with some concrete poles distributed around the Newman township. No historical evidence of reported incidents with both the steel and concrete construction. The inspection regime consists of Visual Inspection and Non-Intrusive Testing (steel poles only) to ensure accurate asset integrity assessment.

3.7. Unassisted overhead conductor failure – transmission/distribution

Definition as per regulation 30 (1) (g): “An unassisted failure of an overhead conductor that is a part of the network”.

3.7.1. Transmission System

Mount Newman Supply Authority has experienced no evidence of faults triggered by conductor failure impacting on the Transmission Network. The inspection regime consists of Visual Inspection, Non-Intrusive Testing and Electrical Testing, to ensure accurate asset integrity assessment.

3.7.2. Distribution System

Mount Newman Supply Authority has experienced no evidence of faults triggered by conductor failure impacting on the Distribution Network. The inspection regime consists of Visual Inspection, Non-Intrusive Testing and Electrical Testing, to ensure accurate asset integrity assessment.

3.8. Unassisted stay failure – transmission/distribution

Definition as per regulation 30 (1) (h): “An unassisted failure of a stay wire that is a part of the network”.

3.8.1. Transmission System

All steel construction towers. Periodic structural integrity inspection carried out to identify any defects.

3.8.2. Distribution System

Predominantly of steel construction with some concrete poles distributed around the Newman township. Periodic structural integrity inspection carried out to identify any defects.

3.9. Unassisted cable failure – transmission/distribution

Definition as per regulation 30 (1) (i): “An unassisted failure of an underground cable that is a part of the network”.

3.9.1. Transmission System

Mount Newman Supply Authority has experienced minimal faults on underground Transmission Network. The inspection regime consists of Visual Inspection (above ground sections including ancillary equipment) and protection device maintenance and calibration, to ensure safe operation.

3.9.2. Distribution System

Mount Newman Supply Authority has experienced minimal faults on underground Distribution Network. The inspection regime consists of Visual Inspection (above ground sections including ancillary equipment) and protection device maintenance and calibration, to ensure safe operation. Recent upgrades to the underground Distribution Network have also improved the system integrity.