



**BHPIO – Mount Newman Supply
Authority**



**Electricity (Network Safety) Regulations 2015
Annual Network Safety Performance Objectives:
2021**

Executive Summary

Mount Newman Supply Authority annual network safety performance objectives for current financial year and the next three financial years:

Regulation 30 - Network safety performance incident			2021/22	2022/23	2023/24	2024/25
(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

Table 1: Network Safety Performance Objectives for current financial year and the next three financial years

1. All steel poles for the Transmission and Distribution system.
2. Refer to section 3.6 on pole types and failure rates.

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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 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.

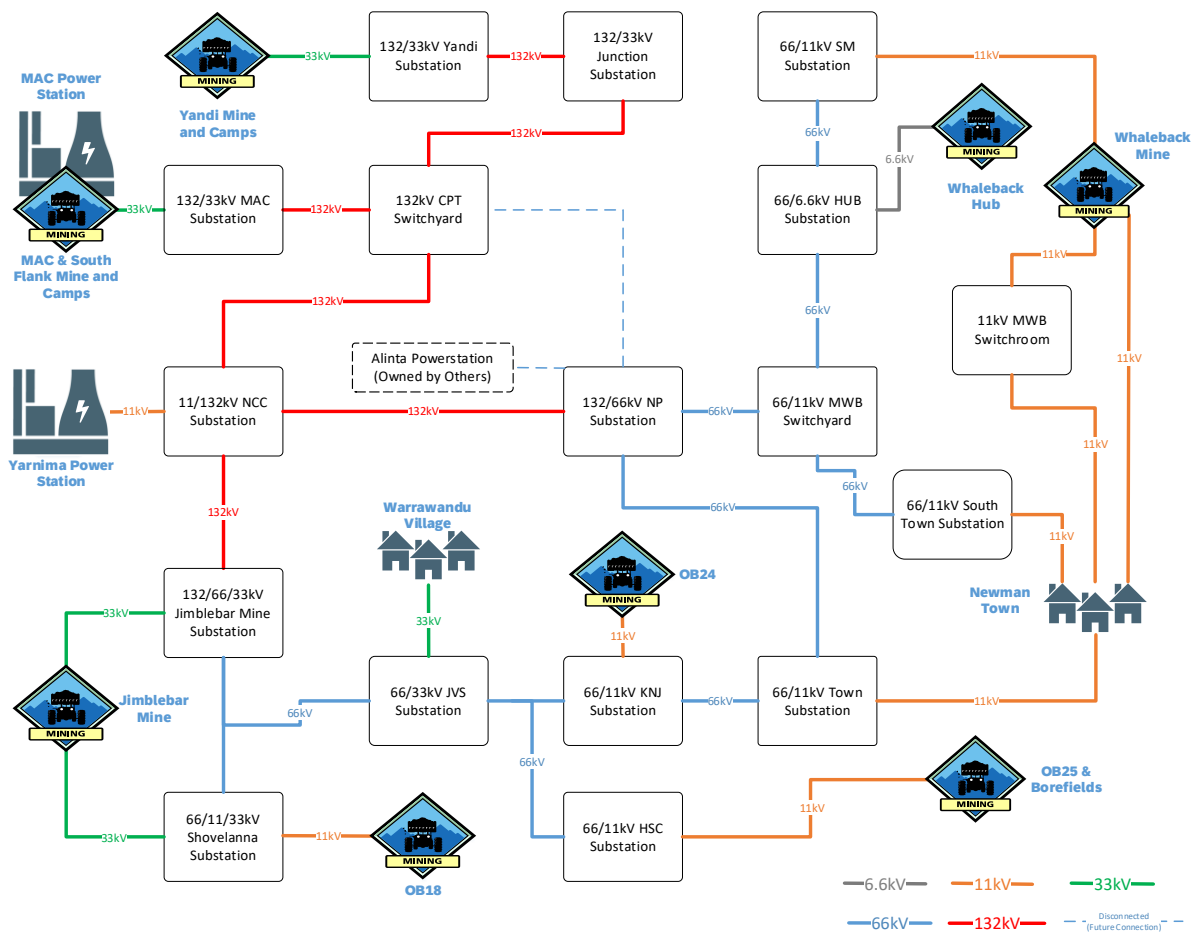


Figure 1: Mount Newman Supply Authority, Transmission and Distribution networks (Block)

NEWMAN HV NETWORK

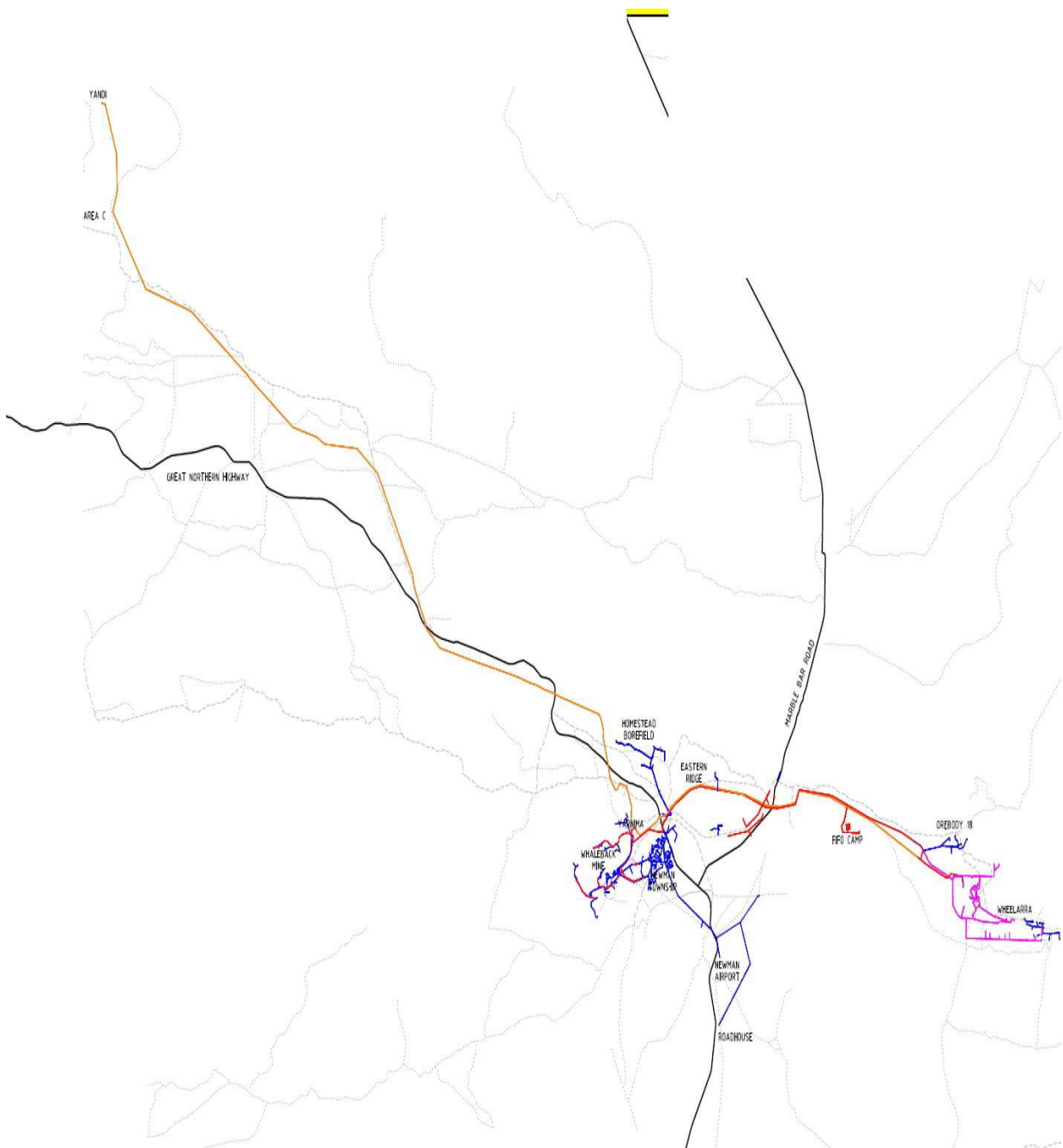


Figure 2: Mount Newman Supply Authority, Transmission and Distribution networks (topographic)

Network Safety Performance

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

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 inspect and maintain the network in accordance with Maintenance Strategies developed by the Reliability Department to ensure compliance to BHP’s High Voltage Equipment Management Standard.

Mount Newman Supply Authority actively promotes electrical safety both internally and within the community.

An Operational Project has been approved commencing FY22 to install Service Protection Devices in to customer switchboards in and remove dual power meters Newman Township in preparation for a Capital Project to install smart meters.

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 Maintenance Strategies developed by the Reliability Department to ensure compliance to BHP’s High Voltage Equipment Management Standard.

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 Maintenance Strategies developed by the Reliability Department to ensure compliance to BHP’s High Voltage Equipment Management Standard.

3.4. Pole fire

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

Mount Newman Supply Authority regularly inspect and maintain the network in accordance with Maintenance Strategies developed by the Reliability Department to ensure compliance to BHP’s High Voltage Equipment Management Standard.

The inspection regime for transmission and distribution overhead line networks consists of Structural Integrity Management inspections and visual inspection of Electrical Components. Vegetation clearing is also conducted periodically and ad hoc as identified through visual inspection.

3.5. Conductor clashing

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”.

Mount Newman Supply Authority regularly inspect and maintain the transmission and distribution overhead line networks in accordance with Maintenance Strategies developed by the Reliability Department to ensure compliance to BHP’s High Voltage Equipment Management Standard.

3.6. Unassisted pole failure

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

Mount Newman Supply Authority transmission network consists of all steel construction towers. Mount Newman Supply Authority transmission network consists of predominantly steel construction with some concrete poles distributed around Newman Township.

Mount Newman Supply Authority regularly inspect and maintain the network in accordance with Maintenance Strategies developed by the Reliability Department to ensure compliance to BHP’s High Voltage Equipment Management Standard.

The inspection regime for transmission and distribution overhead line networks consists of Structural Integrity Management inspections and visual inspection of Electrical Components.

3.7. Unassisted overhead conductor failure

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

Mount Newman Supply Authority regularly inspect and maintain the network in accordance with Maintenance Strategies developed by the Reliability Department to ensure compliance to BHP’s High Voltage Equipment Management Standard.

The inspection regime for transmission and distribution overhead line networks consists of Structural Integrity Management inspections and visual inspection of Electrical Components.

3.8. Unassisted stay failure

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

Mount Newman Supply Authority transmission network consists of all steel construction towers. Mount Newman Supply Authority transmission network consists of predominantly steel construction with some concrete poles distributed around Newman Township.

Mount Newman Supply Authority regularly inspect and maintain the network in accordance with Maintenance Strategies developed by the Reliability Department to ensure compliance to BHP’s High Voltage Equipment Management Standard.

The inspection regime for transmission and distribution overhead line networks consists of Structural Integrity Management inspections.

3.9. Unassisted cable failure

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

Mount Newman Supply Authority regularly inspect and maintain the network in accordance with Maintenance Strategies developed by the Reliability Department to ensure compliance to BHP’s High Voltage Equipment Management Standard.

Mount Newman Supply Authority has experienced three (3) unassisted underground cable failures of aged paper insulated lead cable in calendar years 2020 and 2021. Aged paper insulated lead cables in the distribution network have been identified and entered in to the project pipeline for replacement. An Operational Project has been approved commencing FY22-FY23 to replace an identified section of aged paper insulated lead cable in Newman Township.