AusNet

Service Cables

AMS – Electricity Distribution Network

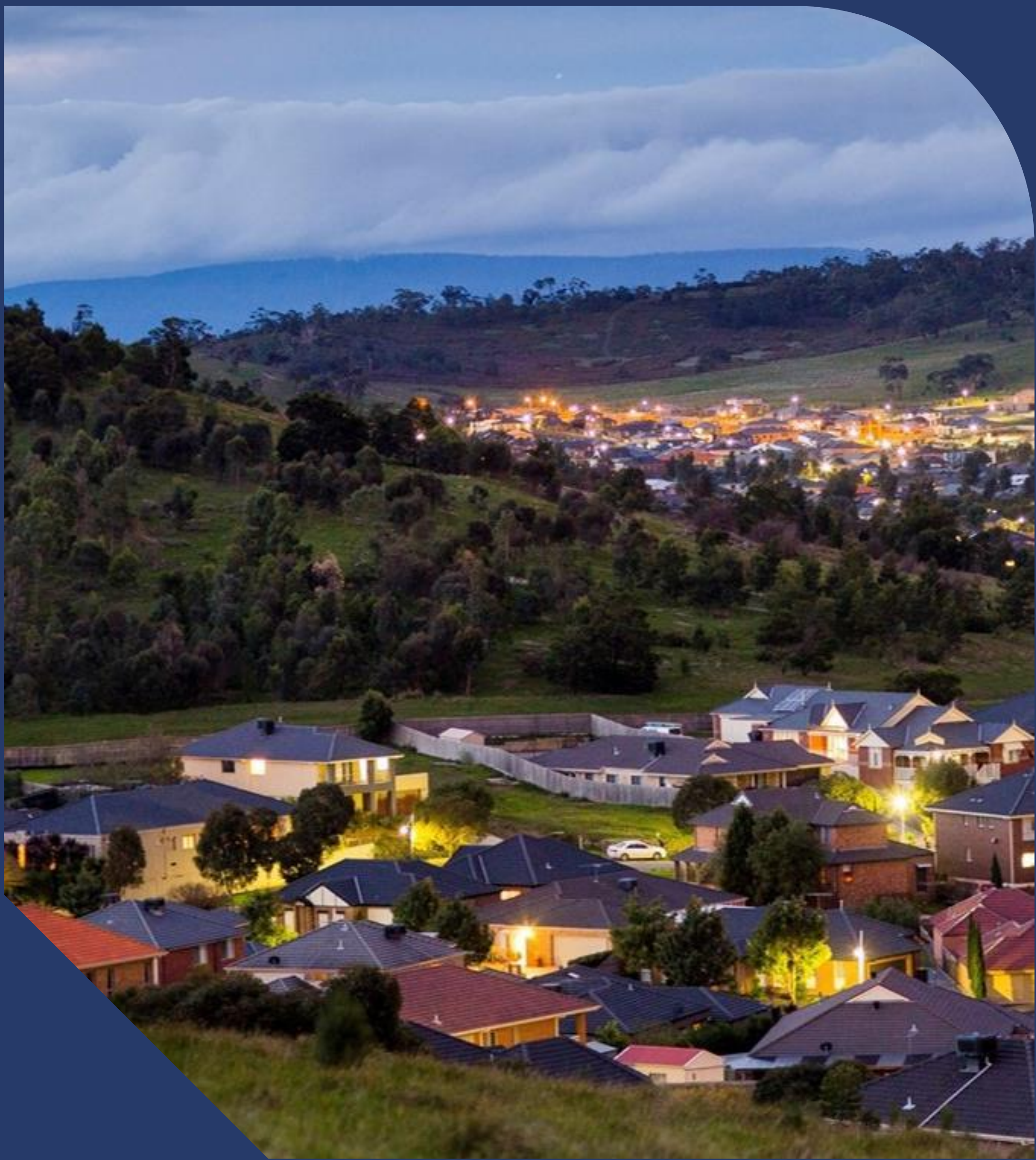

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Table of contents

1. Executive Summary

This document is part of the suite of Asset Management Strategies relating to AusNets' electricity distribution network. The purpose of this strategy is to outline the inspection, maintenance, replacement and monitoring activities identified for economic life cycle management of service cable connecting customers to low voltage (LV) circuits in AusNet Service's electricity distribution network.

This asset management strategy applies to the overhead and underground service cables that connect customers to the LV circuits in the electricity distribution network.

There are approximately 297,000 Cross-linked polyethylene insulated (XLPE) underground and 198,000 overhead service cables in AusNets' Underground Residential Distribution (URD) and Overhead (OH) distribution network, respectively. Among the overhead service cables, Twisted Black Cross-linked polyethylene insulated (XLPE) service cables have the largest population followed by Twisted Grey service cables. Neutral Screen service cables and other obsolete types contributed to less than 2% of the total population.

Ongoing proactive management of service cable installation, inspection, maintenance and replacement practice is required to ensure AusNet meet stakeholder expectations of cost, safety, reliability and environmental performance.

1.1. Asset Strategy Summary

Management of service cables to mitigate safety, reliability and business risks shall include the following strategies.

1.1.1. New Assets

- Install XLPE insulated underground service cables to connect new customers in the URD areas
- Install XLPE insulated aerial service cables to connect to new customers in overhead distribution areas

1.1.2. Inspection and Monitoring

- Monitor failure performance and failure modes of each service cable types
- Monitor failure performance of Twisted Grey PVC Aluminium service cables to quantity if preventative connection testing and remediation is economically feasible
- Capture relevant data of failures in Asset Management System for effective management of service cables
- Inspect service cables as per Asset Inspection Manual 30-4111

1.1.3. Maintenance Planning

- Analyse Advanced Metering Infrastructure (AMI) meter data and dispatch fault crews to emerging service cable failures, e.g. Loss of Neutral to mitigate risk of electrical shocks in customers' premises.
- Maintain service cable height risk management in accordance with the Standard Maintenance Guideline 70-03

1.1.4. Replacement Planning

- Continue to replace neutral screened service cables in conjunction with other maintenance works such as deteriorated LV crossarm replacements and deteriorated timber pole replacements.

2. Introduction

2.1. Purpose

The purpose of this document is to outline the maintenance, replacement and performance of the service cables connecting customers to low voltage (LV) circuits in AusNet Service's electricity distribution network.

This document summarises the key strategies used to manage these assets in order to maintain the reliability, safety and security of the distribution network. This document is intended to inform asset management decisions and communicate the basis for these decisions.

In addition, this document forms part of our Asset Management System for compliance with relevant standards and regulatory requirements. It is intended to demonstrate responsible asset management practices by outlining economically justified outcomes.

2.2. Scope

This asset management strategy applies to overhead and underground service cables that connect customers to the LV circuits in the electricity distribution network.

Overhead service cables are connected between AusNets' overhead mains and the customer's first point of connection, while underground service cables connect customers to the underground residential distribution (URD) network in newer estates.

2.3. Asset Management Objectives

As stated in *AMS 01-01 Asset Management System Overview*, the high-level asset management objectives are:

- Operate to our risk appetite
- Optimise risk, cost and performance
- Improve network reliability
- Meet customer service objectives
- Reduce safety risks and meet our obligations
- Support the energy transition
- Increase community energy resilience
- Sustainability and modernisation of the network

As stated in *AMS 20-01 Electricity Distribution Network Asset Management Strategy*, the electricity distribution network objectives are:

- Improve network performance
- Leverage advances in technology and data analytics
- Reduce bushfire risk
- Reduce electric shocks from network assets
- Deliver REFCLs
- Meet metering compliance obligations
- Meet quality of supply obligations

3. Abbreviations and definitions

TERM	DEFINITION
LV	Low voltage
XLPE	Cross-linked polyethylene insulated
URD	Underground Residential Distribution
OH	Overhead
AMI	Advanced Metering Infrastructure
POC	Point of connection
ABC	Aerial Bundled Cable
ESMS	Electricity Safety Management Scheme
LON	Loss of Neutral

4. Asset Description

4.1. Function

AusNet's' aerial or overhead service cables and underground service cables connect the customers to the overhead and underground residential distribution network, respectively.

Aerial service cables are connected between AusNet's' overhead mains and the customer's first point of connection (POC). Underground services connect the service t-joint on AusNet's' LV underground mains to the customer's service pit located on the property boundary. In this arrangement, the customer owns the insulated cable, which connects the service pit to the installation switchboard. Larger installations are directly connected from the LV mains to the customer switchboard, pillar or cabinet.

4.2. Population

4.2.1. Population Considerations

The population profile for service cables is crucial for effective lifecycle management. This profile includes detailed data on the quantity, types, locations, and specifications of these assets within the electrical distribution network.

A comprehensive understanding of the population profile allows asset managers to:

- **Identify critical assets:** Determine which service cables are essential for maintaining the integrity and reliability of the network.
- **Allocate resources efficiently:** Plan and allocate maintenance resources effectively by knowing the exact number and location of assets
- **Risk management:** Assess and manage risks associated with different assets
- **Optimise maintenance schedules:** Develop optimised maintenance schedules based on the distribution and condition of assets.
- **Enhance reliability and safety:** Ensure that all components, including XLPE underground cables and various types of overhead service cables, meet the required standards for reliability and safety.
- **Support strategic planning:** Inform long-term strategic planning and investment decisions.

4.2.2. Population Summary

The population of aerial service cables in AusNet's' electricity distribution network predominantly consist of Twisted Black cross-linked polyethylene insulated - Aerial Bundled Cable (XLPE – ABC), Twisted Grey PVC insulated aluminium conductors, and Neutral Screened cables with aluminium neutral screen and copper conductors. Insulated XLPE cable is the only type of underground service cable in use.

The quantities and proportion of each service type are shown in

Table 1.

Table 1 - Service Cable by Type

CONNECTION METHOD	CABLE TYPE	PERCENTAGE OF FLEET
Underground	XLPE – Under Ground	60%
Overhead	Twisted Black (XLPE-ABC)	29%
Overhead	Twisted Grey (PVC Aluminium)	10%
Overhead	Neutral Screened (Al and Cu)	1%
Overhead	Other	<1%

4.2.3. Population by Asset Type

The specific asset types within this asset class plan for service cables include:

4.2.3.1. XLPE Underground Service Cables

- **Form and Function:** XLPE (cross-linked polyethylene) underground service cables consist of an aluminium conductor with an XLPE outer sheath. They are predominantly associated with Underground Residential Distribution (URD) systems.
- **Purpose within the Asset Class:** These cables connect the service t-joint on the mains cable to the underground service pit.
- **Purpose within the Network Design:** In network design, they are used to connect customers to the underground residential distribution network, providing a reliable underground service connection.
- **Process Function:** They facilitate the delivery of electrical power from the distribution network to customer premises via underground routes.
- **Historical Application:** URD commenced around 1979 and accelerated in the late 1980s when Victorian planning rules mandated underground servicing for medium-density residential estates. XLPE underground cables now represent 60% of the service cable population.

4.2.3.2. Twisted Black Aerial Service Cables

- **Form and Function:** These cables are aluminium conductors with a XLPE outer sheath, designed for overhead applications.
- **Purpose within the Asset Class:** They are the preferred replacement option and installation material for aerial service cables.
- **Purpose within the Network Design:** In network design, they connect the overhead mains to the customer's first point of connection.
- **Process Function:** They ensure efficient and reliable overhead power delivery to customers, especially in areas where underground service is not feasible.

Historical Application: Since 2019, the population of twisted black aerial service cables has grown gradually.

Figure 1 - Twisted Black XLPE ABC

4.2.3.3. Twisted Grey Aerial Service Cables

- **Form and Function:** These are aluminium conductors with a PVC outer sheath, used in overhead applications.
- **Purpose within the Asset Class:** These cables were previously a common type for overhead service but are now being replaced.
- **Purpose within the Network Design:** They connect the overhead mains to the customer's first point of connection.
- **Process Function:** They provide overhead electrical service connections, though they are being phased out in favour of more reliable materials.
- **Historical Application:** These were the preferred material prior to the introduction of twisted black service cables and are being steadily replaced.

Figure 2 - Grey PVC Service and 'Dog-bone' Termination Fitting

4.2.3.4. Neutral Screened Aerial Service Cables

- **Form and Function:** Constructed with the active conductor (aluminium or copper) surrounded by a fine stranded aluminium sheath (neutral) and covered by an outer PVC insulated sheath.
- **Purpose within the Asset Class:** These cables are used for overhead services but are diminishing due to high failure rates and deterioration.
- **Purpose within the Network Design:** They connect the overhead mains to the customer's first point of connection.
- **Process Function:** They facilitate the overhead delivery of power but are being replaced due to reliability concerns.
- **Historical Application:** Predominantly used between 1964 and 1978, these cables are now approaching 60 years of age and represent a diminishing portion of the network.

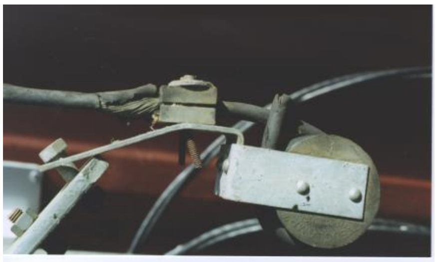

Figure 3 - Neutral Screened Service and Roller Clamp

4.2.3.5. Other Aerial Service Cables

- **Form and Function:** These include open wire, red lead, and black webbed PVC service cables.
- **Purpose within the Asset Class:** These cables are obsolete and are being replaced with twisted black cables.
- **Purpose within the Network Design:** Historically used to connect the overhead mains to the customer's first point of connection.
- **Process Function:** They provide legacy overhead electrical service connections but are being phased out for more modern solutions.

- **Historical Application:** These cables contribute a less than 1% proportion of the overall service cable population and are progressively being replaced.

Figure 4 - Obsolete Aerial Service Cables (From Left to Right: Open Wire Service Cable, Red Lead Service Cable, Black Webbed PVC)

4.3. Age

Understanding the age profile of service cables is crucial for effective asset management and lifecycle planning. Knowing the age distribution helps in predicting their remaining useful life and planning maintenance, upgrades, or replacements accordingly.

4.3.1. Age Profile

The overall age profile of service cables on distribution network is shown in **Error! Reference source not found.**. The dark blue profile depicts the underground proportion of the population that has progressively increased since the late 1970s. This reflects the changes in Victorian planning laws mandated that medium density residential estates were to be supplied electricity via underground cable systems. Underground service cables continue to be predominantly used for new customer connections particularly via Underground Residential Distribution (URD) residential housing developments.

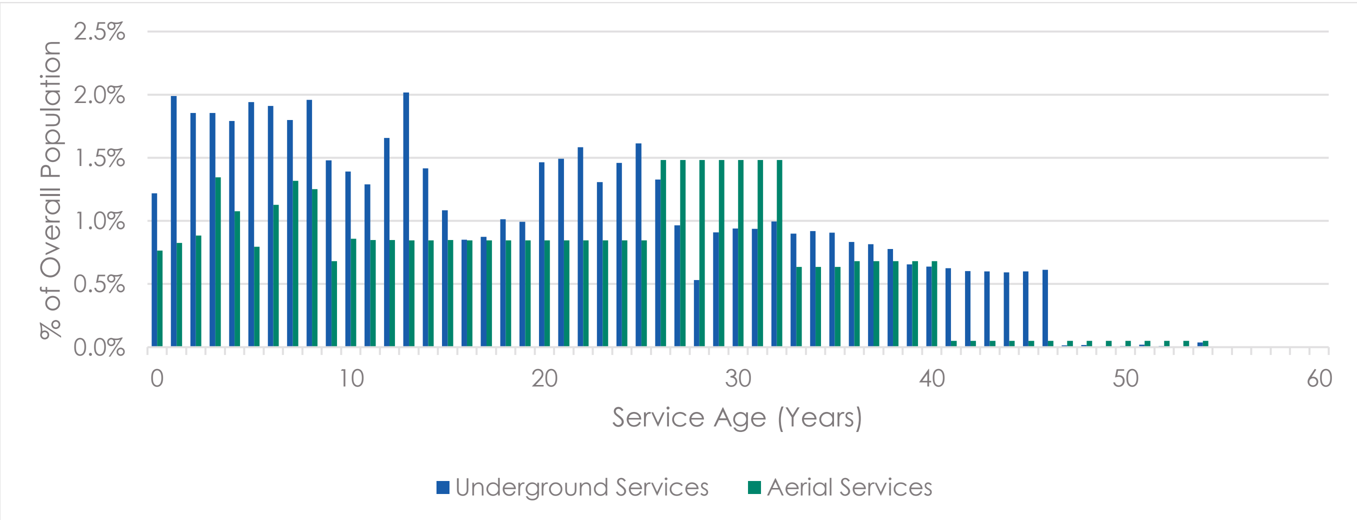

Figure 5 - Service Cable Age Overview

Figure 6 illustrates the introduction and transition between different aerial service cable types.

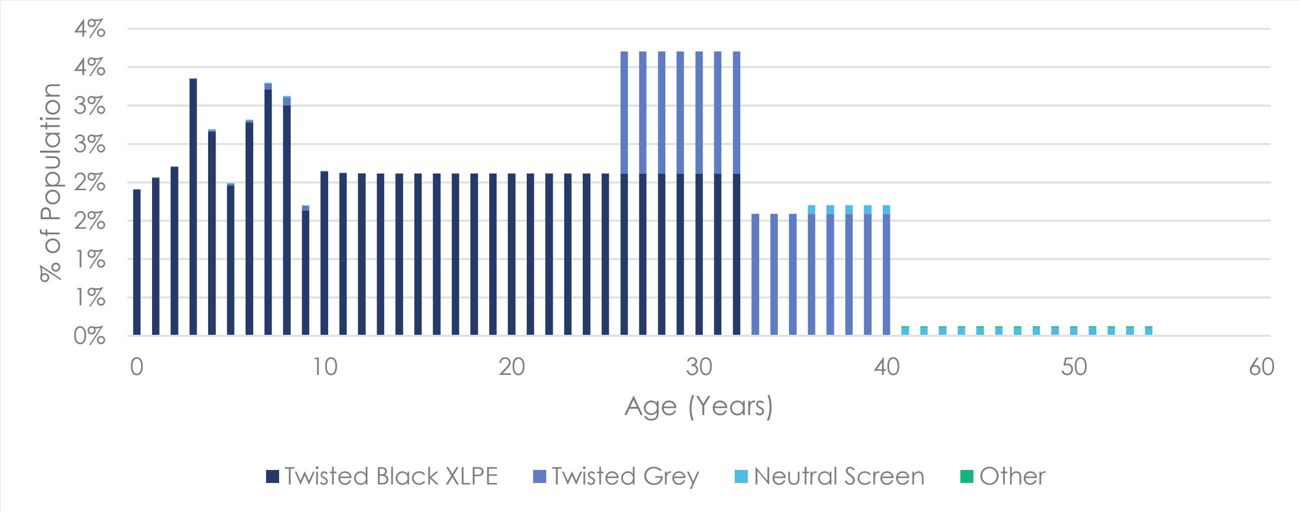

Figure 6 - Aerial Service Cable Age Profile

Neutral Screen service cables were predominantly used between 1964 and 1978. These are among the oldest services installed on the distribution network.

Twisted Grey (PVC) service cables were the preferred material prior to the introduction of Twisted Black (XLPE) service cables. The installation of Twisted Black service cables has been steady in non-underground reticulated areas but increased over the past ten years due to replacement of failing neutral screened cables.

5. Strategic Asset Management

5.1. Condition Assessments

Condition assessments are a critical element of lifecycle management for service cables. These assessments provide vital information on the current state and performance of the cables, enabling informed decision-making regarding maintenance, repair, and replacement.

5.1.1. Condition Assessment Protocol

AusNet employs a standard approach to condition assessments that uses a 5-point rating scale to assign assets a condition rating score:

- **Condition 1 (C1):** A rating of Condition 1 indicates an asset in very good condition, typically with no history of significant defects, extremely low failure rates that are generally driven by external causes. The standard AusNet Asset Condition scoring card benchmarks the remaining useful life of Condition 1 (C1) assets at 95%.
- **Condition 2 (C2):** A rating of Condition 2 includes assets in better than average condition for service history and material type. Very low failure rates predominately due to external causes. The standard AusNet Asset Condition scoring card benchmarks the remaining useful life of Condition 2 (C2) assets at 70%.
- **Condition 3 (C3):** A rating of Condition 3 signifies average condition for its respective service history and material type. End of life failure mode related to events beginning to emerge. Maintenance activities such as re-termination of service cable can be completed to achieve desired functional requirement. The standard AusNet Asset Condition scoring card benchmarks the remaining useful life of Condition 3 (C3) assets at 45%.
- **Condition 4 (C4):** A rating of Condition 4 indicates poor condition based on respective service history and material type. These assets are showing end of life failure modes with deterioration becoming observable. Decreasing opportunity to maintain these assets typically requiring replacement post inspection. The standard AusNet Asset Condition scoring card benchmarks the remaining useful life of Condition 4 (C4) assets at 25%.
- **Condition 5 (C5):** A rating of Condition 5 represents assets in very poor condition, which are exhibiting high deterioration related failure rates with observable deterioration. These assets cannot be maintained and require replacement prior to imminent failure. The standard AusNet Asset Condition scoring card benchmarks the remaining useful life of Condition 5 (C5) assets at 15%.

The condition scoring methodology outlined above provides high-level scoring criteria that can be applied across to service cables within AusNet's electrical distribution network. These scoring criteria offer a broad framework for assessing the general condition and remaining life of assets, ensuring consistency and comparability across asset management activities.

5.1.2. Asset Specific Monitoring Considerations

To accurately evaluate the condition of each specific asset within a given asset class, it is also essential to further refine the benchmarks associated with condition scoring. Each asset class, such as service cables, has unique characteristics and operational requirements that necessitate more detailed benchmarks. Developing these more granular benchmarks may involve considerations such as:

- **Customising Indicators:** Identifying specific indicators of wear, degradation, and performance relevant to each asset type.
- **Detailed Inspections:** Conducting thorough inspections tailored to the asset class.
- **Historical Data Analysis:** Assessing historical performance and maintenance data to establish norms and thresholds for each condition score. This helps in predicting future performance and planning proactive interventions.

5.1.3. Condition Profile

Figure 7 shows the overall condition for aerial service cables. It is observed that Neutral screened service cable contributes to the majority of the very poor service cables condition (C5).

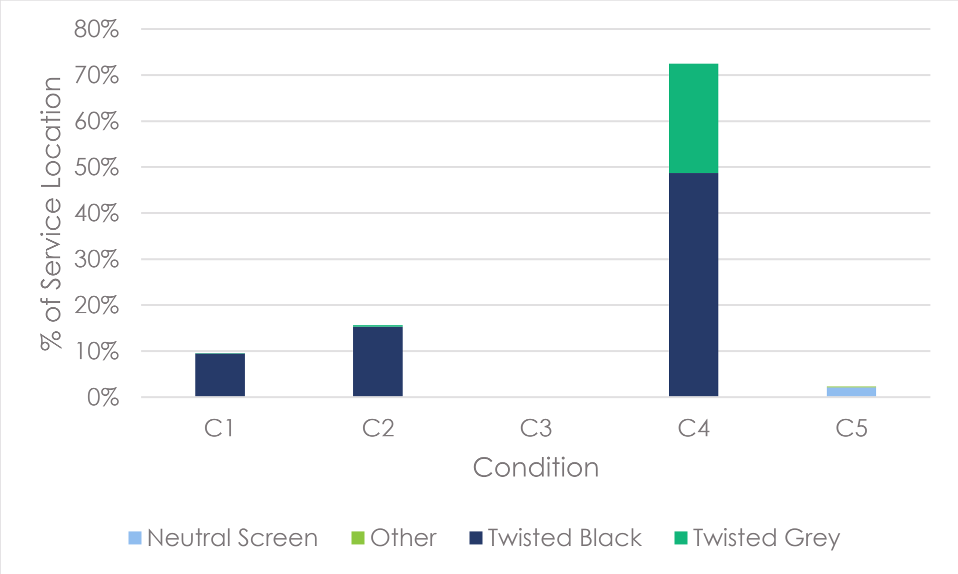

Figure 7 - Overall Condition for Aerial Service Cables

5.1.4. Failure Modes

Understanding failure modes is an important tool that supports measuring the criticality of assets, especially when assessing the risk of potential failures and their potential impact on the overall system. By identifying and analysing the various ways in which an asset can fail (including the root causes and mechanisms of failure), asset managers can better predict and mitigate risks.

5.1.4.1. Connection failure

There are two dominant root causes behind connection failures, namely dry joints which can be rectified through maintenance activities, and corrosion of the active or neutral conductors themselves which requires replacement of the service cable.

Connection failures are generally caused by corrosion of conductor connections (dry joints) at pole end or house end connection points. These faults which relate to Twisted Grey cables are partly the result of inadequate brushing to remove aluminium oxide and greasing at the time the joint was made. They can generally be rectified by the attending fault crew remaking the electrical joints. Poor electrical connection on the neutral conductor may also result in electric shocks to customers.

The second root cause of electrical discontinuity is corrosion of the conductors within the cable itself. Upon deterioration or failure of the outer PVC sheath, moisture ingress results in corrosion of the fine stranding of the fine aluminium neutral screening conductor and the subsequent electrical failure of the neutral connection within the service cable. Mid-span deterioration or failure of the outer sheath can be attributed to age related ultra violet radiation or mechanical abrasion by large vehicles, vegetation or birds (cockatoos) chewing the sheath.

5.1.4.2. Clearance Encroachment

Clearance encroachment failures are generally caused by vegetation or third party's encroaching on minimum distances from aerial or underground service cables. These are generally related to over dimensional vehicle incidents and third party 'dig-ins' both of which maintenance activities can be performed in the majority of cases, eliminating the need to replace the service cable. The main mitigation controls against this failure mode is "Dial before you dig" and "No go zone" programs. Additionally, AusNet have initiated a program to identify impeding vegetation and increasing the clearance height of "at risk" cables over roads where large vehicles travel.

5.1.4.3. Mechanical Damage / Failure

Mechanical damage and failure is caused by third party's coming into contact with the service cables. These failures are a result of causes attributed to a 'Clearance Encroachment' failure mode; maintenance will not rectify the mechanical damage or failure and will require replacement.

5.1.4.4. Service Termination Failure

Service termination failures are caused by mechanical failure of the termination fitting at the service point of attachment. The typical termination fittings include 'dog-bone' fittings, 'roller clamps', 'PG clamp' and 'helical wraps'. These failures generally require a maintenance activity on the termination itself, provided the cable has not been damaged by the termination failure the service cable generally does not require replacement.

5.2. Performance

5.2.1. Performance Analysis

In the context the management of assets and asset types within an Electrical Distribution Networks, assessing asset performance is a vital tool for effective lifecycle management. Performance information provides a comprehensive understanding of how these assets behave under various conditions, enabling asset managers to make informed decisions that enhance the reliability, safety, and efficiency of the infrastructure.

Performance data helps identify trends and patterns in asset behaviour, which are crucial for making strategic decisions regarding maintenance, upgrades, and replacements. Understanding how assets perform over time allows for proactive management, reducing the risk of unexpected failures. The assessment employed by AusNet involves analysing failure trends and any significant impacts resulting from failure, which provides valuable insights into the health and reliability of the assets.

5.2.2. Performance Profile

Underground service cables have performed reliably with no reports of major failures, whereas the overhead service cables have experienced failures due to corrosion, degradation, vegetation and third party damage.

5.2.2.1. Aerial Service Cables related Notification

5.2.2.1.1. Failure by Year

Figure 8 shows aerial service cable related notifications completed since 2018.

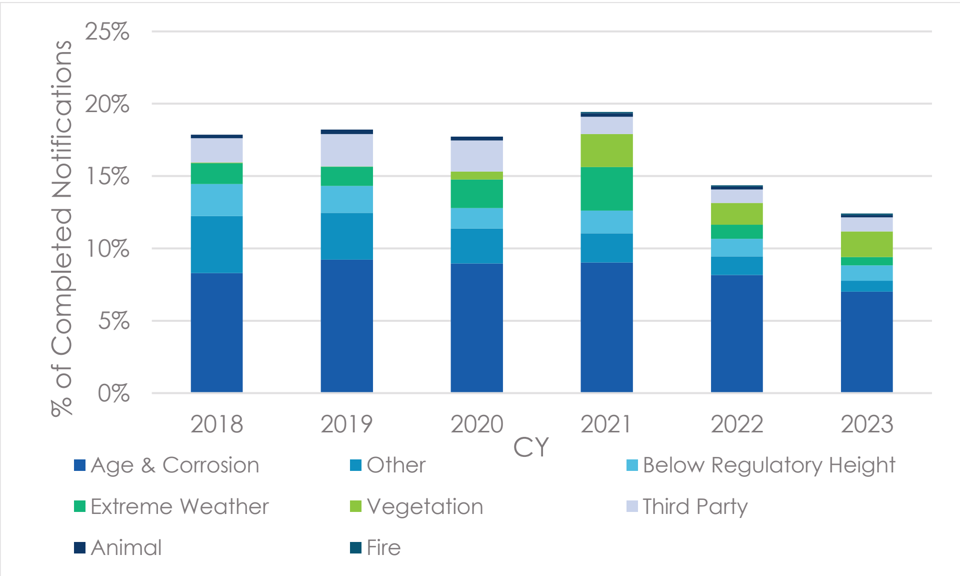

Figure 8 - Completed Notification related to Aerial Service Cables per CY

5.2.2.1.2. Failure by Cause

Figure 9 shows that age and corrosion are the major cause of failure.

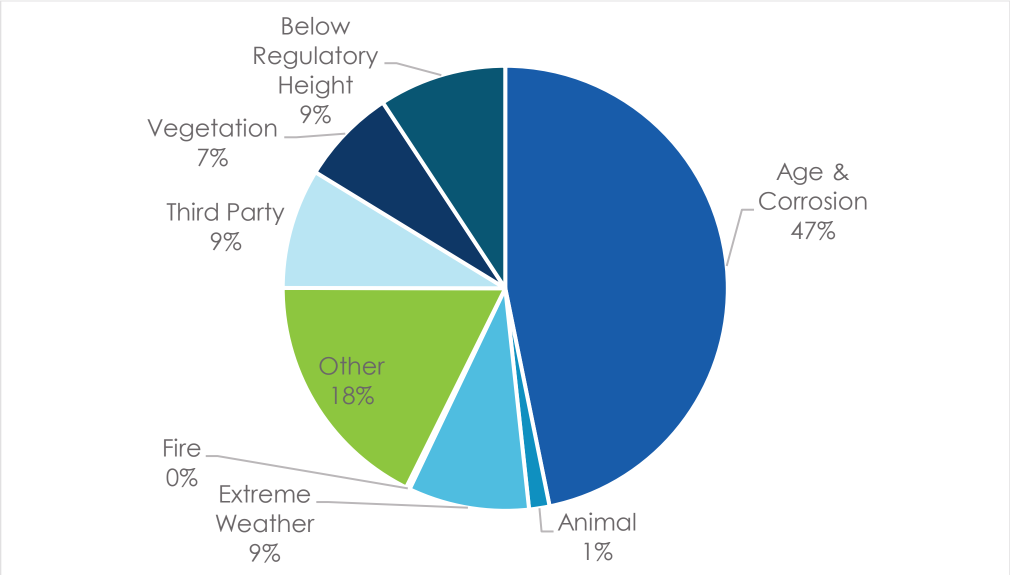

Figure 9 - Failure by Cause

5.2.3. Customer Impact

5.2.3.1. Electric Shock

Electric shock incidents are typically caused by defective neutral connections to customer premises. In June 2024, three electric shock incidents were recorded, compared with the 12-month rolling average of 2.2.

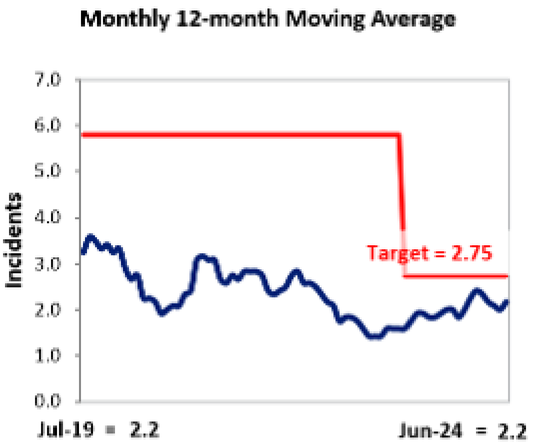

Figure 10 - Electric Shock Incidents: 12 month moving average

6. Regulatory Framework

6.1. Compliance Factors

6.1.1. Regulatory and Legislative Reference

Effectively managing compliance obligations specific to legislation and policies is a core element of Asset Class Planning and supports the sustainable operation and management of Network Assets. Ensuring adherence to relevant laws, policies and codes helps prevent legal and regulatory breaches, which can lead to significant penalties, operational disruptions, and reputational damage.

6.1.2. Technical Standards and Procedures

Effectively managing compliance with technical standards and operational procedures is an important element of Asset Class Planning. Adhering to these standards ensures that the assets are designed, constructed, maintained, and operated in a manner that meets industry best practices, enhances safety, and ensures reliability. Compliance with technical standards helps prevent asset failures, reduces risks, and ensures interoperability within the electrical distribution network. For example, ensuring that all components of various asset types are installed and maintained according to Australian Standards can prevent unplanned failure and operational faults, enhancing network reliability.

Table 2 below shows the regulation related to ground clearance.

Table 2 - Compliance Factors

REF	DETAILS OF MATERIAL CONSIDERATIONS
01	**Regulatory Compliance – Ground Clearence** AusNet will continue to manage the risks associated with overhead service cables that do not meet the required ground clearance. Details can be found in AusNets' Electricity Safety Management Scheme (ESMS). This plan requires a prioritised response to increase the service cable ground clearance if the risk is considered unacceptable with regards to the cable being hit by passing vehicles. For the rest of the service cable fleet that do not meet the required clearance, these will be addressed in the future via planned asset replacement works.

6.2. External Factors

6.2.1. Technical Factors

Understanding and managing the technical factors that can directly impact the lifecycle planning for Network Assets across all the AusNet Asset Classes is a core element of effective asset management. These factors encompass various design, engineering, and technical performance considerations that directly impact the ability to manage and maintain these assets efficiently. Ensuring that Network Assets meet specific technical performance standards is vital for maintaining the reliability and safety of the electrical distribution network. For example, selecting construction materials with appropriate durability and weather resistance is essential to prevent faults and ensure consistent performance under varying environmental conditions.

Table 3 below shows the technical factors related to loss of neutral detection.

Table 3 - External Technical Factors

REF	DETAILS OF MATERIAL CONSIDERATIONS
01	**Loss of Neutral Detection** Loss of Neutral (LoN) which can lead to electric shocks and other HS&E Incidents can be detected by interrogating the data collected by AMI meters installed on AusNets' residential and small business customers. This capability to identify emerging faults and remediate it prior to eventuating has been implemented customer meters since its introduction in 2013. The high level process includes: • Power Quality data is recorded over a three-hour window for processing • Algorithms are completed on the recorded power quality data • Potential faults are flagged for manual validation • Control room are notified of the potential fault • Field crew dispatched for make-safe and service cable replacement works. This process has a fundamental safety benefit for customers supplied from aerial service cables nearing end of life. However, it is a reactive process and hence suffers from lower economic efficiency when compared with a planned replacement program targeted on aerial service cables with high failure rates, e.g. Neutral Screens and Grey Twisted service cables.

6.3. Internal Factors

6.3.1. Safety Factors

Safety is a paramount concern in the management of electricity distribution network assets, as outlined in **ESMS 20-01**. Effective asset management planning and activities are crucial for protecting employees, contractors, the public, and the environment from potential hazards associated with electrical infrastructure. Ensuring adherence to safety regulations and standards through diligent asset management helps prevent accidents, minimise risks, and maintain the integrity of the network.

Targeted asset management activities include conducting regular safety audits and risk assessments, maintaining a robust Bushfire Mitigation Plan, providing ongoing safety training and competency assessments, regularly reviewing and updating emergency response plans, engaging with the community to raise awareness about electrical safety, and adopting new technologies and practices to enhance network safety. By integrating these safety-focused activities into asset management planning, AusNet can effectively minimise safety risks "as far as practicable," as outlined in the Electricity Safety Act 1998 and reflected in **ESMS 20-01**.

7. Asset Strategies

7.1. New Assets

7.1.1. New Asset Considerations

A strategic asset strategy for the introduction of new assets provides high-level guiding principles and overarching goals for asset management, focusing on long-term planning and sustainability. This strategy outlines the aspects of asset upgrades or changes, detailing the conditions under which new assets may be introduced into the network. This is not a like-for-like replacement but rather a strategic change or upgrade to a different type of asset to enhance reliability, improve efficiency, and incorporate advanced technologies. It serves as a roadmap that is ideal to follow if possible, guiding the decision-making process for integrating new assets into the AusNet network.

Targeted activity apply to new asset is shown in Table 4

Table 4 - Targeted Activities on New Assets

REF	DETAILS OF MATERIAL CONSIDERATIONS
01	Install XLPE insulated underground service cables to connect new customers in the URD areas
02	Install XLPE insulated aerial service cables to connect new customers in overhead distribution areas

7.1.2. Inspections and Monitoring

A strategic plan for inspections and monitoring provides high-level guiding principles and overarching goals for asset management, focusing on long-term planning and sustainability. This strategy outlines the ideal framework and objectives for conducting inspections and monitoring activities, such as enhancing reliability, improving efficiency, and incorporating advanced technologies. It serves as a roadmap that is ideal to follow if possible, guiding the decision-making process for establishing comprehensive inspection and monitoring protocols within the AusNet network.

Table 5 shows targeted activities on inspection and monitoring of service cables.

Table 5 - Targeted activities on inspection and monitoring on Service Cables

REF	DETAILS OF MATERIAL CONSIDERATIONS
01	Monitor failure performance and failure modes of each type of service cable.
02	Monitor failure performance of Twisted Grey PVC Aluminium service cables to quantify if preventative connection testing and remediation is economically feasible.
03	Capture relevant data of failures in Asset Management System for effective management of service cables.
04	Inspect service cables as per Asset Inspection Manual 30-4111.

7.1.3. Maintenance Planning

A strategic plan for maintenance provides high-level guiding principles and overarching goals for asset management, focusing on long-term planning and sustainability. This strategy outlines the ideal framework and objectives for conducting maintenance activities, such as enhancing reliability, improving efficiency, and incorporating advanced technologies. It serves as a roadmap that guides the decision-making process for establishing comprehensive maintenance protocols within the AusNet network. This involves creating a structured approach to regular maintenance activities to ensure optimal performance and longevity.

A list of targeted activities apply on maintenance planning is shown in Table 6.

Table 6 - Targeted activities on maintenance on service cables

REF	DETAILS OF MATERIAL CONSIDERATIONS
01	Analyse AMI meter data and dispatch fault crews to emerging service cable failures, e.g. Loss of Neutral to mitigate risk of electrical shocks in customers' premises.
02	Maintain service cable height risk management in accordance with the Standard Maintenance Guideline 70-03

7.1.4. Replacement Planning

A strategic asset strategy for renewals and replacements provides high-level guiding principles and overarching goals for asset management, focusing on long-term planning and sustainability. This strategy outlines the aspects of asset refurbishments or like-for-like replacements, detailing the conditions under which existing assets may be renewed or replaced within the network. This process ensures continued reliability and efficiency, manages obsolescence, and maintains adequate spares. It serves as a roadmap that is ideal to follow if possible, guiding the decision-making process for renewing or replacing assets within the AusNet network.

A list of targeted activity related to Service Cable replacement is shown in Table 7

Table 7 - Targeted activity on Service Cable replacement

REF	DETAILS OF MATERIAL CONSIDERATIONS
01	Continue to replace neutral screened service cables in conjunction with other maintenance works such as deteriorated LV cross arm replacements and deteriorated timber pole replacements

8. Risk and Options Analysis

8.1. Replacement Forecast

Overhead service cables will get replaced together with pole and crossarm replacement. These quantities have been excluded in the replacement forecast.

Neutral Screen service cables have been actively replaced in the past due to its performance. As a result the number of in-service service cables of this type have declined in the distribution network.

In order to manage the risk "as far as practicable" as per Electricity Safety Act, it is recommended to replace service cable that are approaching its end of service life.

9. Legislative References

NO.	ACT	LINK
1	Electricity Safety Act 1998	https://content.legislation.vic.gov.au/sites/default/files/2024-06/98-25aa083-authorised.pdf

10. Resource References

NO.	ID (LINK)	TITLE
1	30-4111	Asset Inspection Manual
2	SOP 70-03	Standard Maintenance Guideline
3	AMS 01-01	Asset Management System Overview
4	AMS 20-01	Electricity Distribution Network Management Strategy

11. Schedule of revisions

ISSUE	DATE	AUTHOR	DETAILS OF CHANGE	APPROVED
1	18/08/2008	P. Bryant	1st Edition	G Towns
2	22/09/2009	P. Bryant	2nd Edition. Updated Age Profiles	G Towns
3	24/11/2009	P. Bryant	3rd Edition. Update PV graph for NS services	G Towns
4	21/01/2015	T. Gowland	Major Update. FMECA, AMI and incorporated 2014 RIN data	J. Bridge
5	03/06/2019	F. Lirois	Major update to content and format of document	P Ascione
6		I.Kwan	Major update to content and format of document	

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