Powercor
AUSTRALIA

ASSET CLASS OVERVIEW

SERVICES LINES

PAL BUS 4.05 – PUBLIC
2026–31 REGULATORY PROPOSAL

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1. Overview

Our services lines are critical to our ability to maintain network reliability, as they connect our customers, from their residence or business to the electricity network.

Our service lines forecast interventions for the 2026–31 regulatory period is driven by defects and faults. These are forecast based on historical annual asset defect rates and forecast asset inspections, consistent with independent statistical analysis on the best fit of our historical data.

Over the past few years, service lines high priority defects have been increasing, which is a leading indicator of future failures. We have slightly increased our 2026–31 forecast replacement volumes compared to our 2021-26 replacement volumes.

Our annual forecast replacement rate equates to 0.9 per cent of our total service line population. This implies that, on average, our service lines will need to last approximately 114 years before we replace them. While we do not replace service lines on age, this suggests our forecast volumes are no regrets investment.

Table 1 summarises the expenditure forecast for the 2026–31 regulatory period.

TABLE 1 SERVICE LINES: EXPENDITURE ($M, 2026)

EXPENDITURE	FY27	FY28	FY29	FY30	FY31	TOTAL
Service lines	8.7	12.5	16.2	10.4	13.0	60.8

2. Background

Service lines are network assets that connect a customer from their residence or business to the electricity network. They can be overhead conductors or underground cables and supply all residential, industrial, and commercial customers. There are fewer services than customers as a single service can supply multiple customers, for example in multi-apartment complexes.

Service lines interface with both the customer's point of supply and the low voltage (LV) distribution network. Typically, LV fuses or switches are used to make the connection to the network. These can be located at a pole, service pit or directly to an individual distribution transformer (typically in rural areas).

This section provides an overview of our service lines asset class, including a summary of the population, types and age profile.

2.1 Compliance obligations

We operate under a combination of national and state legislation which establish our obligations and the regulatory framework under which we operate.

The National Electricity Rules sets out reliability and safety obligations and the Electricity Distribution Code of Practice include performance requirements. We must also manage our network assets in accordance with the Electricity Safety Act 1998, the Electricity Safety (Management) Regulations 2019, the Electricity Safety (Bushfire Mitigation) Regulations 2023 and the Victorian Environment Protection Act 2017.

These obligations can be summarised as follows:

- Electricity Safety Act 1998 – requires us to minimise safety risk 'as far as practicable' including bushfire danger
- Electricity Distribution Code of Practice – requires us to manage our assets in accordance with principles of good asset management and to minimise the risks associated with the failure or reduced performance of assets
- National Electricity Rules – requires us to forecast expenditure to maintain the quality, reliability and security of supply of our networks and maintain the safety of the distribution system
- Victorian Environment Protection Act (2017) – requires us to reduce the risk of harm from our activities to human health and the environment and from pollution or waste.

In short, we must maintain reliability, minimise safety risk 'as far as practicable' including bushfire danger arising from our network, and reduce the risk of harm to the environment.

2.2 Asset population

Our service line asset class includes overhead and underground service lines. **Error! Reference source not found.** shows our service line population. As shown, we have a similar volume across overhead and underground.

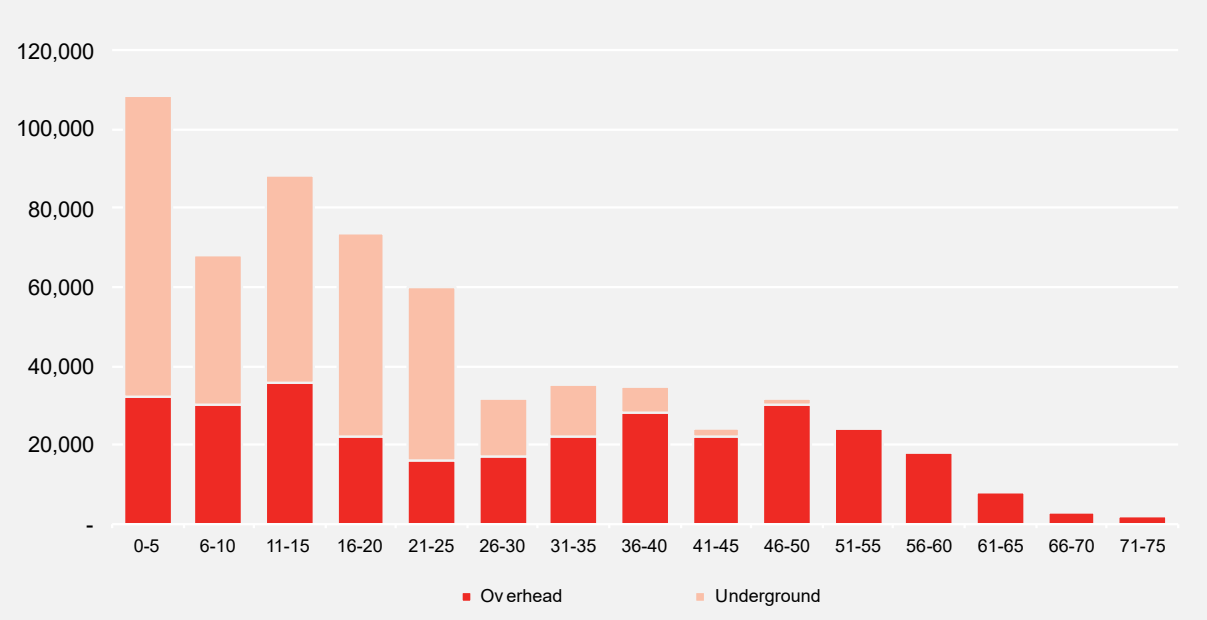
TABLE 2 SERVICE LINE POPULATION

RELAY TYPE	VOLUME
Overhead services	**314, 316**
Underground services	**308, 762**
Total	**623, 068**

2.3 Asset age profile

Service life is the expected period of time after which the asset is unlikely to be fit for purpose, typically determined by safety, technology and/or obsolescence. Service lines have an expected service life of 40 years. The age profile of our service line population is shown in **Error! Reference source not found.**. Approximately 18 per cent of our services are beyond their service life of 40 years.

FIGURE 1 SERVICES LINE: AGE PROFILE BY TYPE



3. Identified need

The performance of our service lines may impact our network service level as failures may lead to a loss of supply for customers, pose safety risks to our personnel and the public and potentially start a fire in hazardous bushfire risk areas (HBRA).

The identified need, therefore, is to manage our service line asset class to maintain reliability and minimise safety risks as far as practicable, consistent with our regulatory and legislative obligations.

This section outlines the historical performance of our service lines, which has informed how we assess and respond, if required, to this identified need.

3.1 Historic asset performance

Consistent with our regulatory requirements, we inspect our service lines on serviceable poles located in HBRA every 2.5 years and every 5 years for service lines in low bushfire risk area (LBRA). We also inspect service lines on added control serviceable poles every year. These cyclic inspections provide snapshots in time of the service line condition and identify any defects.

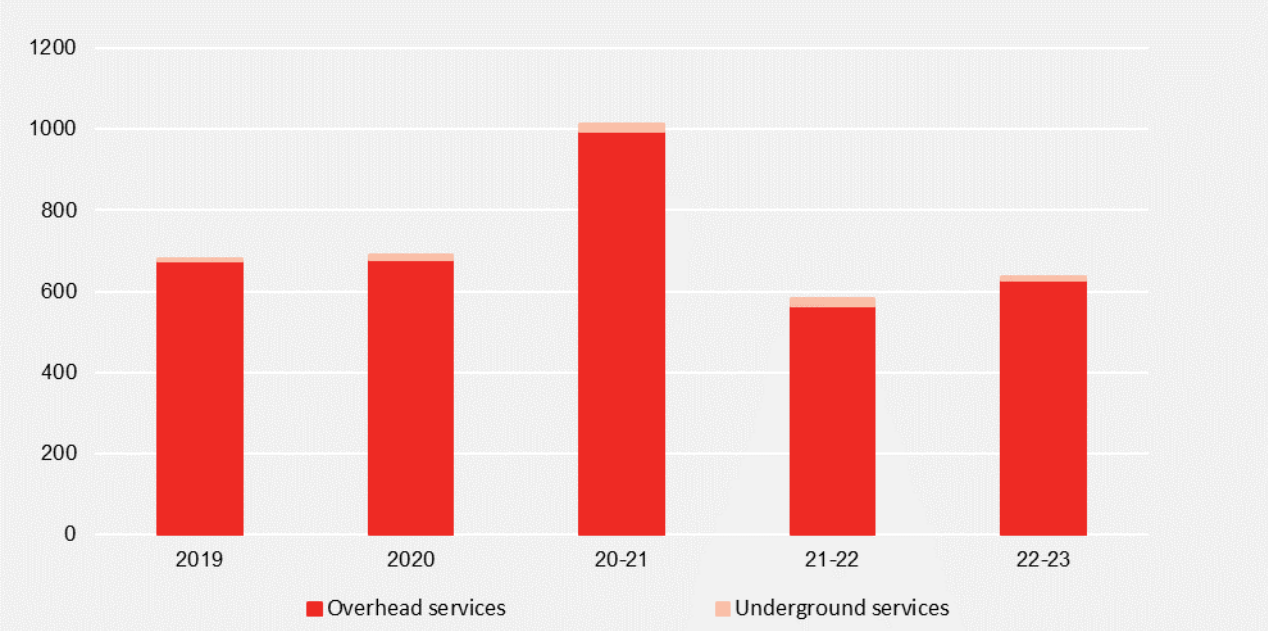
In assessing the need to intervene on our service line assets, we monitor certain asset performance indicators, including asset failures and high priority defects. These indicators inform our underlying asset management response—for example:

- increasing unassisted asset failures indicates a likely need to act immediately and review asset management practices (noting that robust inspection practices and governance over the application of these methods may drive low failure rates, but if the underlying condition of the relevant asset population is poor and/or deteriorating, high and/or increasing intervention volumes may still be prudent and efficient)
- increasing high-priority defects or deteriorating condition (relative to asset management thresholds) indicates a likely need to act soon to increase interventions over time, and/or undertake risk-based assessments.

3.1.1 Historical failures

As shown in figure 2, our service line failures have been trending down since 2019, despite an increase in 2021. The five-year average of historical failures is 721 equating to an average failure rate of 1.2 per 1,000 service lines, which is a very low failure rate.

FIGURE 2 SERVICE LINES ASSET CLASS: FAILURES



3.1.2 Historical defects

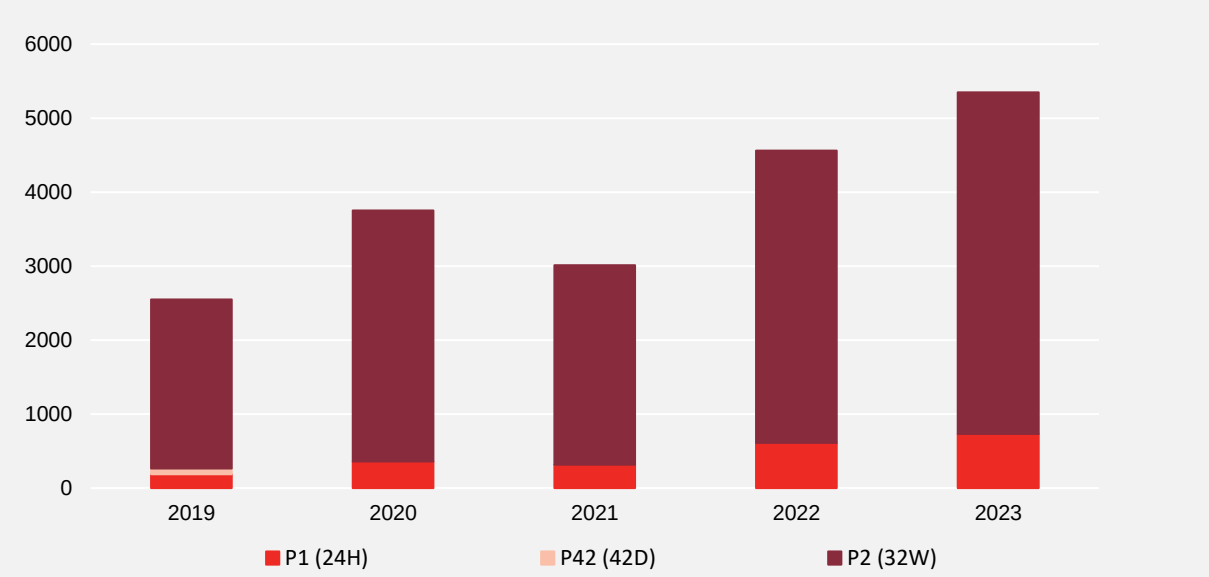
Our response to identified defects depends on the nature and severity of the defect, and may include more frequent re-inspections. High priority defects that result in intervention are shown in table 3.

TABLE 3 RESPONSE TIMEFRAME FOR HIGH PRIORITY DEFECTS

PRIORITY	TIMEFRAME FOR INTERVENTION
P1	Make safe within 24 hours of identification (replacements or repairs can occur beyond the initial 24 hours)
P42	Addressed within 42 days of identification
P2	Addressed within 32 weeks of identification

As shown in figure 3, the number of high priority overhead service line defects are steadily increasing, driven by increases in P1 and P2 defects.

FIGURE 3 OVERHEAD SERVICE LINES: HIGH-PRIORITY DEFECTS

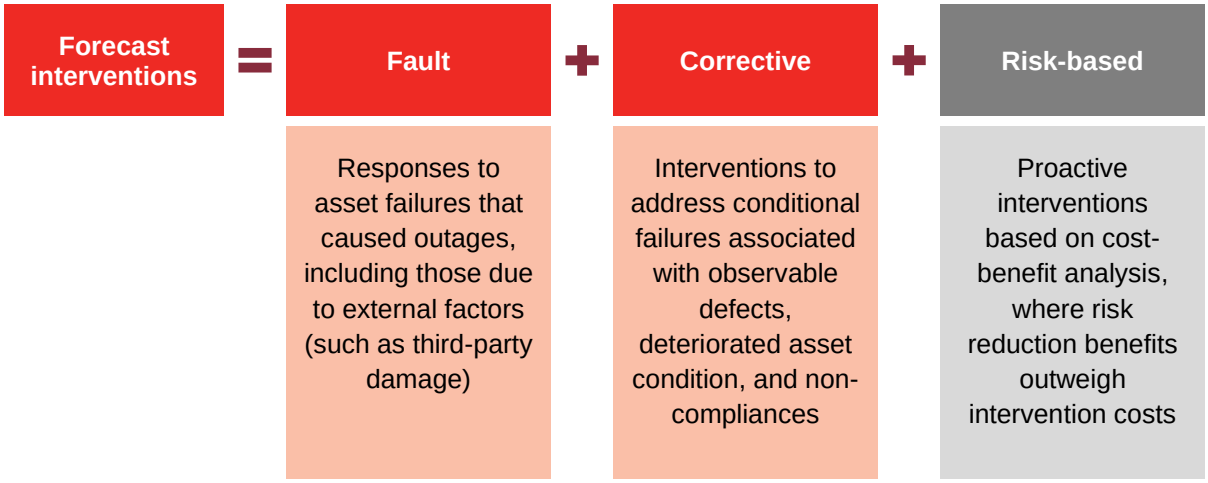


4. Forecast intervention

Our current asset management approach for service lines includes cyclic inspections and interventions, where required, to meet service levels consistent with our compliance obligations and stakeholder expectations. Typically, replacement of end-of-life service lines is the only credible intervention response as refurbishment or repairs are not viable, and additional inspection and maintenance will not address the underlying asset condition.

The derivation of our forecast interventions for the 2026–31 regulatory period, for our high-volume assets such as service lines, is based on two broad categories—faults and corrective forecasts. We are not forecasting any risk-based replacements. This approach is summarised in figure 4.

FIGURE 4 FORECAST CATEGORIES



4.1 Forecast volumes

For the 2026–31 regulatory period, a summary of our forecast volumes for service lines is shown in table 4.

TABLE 4 SERVICE LINES: VOLUMES

VOLUMES	FY27	FY28	FY29	FY30	FY31	TOTAL
Service lines	2,786	4,134	5,474	3,397	4,322	20,111

4.1.1 Fault forecasts

Faults in service lines occur somewhat randomly across our distribution network. Accordingly, our fault-based service line intervention forecast is based on a simple average over the previous five-year period.

4.1.2 Corrective forecasts

Our corrective forecast for service line replacements are based on historical annual asset defect find rates and forecast inspection volumes, consistent with independent statistical analysis on the best fit of our historical data.

As our service lines are located across a large geographical diverse area, we analysed our service lines into eight regions[1] to account for any regional environmental factors that may influence our service line condition. For example, service line defects are more prevalent in coastal areas, primarily due to corrosion.

The annual asset defect find rate is the number of annual defects found per total asset population and reflects the different cyclical inspection intervals.

The historical asset defect find rates were analysed independently, with simple historical averages found to be the best fit the underlying data for find rates for Ballarat, Bendigo, Horsham, Mildura, Shepparton and Sunshine regions, while the linear regression forecasting method was found to be the best fit for our Geelong and Warrnambool regions.[2] The historical asset defect rates yielded a low root mean square error—ranging from 0.0010 to 0.0116—across all sites, which demonstrates low error and hence more robust predictions.

4.1.3 Top-down portfolio review

Our service line replacement forecast ensures no double up with our crossarm replacement program as the defect find rate used excluded the defective service lines replaced as part of the crossarm replacement program.

As a further top-down consideration, our annual forecast replacement rate equates to 0.9 per cent of our total service line population. This implies that, on average, our service lines will need to last approximately 114 years before we replace them. While we do not replace service lines on age, this suggests our forecast volumes are no regrets investment.

4.2 Expenditure forecast

Table 5 summarises this expenditure forecast for the 2026–31 regulatory period.

TABLE 5 SERVICE LINES: EXPENDITURE ($M, 2026)

EXPENDITURE	FY27	FY28	FY29	FY30	FY31	TOTAL
Service lines	8.7	12.5	16.2	10.4	13.0	60.8

[1] Ballarat, Bendigo, Geelong, Horsham, Mildura, Shepparton, Sunshine and Warrnambool

[2] PAL ATT 4.02 – Simon Holcombe (Melbourne University) – EDPR defect forecasting methodology – Aug2024 – Public, pp. 16-18

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