ASSET CLASS OVERVIEW

DISTRIBUTION SWITCHGEAR

UE BUS 4.07 – PUBLIC
2026–31 REGULATORY PROPOSAL

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1. Overview

Distribution switchgears are critical to our ability to maintain network reliability, as they allow us to safely and efficiently minimise the impact of disruptions to customers in response to planned and unplanned outages.

Given the stable condition of our assets, we have forecast our fault and corrective based replacements using historical interventions. Further, our forecast replacement volumes are in line with our 2021–26 replacement volumes. This demonstrates the prudency of our forecast that reflects the effectiveness of our distribution switchgear asset management practice in maintaining reliability and minimise safety risks as far as practicable.

A summary of our forecast expenditure for distribution switchgear for the 2026–31 regulatory period is set out in table 1.

TABLE 1 DISTRIBUTION SWITCHGEAR: EXPENDITURE ($M, 2026)

EXPENDITURE	FY27	FY28	FY29	FY30	FY31	TOTAL
Defective switches	5.3	5.1	5.1	5.0	4.2	24.7
Defective fuses, surge diverters and ACRs	2.6	2.6	2.6	2.6	2.6	12.9
Other distribution works	0.6	0.6	0.6	0.6	0.6	2.9
Total	**8.5**	**8.2**	**8.2**	**8.1**	**7.3**	**40.4**

Note: Expenditure presented above will not exactly match the Reset RIN due to the allocation of some works across multiple asset categories.

2. Background

Distribution switchgears are manual or motorised mechanical devices that enable the connection and disconnection of high voltage (HV) and low voltage (LV) circuits. They are key to the connection and disconnection of sections of the network for isolating network faults to minimise disruption of electricity supply to customers, managing load and planned work.

This section provides an overview of our distribution switchgear asset class, including a high-level summary of our compliance obligations, asset population and age profile.

2.1 Our 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 and age

Our distribution switchgear population includes a combination of pole-mounted and ground-mounted switchgear. The specific types are shown in table 2.

TABLE 2 DISTRIBUTION SWITCHGEAR POPULATION

SWITCHGEAR TYPE	VOLUME
Disconnectors and isolators	441
Air-break switches	605
Manual gas switches	3,454
Remote controlled gas switches	594
Automatic circuit reclosers	302
Ground mounted switchgear	8,000
Total	**13,396**

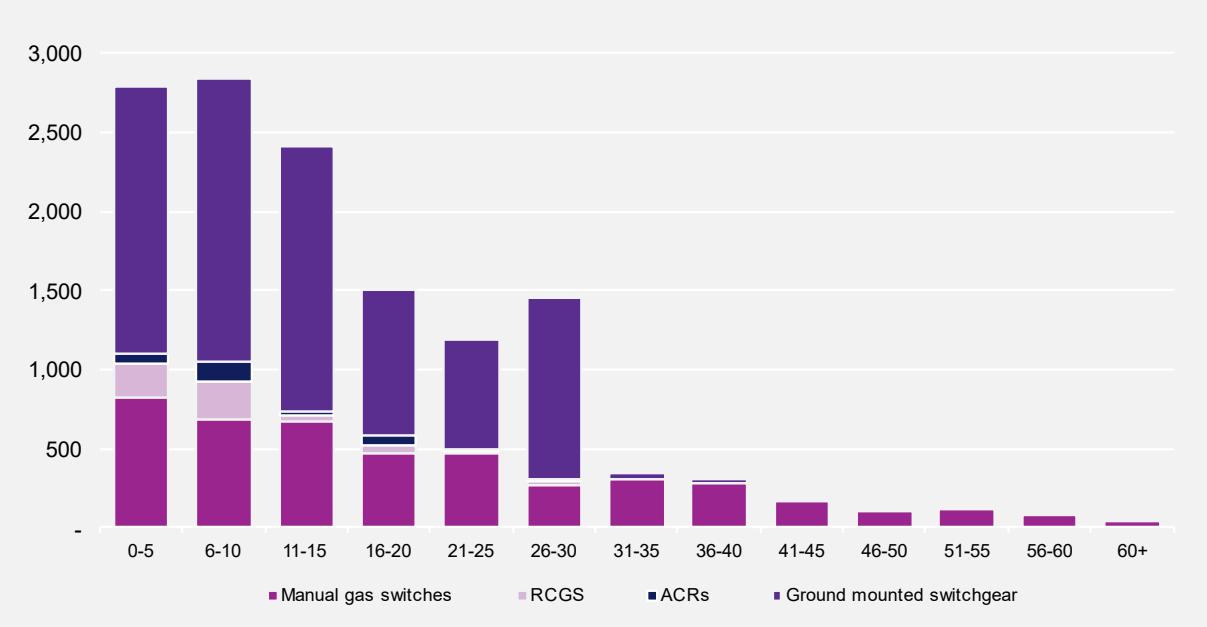
Table 3 sets out the expected service life for our different distribution switchgear. This service life is the expected period of time after which is the asset is likely to be fit for purpose, typically determined by safety, technology and/or obsolescence.

The corresponding age profile of our distribution switchgear is shown in figure 1.

TABLE 3 EXPECTED SERVICE LIFE: DISTRIBUTION SWITCHGEAR (YEARS)

SWITCHGEAR TYPE	EXPECTED SERVICE LIFE
Manual gas switches, air-break switches, isolators	30
Remote controlled gas switches	35
Automatic circuit reclosers (ACRs)	40
Ground mounted switchgear	30

FIGURE 1 DISTRIBUTION SWITCHGEAR: AGE PROFILE



3. Identified need

The performance of our distribution switchgear asset class may lead to a loss of supply for customers, pose safety risks to our personnel and the public, potential fire starts—including in electric line construction areas (ELCAs) and hazardous bushfire risk areas (HBRA)—and potentially pollute the environment if there is an oil or sulphur hexafluoride (SF6) leak.

The identified need, therefore, is to manage our distribution switchgear 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 distribution switchgear, which has informed how we assess (and respond, as required to) this identified need.

3.1 Historical asset performance

In assessing the need to intervene on our distribution switchgear, we monitor several asset performance indicators, including asset failures, high priority defects, and asset condition.[1] These indicators inform our underlying asset management response—for example:

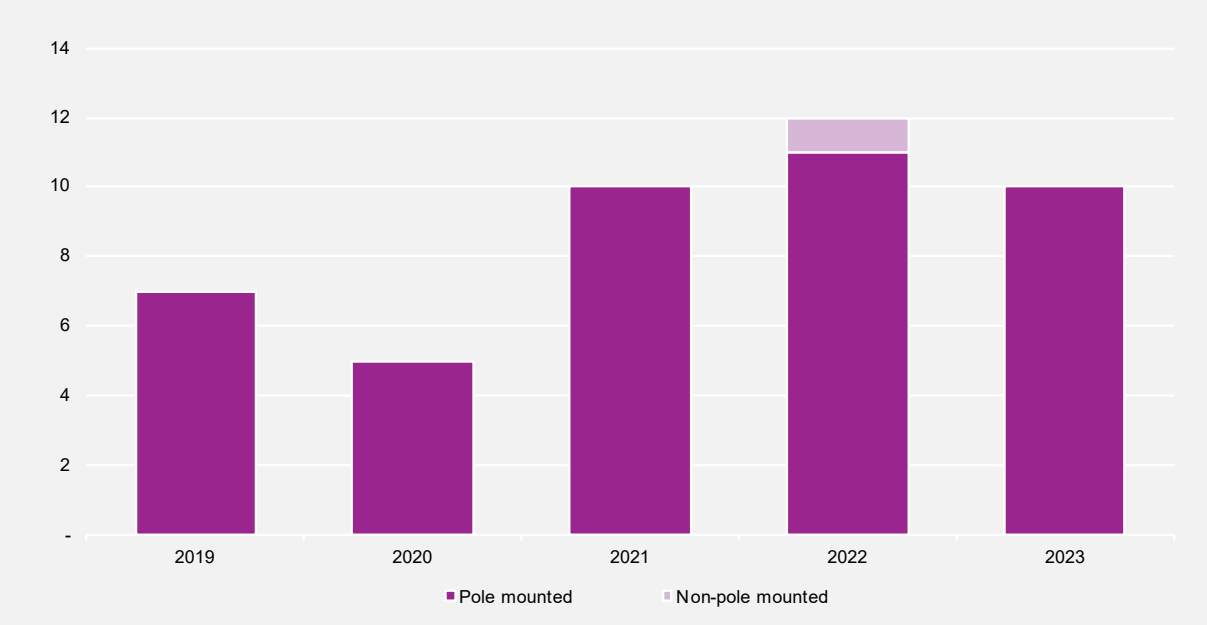
- increasing unassisted asset failures indicates a likely need to act immediately and review asset management practices (noting that robust inspection practices and governance over the application of these methods may drive low failure rates, but if the underlying condition of the relevant asset population 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 asset failures

As shown in figure 2, our distribution switchgear failures have been increasing, driven by increasing pole mounted switchgear failures. The increase in failures from 2021 to 2023 is due to manual gas switch failure, in particular the ILJIN type which has a design defect and is now subject to a targeted replacement program and updated inspection practices.

[1] This section does not consider fuses and surge diverters, given their low value and our asset management approach to these assets (i.e. these assets are typically run to failure)

FIGURE 2 DISTRIBUTION SWITCHGEAR: FAILURES



3.1.2 Historical asset defects

Consistent with our regulatory obligations, we inspect our distribution switchgear located in HBRA every two to three years and every five years in low bushfire risk area (LBRA). These cyclic inspections provide snapshots in time of the distribution switchgear condition and identify any defects.

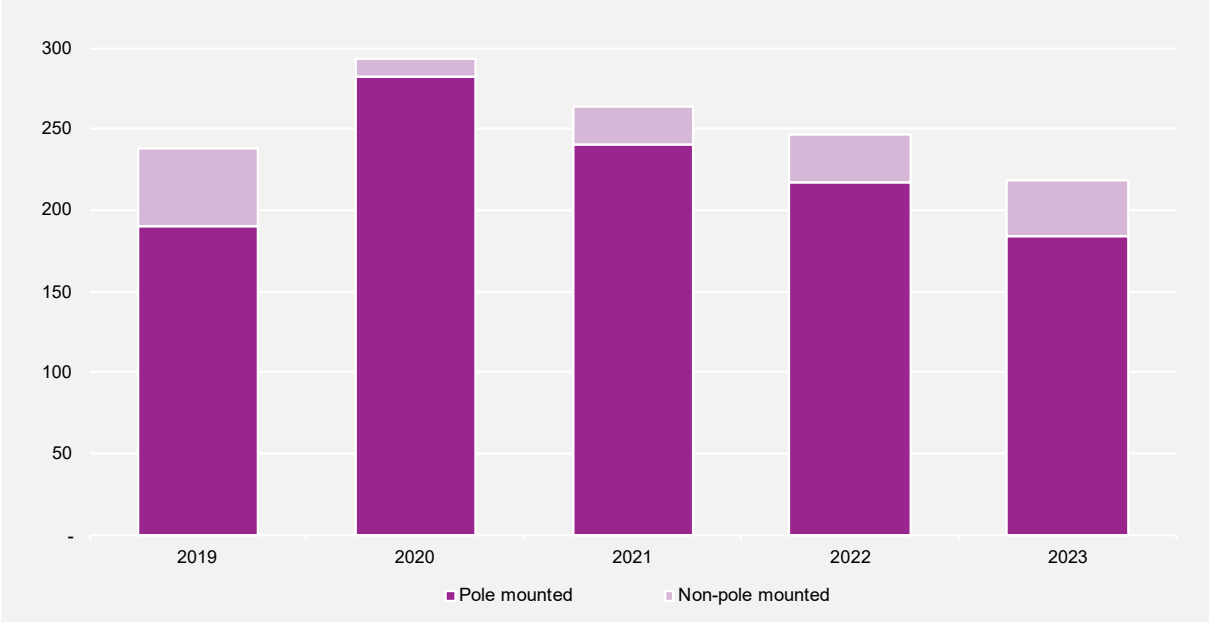
Our response to identified defects depends on the nature and severity of the defect, and may include more frequent re-inspections. High priority defects that result in intervention are shown in table 4.

TABLE 4 RESPONSE TIMEFRAMES 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, our distribution switchgear high priority defects have been decreasing from 2020 to 2023, due to a decrease in pole mounted switchgear defects.

FIGURE 3 DISTRIBUTION SWITCHGEAR: HIGH PRIORITY DEFECTS



4. Forecast interventions

Our current asset management approach for distribution switchgear includes cyclic inspections and interventions, where required, to meet service levels consistent with our compliance obligations and stakeholder expectations.

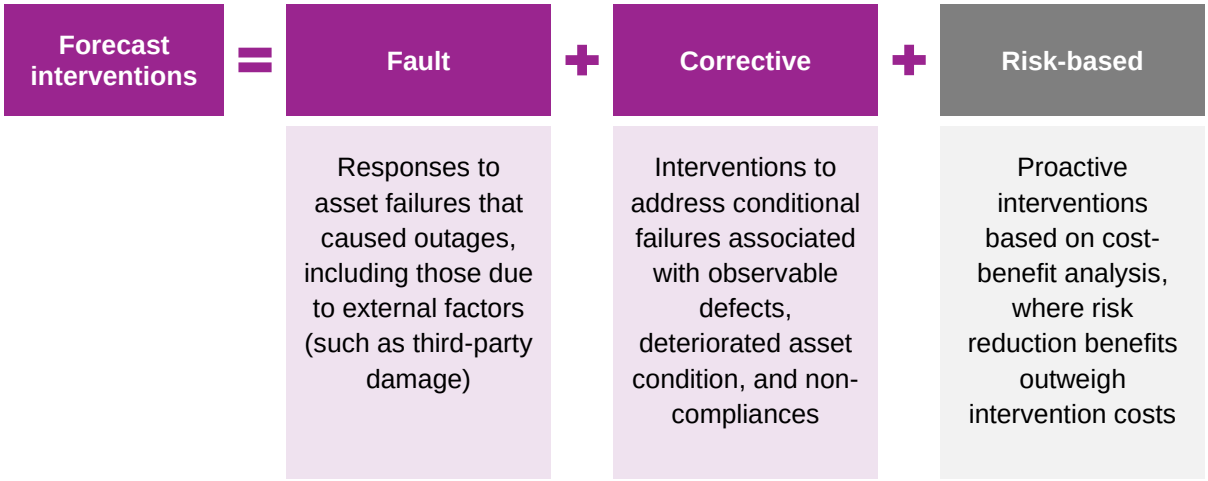
Typically, replacement of distribution switchgear is the only credible response to major defects and failures, as there is no viable repair option and additional inspection and maintenance will not address the underlying asset condition. For example:

- for pole-mounted switchgear, these cannot be repaired in-situ and removal and repair in the workshop would be more costly than replacement
- for non-pole switchgear, repairs can address minor defects (such as minor oil leaks by tightening seals or applying patching compounds), however, major defects and failures (such as major oil leaks or gas leaks) will require replacement.

The derivation of our forecast interventions for the 2026–31 regulatory period, for our high-volume assets such as distribution switchgear, is based on two broad categories—faults and corrective forecasts. We are not proposing 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 distribution switchgear is shown in table 5. In total, our forecast intervention volumes for distribution switchgear are mostly consistent with those completed in the 2021–26 regulatory period.

TABLE 5 DISTRIBUTION SWITCHGEAR: VOLUMES

VOLUMES	FY27	FY28	FY29	FY30	FY31	TOTAL
Defective switches	1,104	1,102	1,102	1,101	1,101	5,510
Defective fuses and surge diverters	641	641	641	641	641	3,205
Other distribution works	442	442	442	442	442	2,210
Total	**2,187**	**2,185**	**2,185**	**2,184**	**2,184**	**10,925**

Note: Volumes associated with faults are consolidated with defective switches above

4.1.1 Fault replacements

Faults on our distribution switchgear assets occur somewhat randomly across our network, and accordingly, our fault-based distribution switchgear forecast is based on a simple average over the previous five-year period.

4.1.2 Corrective replacements

Our corrective forecast for distribution switchgear replacements is based on our historical five-year average replacement volumes. This forecast reflects the stable condition of our assets.

4.1.3 Top-down portfolio review

As part of challenging our distribution switchgear intervention forecast, we considered the overall driver of our forecast interventions. Given the stable condition of our assets, we have forecast our fault and corrective replacement based on historical interventions. Further, our forecast replacement volumes are in line with our 2021–26 replacement volumes. This demonstrates the prudency of our forecast that reflects the effectiveness of our distribution switchgear asset management practice in maintaining reliability and minimise safety risks as far as practicable.

4.2 Expenditure forecast

To develop expenditure forecasts for our distribution switchgear asset class, we have multiplied the forecast intervention volumes by observed unit rates for different switchgear types.

Table 6 summarises this expenditure forecast for the 2026–31 regulatory period.

TABLE 6 DISTRIBUTION SWITCHGEAR: EXPENDITURE ($M, 2026)

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