



# Plan

## Bushfire Mitigation

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# 1. Plan Introduction

## 1.1 Contacts

Table 1: Contacts

| Responsibility                      | Title   | Address                                      | Contact Details   |
|-------------------------------------|---|--|---|
| <b>BMP Responsible Organisation</b> | Powercor Australia Limited (Ltd), ACN 064 651 109 | 40 Market Street<br>Melbourne, 3000 Victoria | Phone: 13 22 06   |
| <b>BMP Preparation</b>              | Network Risk and Assurance Manager                | 40 Market Street<br>Melbourne, 3000 Victoria | Phone: 13 22 06<br><a href="#">General enquiry   CitiPower &amp; Powercor</a><br><a href="mailto:NetworkSafety@powercor.com.au">NetworkSafety@powercor.com.au</a> |
| <b>BMP Carrying Out</b>             | Network Risk and Assurance Manager                | 40 Market Street<br>Melbourne, 3000 Victoria | Phone: 13 22 06<br><a href="#">General enquiry   CitiPower &amp; Powercor</a><br><a href="mailto:NetworkSafety@powercor.com.au">NetworkSafety@powercor.com.au</a> |
| <b>BMP Emergency Contact</b>        |   |  | Phone: 13 24 12<br>(24 x 7 emergencies and faults contact number for members of the public)   |

## 1.2 Regulation Compliance Information

Table 2 provides a cross reference of the sections of the Powercor Bushfire Mitigation Plan (BMP), to the specific items required in Regulation 7 of the “*Electricity Safety (Bushfire Mitigation) Regulations 2023*”.

Table 2: Regulation Compliance Information

| Regulation | 7 – Prescribed particulars for bushfire mitigation plans – major electricity companies.  | Powercor Plan Reference |
|------------|--|-------------------------|
| 7(1)(a)    | the name, address and telephone number of the major electricity company;   | Section 1.1             |
| 7(1)(b)    | the position, address, email address and telephone number of the person who was responsible for the preparation of the plan;   | Section 1.1             |
| 7(1)(c)    | the position, address, email address and telephone number of the persons who are responsible for carrying out the plan;  | Section 1.1             |
| 7(1)(d)    | the email address (if any) and telephone number of the major electricity company’s control room so that persons in the room can be contacted in an emergency that requires action by the major electricity company to mitigate the danger of bushfire; | Section 1.1             |
| 7(1)(e)    | the telephone number of the major electricity company that members of the public can call in an emergency that requires action by the major electricity company to mitigate the danger of bushfire;  | Section 1.1             |
| 7(1)(f)    | the bushfire mitigation policy of the major electricity company to minimise the risk of fire ignition from its supply network;   | Section 3.1             |

| Regulation | 7 – Prescribed particulars for bushfire mitigation plans – major electricity companies.  | Powercor Plan Reference |
|------------|--|-------------------------|
| 7(1)(g)    | the objectives of the plan to achieve the mitigation of fire danger arising from the major electricity company's supply network;   | Section 3.2             |
| 7(1)(h)    | a description, map or plan of the land to which the bushfire mitigation plan applies;  | Sections 2.2 & 4.2      |
| 7(1)(i)    | the preventative strategies and programs to be adopted by the major electricity company to minimise the risk of the major electricity company's supply networks starting fires;  | Section 6               |
| 7(1)(j)    | details of the preventative strategies and programs referred to in paragraph (i) (including details in relation to timing and location) by which the major electricity company will ensure that, in its supply network, each polyphase electric line originating from every zone substation specified in Schedule 1 has the required capacity;   | Section 6.5             |
| 7(1)(k)    | details of testing that will be undertaken before the specified bushfire risk period each year by which the major electricity company will ensure that its supply network can operate to meet the required capacity in relation to each polyphase electric line in accordance with paragraph (j);  | Section 6.5             |
| 7(1)(l)    | details of the preventative strategies and programs referred to in paragraph (i) (including details in relation to timing and location) by which the major electricity company will ensure that, within an electric line construction area, each electric line with a nominal voltage of between 1 kV and 22 kV that is constructed, or is wholly or substantially replaced, in its supply network is a covered or underground electric line;  | Sections 6.6            |
| 7(1)(m)    | details of the preventative strategies and programs referred to in paragraph (i) by which the major electricity company will ensure that, in its supply network, each low voltage overhead electrical cable or wire that is constructed after the commencement of these Regulations in a hazardous bushfire risk area is insulated;  | Section 6.8             |
| 7(1)(n)    | details of the processes and procedures by which the major electricity company will ensure that the major electricity company installs and maintains in operation an Automatic Circuit Recloser in relation to each SWER line in its supply network;   | Section 6.7             |
| 7(1)(o)    | <p>a plan for inspection that ensures that:</p> <ul style="list-style-type: none"> <li>a) the parts of the major electricity company's supply network in hazardous bushfire risk areas are inspected at intervals not exceeding 37 months from the date of the previous inspection.</li> <li>b) the parts of the major electricity company's supply network in other areas are inspected at specified intervals not exceeding 61 months from the date of the previous inspection.</li> </ul> | Section 6.1             |
| 7(1)(p)    | <p>details of the processes and procedures for ensuring that each person who is assigned to carry out inspections referred to in paragraph (o) and of private electric lines</p> <ul style="list-style-type: none"> <li>a) has satisfactorily completed a training course approved by Energy Safe Victoria; and</li> <li>b) is competent to carry out such inspections;</li> </ul>   | Section 6.15            |

| Regulation | 7 – Prescribed particulars for bushfire mitigation plans – major electricity companies.  | Powercor Plan Reference   |
|------------|--|---|
| 7(1)(q)    | details of the processes and procedures for ensuring that persons (other than persons referred to in paragraph (p)) who carry out or will carry out functions under the plan are competent to do so;   | Section 6.15  |
| 7(1)(r)    | the operation and maintenance plans for the major electricity company's supply network:<br>a) in the event of a fire<br>b) during a total fire ban day<br>c) during a fire danger period   | Section 6.16<br>To<br>Section 6.21  |
| 7(1)(s)    | the investigations, analysis and methodology to be adopted by the major electricity company for the mitigation of the risk of fire ignition from its supply network;   | Section 8<br>Section 9.2<br>Section 9.3   |
| 7(1)(t)    | details of the processes and procedures by which the major electricity company will;<br>a) monitor the implementation of the bushfire mitigation plan; and<br>b) audit the implementation of the plan; and<br>c) identify any deficiencies in the plan or the plan's implementation; and<br>d) change the plan and the plan's implementation to rectify any deficiencies identified under subparagraph (iii)<br>e) monitor the effectiveness of inspections carried out under the plan; and<br>f) audit the effectiveness of inspections carried out under the plan; and<br>g) before the specified bushfire risk period each year, report to Energy Safe Victoria the results of testing undertaken in that year in accordance with regulation (k); | Section 10.1<br><br>Section 10.2<br>Section 11<br>Section 11<br><br>Section 10.1<br><br>Section 10.2<br><br>Section 6.5 |
| 7(1)(u)    | the policy of the major electricity company in relation to the assistance to be provided to fire control authorities in the investigation of fires near the major electricity company's supply network;  | Section 6.16  |
| 7(1)(v)    | details of processes and procedures for enhancing public awareness of;<br>a) the responsibilities of the owners of private electric lines that are above the surface of the land in relation to maintenance and mitigation of bushfire danger; and<br>b) the obligation of the major electricity company to inspect private electric lines that are above the surface of the land within its distribution area.  | Section 6.17<br><br>Section 6.10  |
| 7(1)(w)    | a description of the measures to be used to assess the performance of the major electricity company under the plan.  | Section 11  |
| 7(2)       | In subregulation (1)(l), covered, in relation to an electric line, means that a system of insulation is installed on any bare open wire forming part of the electric line.   | Section 6.6   |
| 7(3)       | In subregulation (1)(m)—<br>electrical cable or wire means the whole or any part of a cable, wire or similar thing used or to be used for the  | Section 6.8   |



| Regulation | 7 – Prescribed particulars for bushfire mitigation plans – major electricity companies.   | Powercor Plan Reference |
|------------|---|-------------------------|
|            | purpose of transmitting, distributing or supplying electricity, but does not include—<br>(a) any thing enclosing or supporting the cable, wire or similar thing; or<br>(b) a cable, wire or similar thing directly used in converting electrical energy into another form of energy;<br><i>Insulated</i> , in relation to an electrical cable or wire, means an electrical cable or wire that is separated from any adjoining conductive material by a permanently affixed protective layer of non-conductive material. |                         |
| 7(4)       | In subregulation (1)(o), supply network does not include a terminal station, a zone substation or any part of the major electricity company's underground supply network that is below the surface of the land.   | Section 6.1.2           |

## 1.3 Referenced Documents

All documents referenced throughout this plan except those listed in Appendix G do not form part of the Bushfire Mitigation Plan (BMP).

# 2. Introduction

## 2.1 Legislation

Section 113A (1) of the *Electricity Safety Act 1998* requires that a major electricity company must prepare and submit to Energy Safe Victoria (ESV) a plan every 5 years for the mitigation of bushfire in relation to the company's supply network. In accordance with the *Electricity Safety (Bushfire Mitigation) Regulations 2023* this BMP provides the prescribed particulars as specified in Regulation 7.

A copy of the current accepted bushfire mitigation plan will be available for inspection:

- on the company's Internet site
- at the company's principal office in the State during ordinary business hours
- on the company's website.

## 2.2 Powercor Australia

Powercor Australia Ltd (Powercor) operates the largest electricity distribution network in Victoria, servicing customers in central and western Victoria, as well as Melbourne's outer western suburbs. Statistics regarding the Powercor distribution network are shown in Table 3.

Table 3: Powercor Distribution Network Statistics

| Attribute                                      | Statistic                 |
|--|---------------------------|
| Network area                                   | 145,651 square kilometres |
| Underground lines                              | 10.70%                    |
| Number of poles (all poles)                    | 594,342                   |
| Number of zone substation transformers         | 149                       |
| Number of distribution substation transformers | 88,891                    |
| Total number of customers                      | 905,215                   |
| Customer density                               | 6 per square kilometre    |
| Network availability                           | 99.97%                    |

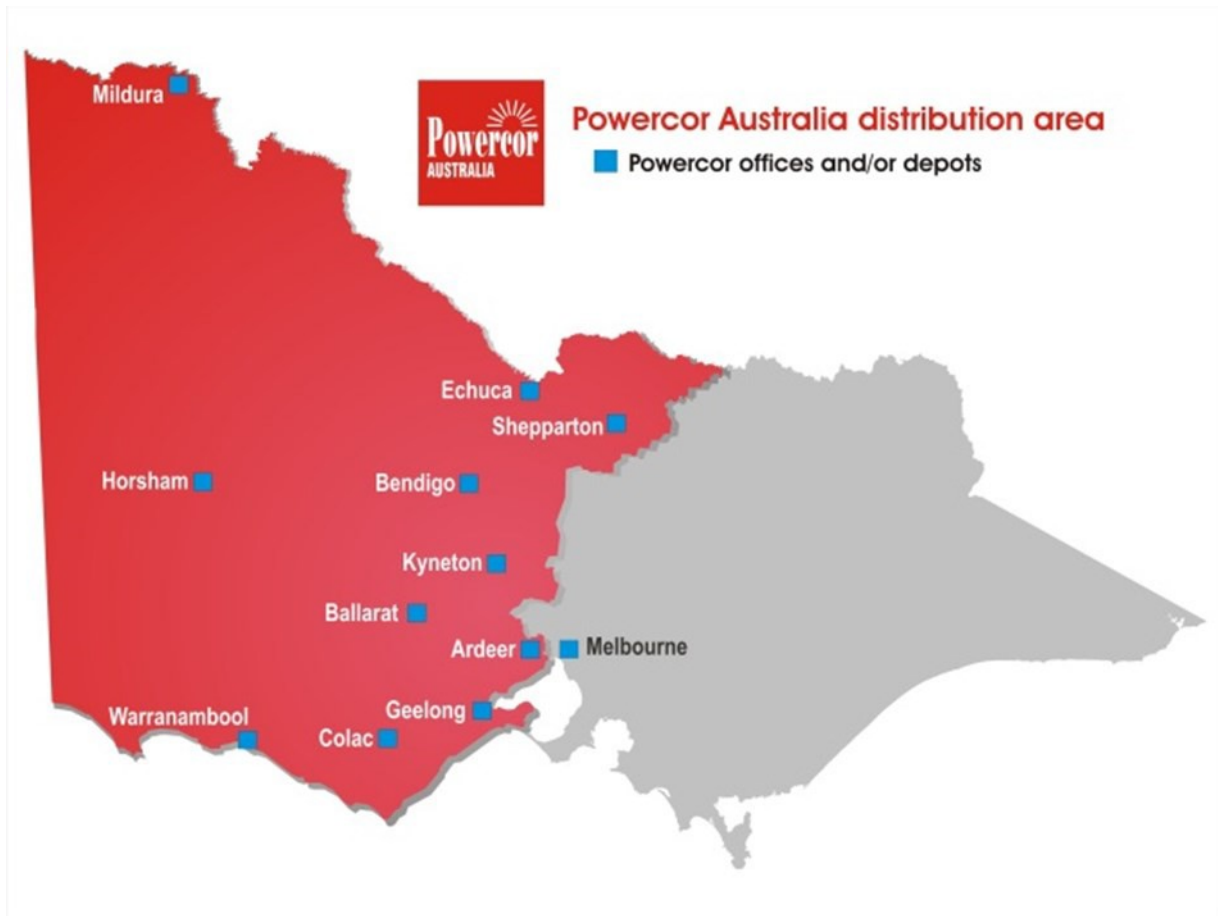


Figure 1: Powercor Distribution Area

## 3. Bushfire Mitigation Policy & Objectives

### 3.1 Bushfire Mitigation Policy

In accordance with the [Bushfire Mitigation Policy \(PO-0003\)](#) (refer Appendix I), Powercor is committed to providing our customers with safe, reliable and affordable electricity network services through the application of an effective asset management framework. We are committed to bushfire mitigation activities and making our communities safer. Therefore, we plan, design, construct, operate, maintain, and decommission the network to minimise As Far As Practicable (AFAP) the bushfire danger arising from the electricity network.

### 3.2 Objectives

The objectives of this BMP are to:

- Minimise the risk of fire starts from electrical assets.
- Achieve compliance with the relevant legislative and regulatory requirements while providing flexibility within the business to encourage innovation, continuous improvement, and the effective use of resources.
- Define the companies approach to the management of the risk of bushfires caused by electricity assets.
- Reference the policies and procedures that explain how Powercor achieves the commitments in the BMP in a single document.
- Demonstrate a high level of commitment to meeting bushfire mitigation responsibilities.

## 4. Document Scope

### 4.1 Bushfire Mitigation Framework

Powercor's bushfire mitigation framework is shown in Figure 2 and demonstrates a comprehensive and whole of business approach to what is the biggest risk in the business. The proactive planning and scheduling of this program is based principally on a whole of asset life approach that includes design, construction, operation, maintenance and decommissioning. The annual governance systems of vegetation and asset inspection and maintenance activities are supported by a regime of reporting and auditing.

The continuous improvement elements encompass a large body of proactive capital works, trialling and adoption of new technologies, and our response to audit outcomes.

The response aspects of the plan include our operational processes to faults and Total Fire Ban (TFB) days, asset failure investigations, and fire start reporting.

The framework also has a significant aspect of proactive stakeholder management, including Private Overhead Electric Line (POEL) owners, Councils (vegetation management), other agencies, specific community messaging and our ongoing customer interfacing.



Figure 2: Bushfire Mitigation Framework

This BMP applies to assets that could cause fire ignition in all areas of Powercor's supply network. Electricity networks have been a source of fire ignition since their construction and consequently a considerable amount of investigation has been and continues to be undertaken into the causes to enable preventative actions to be taken.

This BMP forms part of the Powercor [Electricity Safety Management Scheme \(ESMS\) \(JEQA4UJ443MT-173-116\)](#) pursuant to section 113D of the Electricity Safety Act.

### 4.2 Electrical Network Map

The Powercor HV overhead network is shown in Figure 3 and is colour coded as follows:

- 66kV Sub-transmission Lines
- 22kV 3 Phase and 1 Phase lines
- 12.7kV SWER Lines

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To maintain clarity, the LV overhead network has not been shown. Full network details are available from Powercor's Geographical Information System (GIS).

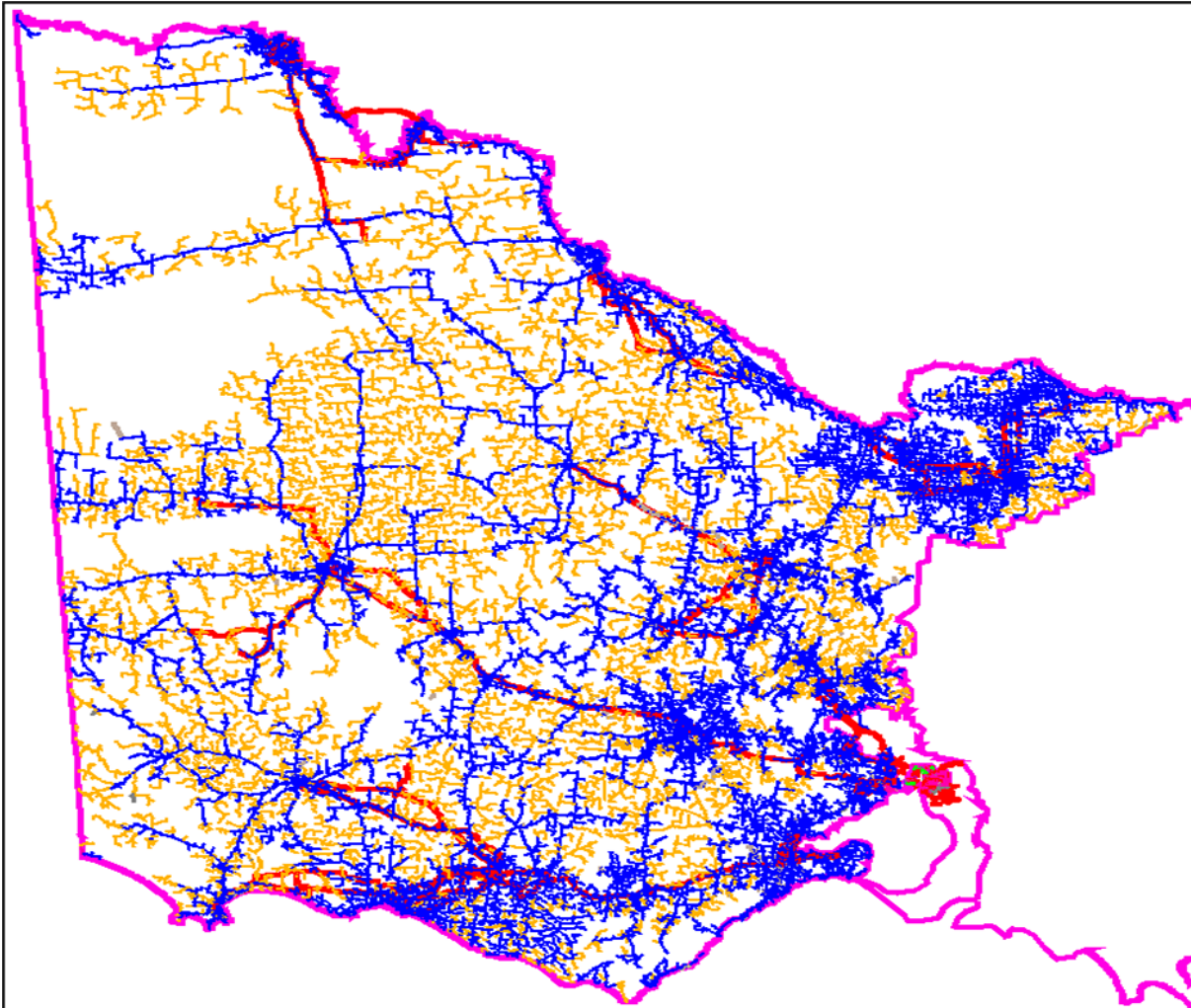


Figure 3: Powercor Overhead Network

### 4.3 Bushfire Risk Areas

The bushfire risk areas in Powercor's operating region are shown in Figure 4. These areas are updated as part of the Country Fire Authority (CFA) Fire Hazard Mapping Project and may change as areas are reviewed across the state. Approximately 51% of Powercor assets are located in Hazardous Bushfire Risk Areas (HBRA) based on pole population.

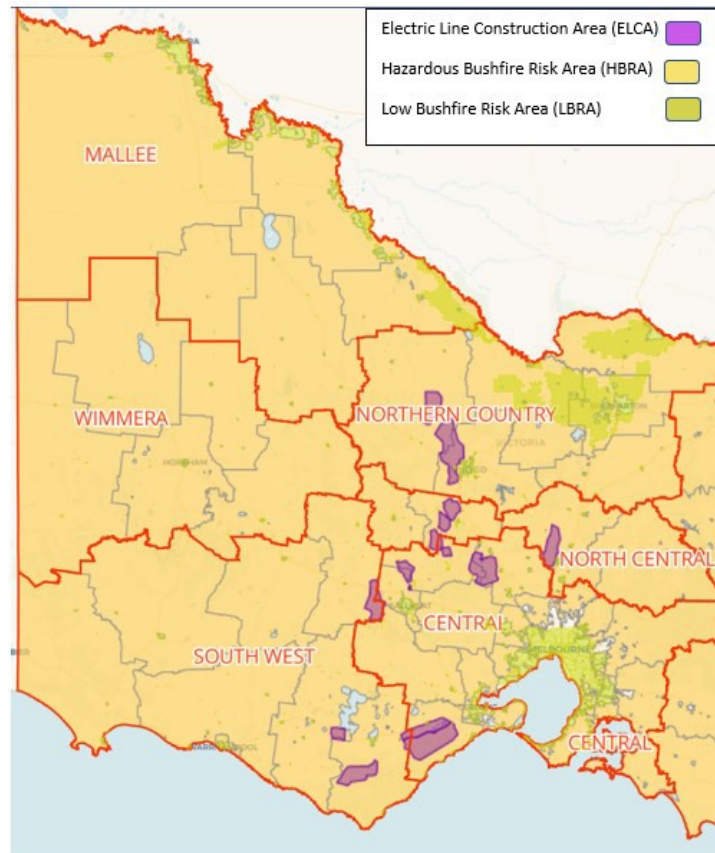


Figure 4: Bushfire Risk Areas

## 5. Management Structure

The implementation and control of bushfire mitigation related activities are discharged via many roles throughout Powercor. Each role has a position description which lists the key activities. The carrying out of bushfire related activities contained within this plan is overseen by the Network Control and Assurance Manager.

## 6. Bushfire Mitigation Strategies and Programs

Powercor has developed policies, strategies, frameworks, plans, procedures, and work instructions to support its bushfire mitigation activities. These are described in the following sections.

### 6.1 Monitoring Asset Condition

Preventative maintenance strategies have been created for all of Powercor's zone substations, sub-transmission and distribution assets. These strategies were developed from Reliability Centred Maintenance (RCM) methodologies and involve undertaking on-condition tasks based on a program of condition monitoring of the electrical network assets. The RCM rules are configured in Powercor's Asset Management Enterprise System, SAP, which automatically generates time-based work orders for inspection and maintenance planning.

Operational procedures for developing, reviewing and implementing asset maintenance policies are set out in:

- [Asset Maintenance Policy and Asset Management Plan Review and Development \(18-05-P0003\)](#). This procedure outlines the process/actions to be followed when a Policy or Asset Management Plan (AMP) related to electrical network assets is reviewed or a new Policy or AMP is developed.
- [Electricity Safety Management Scheme \(JEQA4UJ443MT-173-116\)](#).

These documents outline how Powercor identifies needs, develops, and manages policies and provides a systematic process through the identification of strategic, operational and program/project level risks to:

- Determine accountability for risks.

- Provide an assessment of controls and the control environment.
- Analyse and evaluate risks.
- Manage the risks to AFAP levels.

### 6.1.1 Pole Inspection

Pole inspection is carried out in a dedicated program conducted over the cycles (referred to as cyclic inspections) summarised in Table 4.

Table 4: Asset Inspection Cycle

| Included poles           | Type of inspection      | Cycle     | Tolerance      |
|--------------------------|-------------------------|-----------|----------------|
| Serviceable pole in HBRA | Above ground inspection | 2.5 years | +/- one month  |
| All serviceable poles    | Full inspection         | 5 years   | +/- one month  |
| AC serviceable poles*    | Above ground inspection | 1 year    | +/- six months |
| AC serviceable poles*    | Full inspection         | 2 years   | +/- six months |

\*Added Controls Serviceable Poles (AC Serviceable Poles) are referred to as Limited Life poles in SAP records.

The types of inspection are defined as follows:

- Full inspection includes:
  - Assessment of pole condition from ground level to two metres above
  - Visual assessment of pole condition from two metres above ground level to the top of the pole using binoculars
  - Assessment of pole condition below ground level
  - Identifying wood destroying insects
  - Undertaking of preservative treatment of hardwood poles
  - Assessment of the surrounding area for safety issues.

Further information relating to the full inspection of poles is defined within the [Network Asset Maintenance Policy for Inspection of Poles \(05-C001.D-390\)](#).

- Above ground inspection includes:
  - Sound test and visual assessment of pole condition from ground level to two metres above. Where an area of concern is identified, a full inspection of the pole is undertaken.
  - Visual assessment of pole condition from two metres above ground level to the top of the pole using binoculars
  - Assessment of the surrounding area for safety issues.

Further information relating to the visual inspection of poles is defined within the [Network Asset Maintenance Policy for Inspection of Poles \(05-C001.D-390\)](#).

Both inspection types include the inspection of electrical assets between poles and/or other structures.

Operational instructions for the inspection, testing and assessment of assets are contained in the [Asset Inspection Manual \(CPPAL-MA-0450\)](#).

This manual describes the various types of electrical assets and the observations or tests necessary to identify and assess their condition. It also gives a detailed description of items that need to be identified for replacement or repair. The manual sets out criteria for categorising the priority for remedial maintenance actions, and the reporting and information recording requirements.

Operational instructions for the inspection of poles located in inaccessible locations are contained within the [Inaccessible Asset Procedure \(18-20-P0004\)](#) which allows for a risk assessment to be undertaken if the asset is not accessible. The risk assessment considers when access is expected to become available for the inspection and a workflow for the inspection to be completed.

The Asset Inspection Officer is responsible for preparation of the asset inspection program using maintenance plans established within SAP and monitoring of the performance of the contractor in adhering to the program. Each maintenance plan covers all the poles within a specific electrically isolatable section of the network. The management of maintenance plans are contained within the [Asset Inspection Procedure \(18-20-P0002\)](#).

### 6.1.2 Other Above Ground Asset Inspection

In addition to the inspection of poles, other above ground assets are also inspected as summarised in Table 5. The [Asset Inspection Manual \(CPPAL-MA-0450\)](#) details all relevant work instructions except for indoor substations and the testing of SWER earths (which are detailed in the [Indoor Distribution Substations Policy \(05-C001.D-521\)](#) and the [Distribution](#)

Earthing Systems Policy (05-C0001.D290) respectively. Identified defects are assigned repair priorities as detailed within the Priority Policy (A-025).

Table 5: Other Above Ground Asset Inspection Cycles

| Asset Type  | HBRA – Inspection Timeframes | LBRA - Inspection Timeframes |
|---|------------------------------|------------------------------|
| <b>Pole type substations and switchgear</b><br>Pole type substations are visually inspected for condition and ground clearances.<br>Pole mounted switchgear are visually inspected.   | 2.5 years                    | 5 years                      |
| <b>LV services</b><br>LV services are visually inspected for condition using stabilised binoculars. Clearances are visually assessed and measured where required with an approved device.   | 2.5 years<br>(+/- one month) | 5 years<br>(+/- one month)   |
| <b>Conductors</b><br>Conductors and associated hardware (such as spreaders and spacers) are visually inspected for condition using stabilised binoculars.   | 2.5 years<br>(+/- one month) | 5 years<br>(+/- one month)   |
| <b>LV pillars</b><br>LV pillars are visually inspected for condition.   | 2.5 years<br>(+/- one month) | 5 years<br>(+/- one month)   |
| <b>Ground type substations</b><br>Ground type substations are visually inspected for condition.   | 6 months                     | 6 months                     |
| <b>Indoor substations</b><br>Indoor substations are visually inspected and maintained by the completion of inspection tasks to identify defects.  | 2 years<br>(+/- 3 months)    | 2 years<br>(+/- 3 months)    |
| <b>Kiosk substations and switching cabinets</b><br>Kiosk substations and switching cabinets are visually inspected for condition.   | 6 months                     | 6 months                     |
| <b>SWER Earths</b><br>Earthing systems associated with Single Wire Earth Return (SWER) isolating substations and distribution substations are subject to routine testing to assess earthing integrity.  | 2 years                      | 2 years                      |
| <b>Regulators</b><br>Regulators are visually inspected for condition.   | 6 months                     | 6 months                     |
| <b>Pole top assemblies</b><br>Pole top assemblies are inspected for condition from the ground using stabilised binoculars as well as an elevated camera where required. The inspection generally extends from two metres above ground to the pole top and includes assessment of all pole top assets including conductors, insulators, cross-arms, attachments, pole mounted plant and equipment etc. | 2.5 years<br>(+/- one month) | 5 years<br>(+/- one month)   |

### 6.1.3 Thermal and Corona Imaging

Thermal and corona imaging technologies are used as additional inspection strategies to assist identify assets exhibiting elevated temperatures or causing leakage currents. The adoption of these technologies can assist in preventing asset failures which could result in a fire start.

The thermographic and corona imaging program includes yearly inspection of sub-transmission lines, selected sections of distribution overhead HV feeders, and LV assets in coastal areas.

Thermal and corona imaging is undertaken using vehicle mounted equipment for overhead network assets whilst hand-held cameras are used within indoor substations.

Operational procedures for thermal and corona imaging inspections are contained within the [Thermographic and Corona Inspection Policy \(D-570\)](#). Procedures for prioritising defects identified through thermal and/or corona imaging are contained within the [Thermographic and Corona Inspection Policy \(D-570\)](#) and [Priority Policy \(A-025\)](#).

### 6.1.4 Line Condition Observation Program

To observe compliance with the policies outlined in this plan and to help maintain employee awareness, line condition observations are conducted in HBRA across the business leading up and into the declared fire danger period.

Line condition observations are undertaken in addition to the cyclic asset inspection program focusing on targeted sample areas each year, carried out in the lead up to the fire season. Line condition observations utilise the use of drones to capture pole top asset images which are then assessed by desktop assessment. Operational procedures are contained within [Line Condition Program \(PAL-PR-0002\)](#).

## 6.2 Priority Classifications

The defect priority classification applies to all defects found on above ground assets. Asset defects identified by the inspection program or reported from internal or external sources are assessed for their associated risk and prioritised for remedial action.

Procedures for reporting of a network defect are contained within the [Priority Policy \(A-025\)](#).

This policy sets out the criteria for classification of defects as shown in Figure 5.

| Allocation                            | Symbol | Allocated to items assessed to be at risk of failure within the following timeframes | Need to be actioned within                          |
|---------------------------------------|--------|--|---|
| Priority 1                            | P1     | 0 – 42 days  | 24 hours  |
| Fault Follow Up 14 Days               | FFU14  | > 14 days  | 14 days   |
| Fault Follow Up 42 Days               | FFU42  | > 42 days  | 42 days   |
| Priority 42                           | P42    | 42 days - 32 weeks   | 42 days   |
| Priority 2                            | P2     | 32 weeks – 3 years   | 32 weeks  |
| Priority 3                            | P3     | > 3 years  | 3 years   |
| Priority Opportunistic                | POPP   | Not applicable   | No set timeframe – actioned on an opportunity basis |
| Priority Notification for Information | PN     | Not applicable   | No set timeframe - information record only          |

Figure 5: Defect Classification

## 6.3 Remedial Maintenance

Powercor’s maintenance programs are generated from a number of different sources, the main one being the asset inspection program (refer Section 6.1).

Maintenance defects can also be raised via:

- Employees or contractors
- Customer calls
- Line condition observations
- BFM vegetation inspections/audits
- The “Report It” Application

Refer Section 10.2 for more information on audits.



## Defect Management

Maintenance works identified through the inspection program, audits, observations or raised by customers are issued for remediation. Resources are scheduled to match the needs of the issued projects to achieve the required response times. The defect priority and rectification timeframes are detailed in Section 6.2.

## Faults/Fault Follow-up

Operational procedures for the repair of defects identified through the Network Faults/Outage process, including temporary repairs are contained within:

- [Manage Network Faults Procedure \(JEQA4UJ443MT-149-83\)](#)
- [Manage Fault Follow-Up and Repair Guideline \(JEQA4UJ443MT-149-115\)](#)

Customer fault calls are received by the Powercor Customer Contact Centre 24 hours a day, 7 days a week. Likewise fault calls may also be received by Powercor's Network Control Centre directly from asset inspectors, operators, and emergency services. The Dispatch Group has responsibility for prioritising trouble orders and assigning to field crews. Trouble orders are prioritised as either high, medium, or low using the following principles:

- Safety of the public and our workforce
- Customer satisfaction
- Supply reliability and quality
- Field crew workload management – including stand-down impacts.

There are two trouble order classifications:

- No-service (NS) which relate directly to supply issues including all supply fail, part supply fail, dim lights, and intermittent supply.
- In-service (IS) which include faults which may or may not have supply impacts such as wires down, car hit pole, wire low, animal on asset etc.

Priorities assigned to NS trouble orders are generally based on the number of customers impacted as shown in Table 6, however, the priority of the order may change if:

- there is immediate safety risk to the public or employees (priority is assigned as High)
- the customer is a dairy farm or commercial business (priority is assigned Medium).

Table 6: NS Trouble Order Priority Assignment

| Customers Affected | Priority |
|--------------------|----------|
| 1                  | Low      |
| 2-10               | Medium   |
| >10                | High     |

Priorities assigned to IS trouble orders are based on the type of fault, the information in the trouble order and additional information collected during validation. Where there is an immediate risk to public or employee safety, these trouble orders are assigned a High priority.

Where the fault crew have undertaken partial or temporary repairs a Fault Follow-Up repair action is created. All items assigned for Fault Follow-Up are issued to the appropriate work group, scheduled for completion, and actioned within 42 days. In circumstances where the technical review of a Fault Follow-Up item deems there is the potential for a fire start and the item is in a HBRA, a risk assessment is undertaken to determine if any actions are required for a TFB day.

## Audits/Observations

Asset defects identified during audits/observations are communicated in accordance with the particular audit process.

## Non-Cyclic Maintenance

Maintenance items found out of cycle are reported using the "Report It" Application where defects are prioritised and attended to within the timeframes specified in Figure 5.

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## 6.4 Asset Replacement/Modification for Specific Assets

Powercor has several specific BFM related strategies that deal with the replacement and modification of Powercor assets. These include:

- [High Voltage Fuses Policy \(D-320\)](#): High voltage fuse failures can result in fire starts. HV fuses are inspected as part of the cyclic asset inspection program.
- [Distribution Surge Arresters Policy \(D-540\)](#): Surge arresters protect electrical assets from damage which may otherwise result in a fire start. Surge arresters are inspected as part of the cyclic asset inspection program.
- [Insulators, Associated Hardware & Bird Covers Policy \(D-330\)](#): Defective high voltage insulators may lead to wooden crossarm and pole fires. These failures may also lead to conductors or other hardware falling to the ground which may result in a fire start. Bird covers provide insulation between live and conductive parts of structures, which prevent bird and animal related faults which may also result in fire starts. These assets are inspected as part of the cyclic asset inspection program.
- [Spreaders and Spacers Policy \(05-C001.D-255\)](#): Spreaders and spacers prevent conductor clashing and hence potential fire starts. These assets are inspected as part of the cyclic asset inspection program.
- [Management of Unserviceable Poles Policy \(D-392\)](#): Poles classified as unserviceable need to be actioned by replacement or repair within the prescribed timeframes. Failure to do so may result in the pole failing and starting a fire. Unserviceable poles are identified as part of the cyclic asset inspection program.
- [Crossarms Policy \(05-C001.D-280\)](#): Crossarm failures may result in conductors or other associated assets falling to the ground which may result in a fire start. Crossarms and securing hardware, which include crossarm braces, kingbolts and anti-split bolts are inspected as part of the cyclic asset inspection program.
- [Permanent Reinforcing of Wood Poles Policy \(05-C001.D-398\)](#): Permanent reinforcement systems maintain the functional performance of a wooden pole. Reinforcement systems that fail to perform their intended function may lead to the pole failing and starting a fire. Permanent reinforcement systems are inspected as part of the cyclic asset inspection program.
- [Overhead Conductors Policy \(D-251\)](#): Conductor failures may result in fire starts. Overhead conductors are inspected as part of the cyclic asset inspection program. This policy does not apply to HV ABC and insulated LV mains. For details on maintenance requirements for HV ABC and insulated LV mains conductors, refer to [LV ABC mains and HV ABC Policy \(D-258\)](#).

Defects identified via the above strategies are assigned repair priorities as detailed within the [Priority Policy \(A-025\)](#).

## 6.5 Rapid Earth Fault Current Limiters

### REFCL Installation

To minimise the risk of electricity network assets starting fires, Powercor has installed REFCLs at 22 zone substations as defined in regulation 7(1)(j) of the [Electricity Safety \(Bushfire Mitigation\) Regulations 2023](#). Each polyphase line originating from the zone substations have been commissioned to meet the required capacity as defined in regulation 7(1)(k) of the regulations.

### REFCL Performance and Capability Assessment

To demonstrate compliance with the legislated performance standard (required capacity), Powercor conducted an Initial Capacity Test (ICT) programme upon commissioning of each REFCL protected zone substation prior to the legislated completion date. This programme of work demonstrated that each polyphase electric line originating from the substation has the required capacity, and that the nominated substation is a complying substation.

All complying zone substations are subject to an Annual Capacity Test (ACT) prior to the specified bushfire risk period to demonstrate that each polyphase electric line originating from the substation is compliant with the required capacity.

Powercor will notify ESV prior to all compliance testing and provide the opportunity to observe the testing.

Operational procedures to conduct the Initial and Annual Capacity Testing are contained within the following documents:

- [Policy for Initial Capacity Testing \(CP\\_PAL\\_REFCL\\_-101\)](#)
- [Policy for Annual Capacity Testing \(CP\\_PAL\\_REFCL\\_102\)](#)
- [Demonstration of Required Capacity \(CP\\_PAL\\_REFCL\\_103\)](#)
- [Capacity Test Locations \(CP\\_PAL\\_REFCL\\_104\)](#)
- [Facilities for REFCL Performance Testing \(CP\\_PAL\\_REFCL\\_105\)](#)
- [Consideration of Influencing Factors \(CP\\_PAL\\_REFCL\\_106\)](#)
- [Resolution of Conditional Acceptance \(CP\\_PAL\\_REFCL\\_302\)](#)
- [Consideration of GFN Settings \(CP\\_PAL\\_REFCL\\_303\)](#)

Results will be submitted noting the document version number used for the testing undertaken. Any amendments to these documents and the annual testing requirements are subject to ESV acceptance.

Completed assessments for each commissioned location will be submitted to ESV as part of the annual pre-summer reporting requirements.

Powercor will undertake bi-annual forecasts of network capacitance growth to identify risks in maintaining the required capacity. Significant projects required to mitigate performance risks from growth in network capacitance will be detailed in the Distribution Annual Planning Report (DAPR).

### Operating Modes

Powercor has configured two available operating modes for REFCL protected networks:

1. Fire Risk Mode – This mode utilises the Soft Fault Confirmation technique which minimises let through energy.
  - a) When a fault is detected the REFCL compensates and reduces the voltage on the faulted phase to (<250V) at the zone substation 22kV bus.
  - b) After a configurable delay time, Powercor’s control relay requests a Soft Fault Confirmation test to confirm both the permanence of the fault and the identity of the faulted feeder.
  - c) If a permanent feeder target is identified, either the affected feeder circuit breaker or nearest upstream REFCL compatible smart ACR (which has observed passage of the fault) are directly tripped.

There is a tangible customer impact when operating in this mode due to the loss of protective discrimination. Feeder based protective devices such as legacy ACRs and fuses will not operate, and so all customers on a feeder are disconnected regardless of fault location.

2. Bypass Mode – This mode reverts to conventional earthing when the REFCL system identifies a permanent fault.
  - a) When a fault is detected the REFCL compensates and reduces the voltage on the faulted phase to (<250V) at the zone substation 22kV bus.
  - b) After a configurable delay time, Powercor’s control relay requests a confirmation test to confirm permanence of the fault.
  - c) If a permanent feeder target is identified, the Low Impedance Ground circuit breaker is closed.

Restoring the Low Impedance Ground permits the operation of conventional current based discriminant earth fault detection schemes such as fuses and fault passage indicators.

Bypass mode offers the following potential benefits:

- Expedited fault finding and fault restoration due to fuse and fault indicator operation.
- A platform to retain the REFCL system in service outside the fire season. This ensures the REFCL protected network remains appropriately hardened leading into the following fire season.

If the bypass sequence is unable to clear the earth fault, the Station Earth Fault Management (SEFM) scheme shall reconfirm the affected feeder, lockout the bypass sequence and directly trip the affected circuit breaker. This action removes a potential risk to public safety where an uncleared high impedance fault could remain on the network. Additional customer impact is likely when all customers on a feeder are disconnected regardless of fault location.

### REFCL Sensitivity

Earth fault sensitivity is an independent consideration to the selected operating mode. Powercor’s REFCL system is designed to be capable of three independent setting groups for earth fault detection and these can be individually configured and selected for a given application.

Table 7 summarises the intended REFCL earth fault sensitivity target for each setting group.

Table 7: REFCL Sensitivity Groups

| Setting Group | Sensitivity | Comments  |
|---------------|-------------|---|
| 1.            | 25.4 kΩ     | Sensitivity at the threshold defined by required capacity (0.5 A) |
| 2.            | ≈12.7 kΩ    | Very high level of earth fault sensitivity (≈1.0 A)               |
| 3.            | ≈6-8 kΩ     | High level of earth fault sensitivity (≈1.6 - 2.1 A)              |
| No REFCL      | ≈1.4kΩ      | Typical current based SEF protection (≈9A)                        |

## REFCL Application

Powercor has deployed REFCLs with the intention of targeting the maximum level of bushfire safety performance whilst maintaining operational capability of the network where possible, having regard to the safety and other benefits of customers not losing electricity supply. The choice of operating mode is determined by the relative fire risk and the condition of the network.

REFCL settings are optimised for fire safety and are applied to supplied networks within TFB or Catastrophic declared areas.

Should the REFCL detect a permanent phase to earth fault on a TFB or Catastrophic day it will compensate for up to 20 seconds before interrupting supply to the affected distribution feeder. Instructions for the restoration of supply is contained within the [Total Fire Ban Day Action Plan \(PAL-PL-0009.1\)](#).

During the declared fire season, but outside periods of heightened fire risk (TFB or Catastrophic day), REFCLs may be operated at reduced levels of sensitivity. This may also apply to those heightened fire risk days where operational switching, customer supply and network constraints require it.

Table 8 lists the REFCL settings that Powercor will use in different conditions subject to various exceptions.

Table 8: REFCL Application on Powercor 22kV Polyphase Networks

| Condition  | Operating Mode | Setting Group | Explanation   |
|--|----------------|---------------|---|
| <b>TFB Days, including when fire danger rating is “Catastrophic” when FDI is 30 or greater</b>                 | Fire Risk      | 1             | Configured to provide the optimal settings for bushfire safety. This aligns with the application of ACR and feeder protection enhancements for high fire risk conditions.   |
| <b>TFB Days when FDI is below 30<br/>Fire Danger Period when fire danger rating is greater than “Moderate”</b> | Fire Risk      | 2             | The combination of Fire Risk mode and Setting Group 2 provides superior earth fault protection whilst maintaining operational flexibility of the network.   |
| <b>Fire Danger Period when fire danger rating is “Moderate” and “No rating”</b>                                | Fire Risk      | 2             | The combination of Fire Risk mode and Setting Group 2 provides superior earth fault protection whilst maintaining operational flexibility of the network.   |
|  | By-pass        | 3             | Bypass mode may be used for fire danger ratings “No rating” and “Moderate” during the declared fire danger period to enable fuse and fault indicator operation, which will expedite fault finding and fault restoration.  |
| <b>All other times outside of Fire Danger Period</b>   | By-pass        | 3             | By-pass mode will be used outside the declared fire danger period.  |
| <b>Operational Switching, including for fault finding</b>  | All            | 3             | Operational switching activities on the 22kV network will be undertaken using Setting Group 3. By-pass mode may be used to facilitate fault finding in accordance with operational procedures.<br>Operational switching, including for fault finding is applicable to all the above stated conditions.<br>On declared days of high fire risk, the REFCL may be taken out of service or moved to By-pass mode to facilitate fault finding where restoration of customer supply is the overwhelming objective in accordance with Section 5.13 of the <a href="#">Total Fire Ban Day Action Plan (PAL-PL-0009.1)</a> . |

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## REFCLs and High Voltage Customers

The Essential Services Commission (ESC) conducted a [Review of Voltage Standards for Bushfire Mitigation](#) in 2018. The outcome of the review changed the responsibility for REFCL-ready works from Distribution Businesses (DBs) to High Voltage Customers (HVCs).

This change has left three types of HVC connection on Powercor's REFCL networks:

1. Customers isolated through a Powercor owned and operated HV isolation transformer.
2. Customers isolated through their own HV isolation transformer on the customer side of the connection point.
3. Customers who have electrically "hardened" their assets and are not isolated from the REFCL protected network.

In considering our obligation to deliver safe and reliable electricity supply to all our customers, and to ensure there are no adverse impacts from not operating a REFCL across the supply area, Powercor maintain the right to:

- Isolate any HVCs that are supplied from that substation, where the HVC is experiencing issues which jeopardises safe REFCL operation (i.e. failure of their isolation transformer); and
- Place the REFCL into service in the most sensitive operating mode available.

The decision to isolate a HVC will be made with due consideration of the impact to the customer and to the wider community.

## Performance Caveats

Powercor will provide the highest level of bushfire protection possible, operating in Fire Risk mode for the duration of the Fire Danger Period in accordance with Table 7.

There are instances (including TFB and Catastrophic days) where the expected performance cannot be guaranteed and/or achieved due to one or more unexpected constraints. Such instances are:

- Network configuration outside the parameters of which Setting Group 1 was demonstrated.
- Any single phase switching of the following distribution assets will require the REFCL to be removed for service:
  - Greater than five kilometres of overhead line
  - Any length of underground cable
  - Any section containing a capacitive balancing system.
- Fire Risk Mode may be used in conjunction with Setting Groups 2 or 3 should network conditions constrain the application of Setting Group 1. Examples of such constraints are:
  - Network Configuration Abnormal due to contingencies
  - Unacceptable of loss of Capacitive Balance.
- Performance at or near Setting Group 1 will not be available should any of the REFCL Backup Protection systems be required to activate due to an unforeseen contingent event.
- The REFCL will be taken out of service should REFCL performance become unpredictable and impact the performance, reliability, or safety of the network.

## Backup Protection Functions – REFCL Networks

In modes where the Soft Fault Confirmation technique is preferred, the Classic Fault Confirmation technique will be requested in instances where the REFCL inverter is unavailable.

- Unavailability may be due to failure, internal disturbance or disconnection during the initial compensation process due to a second phase having been involved in the fault.

REFCL systems installed on Powercor's network will be supervised by an independent Neutral Overvoltage protection:

- The response of this protection will be to close the effective ground circuit breaker, bypass the REFCL and return to conventional earth fault protection.
- This shall occur if the REFCL has not correctly handled the fault or responded to the fault in an acceptable time.

This is applicable to all operating modes and is subject to change as our experience operating a REFCL network matures.

## Exemptions (1)

Issued by ESV on 7 November 2018 in respect to nominated segments of polyphase electric lines which are exempt from the requirement to have required capacity:

- Regulation 7(1)(ha) of the Regulations
- Regulation 7(1)(hb) of the Regulations
  - Castlemaine (CMN) zone substation – 3 line segments

- Colac (CLC) zone substation – 4 line segments
- Eaglehawk (EHK) zone substation – 6 line segments
- Winchelsea (WIN) zone substation – 2 line segments.

Each exempt line segment will be addressed by either:

- Being covered or placed underground, or
- Configured to achieve required capacity, or
- Removed from service due to conversion of supply from HV to LV.

Each exempt line segment was addressed prior to 1st November 2019.

Each exempt line is listed in Appendix H.

### Exemptions (2)

Issued by ESV on 5 June 2020 in respect to Corio (CRO) and Geelong (GL) zone substations being exempt from the requirement to have required capacity:

- Regulation 7(1)(ha) of the Regulations
- Regulation 7(1)(hb) of the Regulations.

Powercor established an alternate new complying substation (known as Gheringhap (GHP) zone substation) that supplies nominated 22kV polyphase electric lines originally emanating from CRO and GL.

### Exemptions (3)

Published in the Government Gazette on 1 October 2020, wholly underground and hybrid underground 22kV polyphase electric lines that are isolated via a 22kV isolating transformer are exempt from the requirement to have required capacity:

- Regulation 7(1)(ha) of the Regulations
- Regulation 7(1)(hb) of the Regulations.

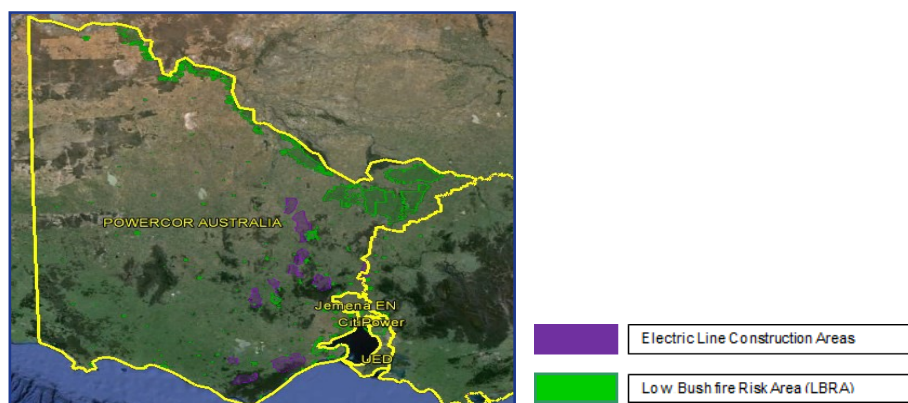
22kV polyphase lines that are exempt are listed in Appendix H.

## 6.6 Electric Line Construction Areas

### 6.6.1 ELCA Overview

There are 15 ELCA's in Powercor's distribution area. The areas are in accordance with the regulations and are derived from plans lodged in the Central Plan Office of the Department of Energy, Environment and Climate Action (DEECA). These areas can be viewed on Powercor's Map Insights application by selecting "Bushfire Construction Areas" layer. The areas are displayed in purple, and all assets within these areas are visible to the user.

A screen capture from Powercor's Google Earth Enterprise application showing these areas is shown in Figure 6, including a close up of the Colac area.



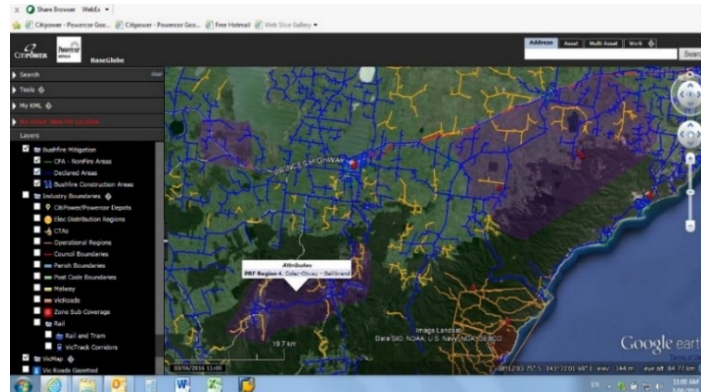


Figure 6: Electric Line Construction Areas

### 6.6.2 ELCA Construction Standards

As a preventative strategy to reduce the likelihood of powerline-initiated bushfires, the regulations define a higher standard for electric line works in ELCAs. In accordance with these regulations, any new Powercor works to be undertaken in ELCAs that meet the defined criteria will comply with the higher standards of construction. These standards will apply to construction of 22kV, SWER and LV assets and must utilise either:

- Aerial Bundled Cable (ABC)
- Underground cable
- Covered conductor.

Powercor's current technical solutions to address the construction standards required in ELCAs are described below.

#### Aerial Bundled Cable

ABC consists of three insulated cables wound around a bare catenary wire. The catenary wire provides the tensile strength and support for stringing ABC between pole or tower supporting structures.

The standard design for associated line equipment includes insulated and covered leads for transformers, automatic circuit reclosers, surge arrestors, HV fuses and gas insulated switches.

The relevant Technical Standards are the [ET-series \(LVABC\)](#) and the [EW-series \(HVABC\)](#).

#### Hybrid Underground

Underground cable is used between pole type substation and HV tee pole above ground structures.

The above ground assets, similar to ABC, include insulated and covered leads for transformers, automatic circuit reclosers, surge arrestors, HV fuses and gas insulated switches.

Hybrid underground on SWER systems in ELCAs will standardize on the use of Fault Tamers in lieu of EDO fuses and "code red" protection settings will be applied to SWER ACRs on TFB days.

The relevant Technical Standards are the [GH-series \(Hybrid Underground\)](#).

#### Conventional Underground

Similar to hybrid underground with the exception that associated equipment such as substations, switches and fusing are contained within ground mounted, insulated enclosures.

Interfaces with an overhead network have insulated or covered leads to surge arrestors.

The relevant Technical Standards are the [GA-series \(General\)](#), [GB-series \(HV cables and accessories\)](#), [GC-series \(Conduit and Cable Pulling\)](#), [GE-series \(Cable Head Poles\)](#) and [GL-series \(Kiosks and Substations\)](#).

#### HV Covered Conductor

Two HV Covered Conductor (HVCC) solution options have been developed, specifically the:

- Amokabel open wire covered conductor system.
- Hendrix spacer conductor system.

The relevant Technical Standards are the [EY-series \(Amokabel\)](#) and the [EX-series \(Hendrix\)](#).

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### 6.6.3 Application of Electric Line Construction Area

Powercor's higher design and construction standards in ELCAs are applied as per the following scenarios:

- all new construction ie: "greenfields":
  - new customer connections
  - new feeder or feeder extensions.
- all works involving re-conductoring on four or more consecutive spans:
  - re-conductoring, conductor replacement or line relocation project greater than or equal to 4 consecutive spans
  - includes any subsidiary HV circuits and/or dual circuits on the same poles
  - includes any single span tee-off
  - excludes any multi-span spur lines that may tee-off from the spans being re-conductored
  - excludes maintenance works that affect the pole top structure on an individual pole basis
    - eg: a crossarm change, a substation replacement
  - excludes replacement or upgrades of assets on individual poles
    - eg: a pole substation upgrade, a switch replacement
  - excludes any fault repair works that inhibits timely restoration of supply to customers
  - excludes 66kV works.

## 6.7 SWER ACRs

Powercor completed the installation of SWER ACRs as per the amended [Electricity Safety \(Bushfire Mitigation\) Regulations 2013 in November 2020](#).

Powercor commits to ensuring any new or augmented (split) overhead SWER systems will be protected by a SWER ACR which has programable and remote reclose settings.

## 6.8 Low Voltage Overhead Electrical Cable/wire

Powercor constructs or replaces overhead low voltage lines with insulated electrical cable or wire in HBRA as detailed in the Technical Standard [LV ABC Mains and Services \(ET001\)](#) and the [Electricity Safety \(Bushfire Mitigation\) Regulations 2023](#).

## 6.9 Vegetation Management

Powercor is responsible for the management of vegetation around power lines and other electricity assets in both the rural and urban areas of the network. In some urban locations there are "Declared Areas", where the Councils are managers of public land and are responsible for keeping trees clear of electric lines.

Powercor's vegetation activities are managed in accordance with the [Electric Line Clearance \(Vegetation\) Management Plan](#).

Powercor's [Electric Line Clearance \(Vegetation\) Management Plan](#) was submitted to ESV for endorsement as prescribed by the [Electricity Safety \(Electric Line Clearance\) Regulations 2020](#). The plan outlines management processes, programs and cycles for maintaining clearances between vegetation and network assets.

## 6.10 Private Overhead Electric Lines

### Inspections

Powercor has an obligation under the [Electricity Safety Act 1998](#) to inspect Private Electric Lines (PELs) that are above the surface of land within its distribution area, other than any prescribed parts of those lines as defined in Regulation 9 of the [Electricity Safety \(Bushfire Mitigation\) Regulations 2023](#). Point of Supply definitions are determined as per the [Electricity Safety Act 1998](#). POELs are inspected to identify any defects, or infringing vegetation, which may affect the fire and/or electrical safety of the line.

### Electricity Safety (Bushfire Mitigation) Regulations 2023

The [Electricity Safety \(Bushfire Mitigation\) Regulations](#) were amended in 2023, which included additional requirements associated with POELs:

- inspection of clearances
- hazard tree inspection by qualified arborists.

In response to the [Electricity Safety \(Bushfire Mitigation\) Regulations 2023 Regulatory Impact Statement](#), Powercor stated that to operationalise the new obligations, amendments to practices would be required. Powercor is committed to



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implementing the actions to address the amendments made to the [Electricity Safety \(Bushfire Mitigation\) Regulations 2023](#) and will comply with the regulations from 1 December 2023.

Inspections are undertaken to include the prescribed standards of inspection contained in section 10 of the [Electricity Safety \(Bushfire Mitigation\) Regulations 2023](#). There are three variations to these prescribed standards of inspection being applied by Powercor.

Powercor meets the required outcomes of regulation 11(1)(j), 11(1)(k) and 11(1)(l) by the inspection techniques shown below.

1. The condition of hardwood POEL poles located in concrete is determined by drilling down at an angle to inspect the condition of the pole below concrete level to determine the millimetres of wood free of decay and the presence of termites.
2. The condition of treated pine POEL poles is determined by assessing the degree of external rot and also measurement of the pole girth. Powercor meets the required outcomes of regulation 11(1)(l) by the inspection technique shown in (3) below.
3. The condition of steel POEL poles located in concrete is determined by a visual inspection down to the point where the pole enters into the concrete to ensure that the pole retains 75% of steel thickness in the corroded area when compared against a non-corroded area on the pole.

Operational procedures for Powercor's POEL inspection program are contained within the following documents:

- [Low Voltage Private Overhead Electric Lines Policy \(05-C001.D-430\)](#)
- [High Voltage Private Electric Lines Policy \(05-C001.D-431\)](#)
- [Asset Inspection Manual \(CPPAL-MA-0450\)](#).

Powercor's asset inspectors attempt to liaise with POEL owners regarding POEL inspection requirements before commencing any work. If the POEL owner is not home or is not spoken to, the asset inspector is required to leave a pamphlet informing POEL owners that an inspection of their POEL was undertaken, a summary of inspection findings and general information regarding POELs including the requirement for Powercor to inspect POELs as required under the [Electricity Safety Act 1998](#). A copy of this pamphlet is contained in Appendix D.

The annual POEL mail out ensures that all Powercor customers who have a POEL will receive a letter and a brochure. The letter provides relevant information as well as our policy on defective POEL's. The brochure covers topics including ownership, responsibilities, maintenance, vegetation clearance, electrical safety, disconnection, and a guide to POEL inspection. The mail out of these normally commences in early November.

Powercor notifies the owners of up-coming POEL inspections, as required in the [Electricity Safety \(Bushfire Mitigation\) Regulations 2023](#). These letters notify the owner which part of the line we will be inspecting and what will happen if defects are found (Refer Appendix E). Notice is given not less than 21 days and not more than 45 days before inspection.

## Disconnection

POELs that are identified as having a fire risk defect are disconnected on TFB days. Landowners, or occupiers, who are responsible for a defective POEL, are given up to 30 days to rectify vegetation infringements or other urgent defects. Every attempt is made to contact the customer by phone as soon as Powercor becomes aware of the defect during the declared fire danger period. If such defects are not corrected within this time the owner, or occupier, is given further written notice following which they are advised that the matter has been referred to the ESV as required, according to referral advice provided by ESV.

Powercor regularly contacts the responsible landowner, or occupier, by telephone to monitor the progress of corrective action. The requirements for reinspection of POELs referred to ESV for non-compliance are contained within the [Identification and Rectification of Defective POELs \(LV\) Procedure \(JEQA4UJ443MT-158-503\)](#).

Any hazardous POEL found during inspections are disconnected to ensure fire and/or electrical safety. Supply is not restored until the installation is safe to reconnect.

ESV has approved the disconnection of POELs with urgent fire defects on TFB days. When a disconnection is necessary, Powercor's Customer Compliance Group advises the customer and creates an entry in the Outage Management System (OMS) which prompts the Operations Control Centre to dispatch a crew to disconnect supply.

Operational procedures for the identification and rectification of defective LV POEL are contained within the [Identification and Rectification of Defective POELs \(LV\) Procedure \(JEQA4UJ443MT-158-503\)](#).

The specific actions for the management of POELs with outstanding urgent fire defects, on days of TFB, are contained in Powercor's [Total Fire Ban Day Action Plan \(PAL-PL-0009.1\)](#).

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## 6.11 New Technologies

Powercor is committed to continuous improvement. This often involves trialling or developing new technologies, which if successful and meets AFAP requirements will be adopted as normal business practice. Powercor will keep ESV informed of inflight initiatives (listed below) and new initiatives on a quarterly basis.

### 6.11.1 Early Fault Detection

Powercor continues to evaluate the in-service performance of Early Fault Detection technology for application on HV lines in HBRAs.

### 6.11.2 Non-destructive testing

Powercor continues to evaluate non-destructive technologies for wood pole condition assessment. Powercor has recently commenced trialling a resistograph type technology.

### 6.11.3 Smart meter detection algorithms

Powercor continues to leverage AMI smart meter data to develop algorithms to reduce network safety risk. Powercor has developed and recently implemented an algorithm that assists detect deteriorating LV assets including Fused Overhead Line Connection Boxes (FOLCBs) and Fused Switched Disconnect (FSDs). The performance of the algorithm is currently being monitored and adjusted to achieve optimum sensitivity detection levels.

Powercor is also currently developing and trialling algorithms to identify potential HV fuse candeling and overloaded distribution transformers.

### 6.11.4 SWER broken conductor detection

Powercor is developing technology with Victoria University to detect and isolate SWER broken conductors. Prototype technology has been developed and installed across three Powercor SWER systems to evaluate detection performance. Powercor is continuing to work with Victoria University to improve detection performance and explore commercialisation partners.

### 6.11.5 LiDAR clearance detection

Light Detection and Ranging (LiDAR) technology combines the use of remote sensing and software tools to generate a 3D digital model of assets and the surrounding environment. Engineering analysis of this model allows the assessment of distances between conductors and surroundings.

The LiDAR inspection process follows three steps:

#### 1. LiDAR Survey

Powercor employs helicopters to perform an aerial survey of its overhead network annually. The LiDAR sensor uses pulsed laser light to generate a point cloud survey of the asset and its surrounds. The point cloud provides a 3D dataset of geospatially accurate points in space.

#### 2. Generation of 3D model

A set of software tools is used to generate a 3D model of the asset and surroundings using the point cloud, asset information and other geospatial data sources.

#### 3. Application of clearance rules

Software tools are used to apply clearance specified requirements automatically to the 3D model to identify sites that fail to meet minimum criteria. These sites are reported with relevant information for prioritisation and remediation.

In 2021, Powercor trialled the application of LiDAR technology for conductor clearance measurement by developing algorithms to identify clearance issues in relation to the following use cases in order to complement the cyclic asset inspection program:

- **Conductor to ground clearances:** The intent of this use case is to determine the vertical clearance between the lowest point of a catenary for each circuit (Sub-transmission / HV / LV) and verify compliance.
- **Pole top structure clearances:** The intent of this use case is to determine the spacing of conductors at the supporting pole and verify compliance.
- **Phase to phase (mid span) clearances:** The intent of this use case is to determine the displacement between conductors at mid span and verify compliance.

The specific milestones to operationalise the 2021 use cases are outlined in Table 9.

Table 9: Key Milestones to Operationalise 2021 LIDAR Use Cases

| Key Milestone  | Target Date      |
|--|------------------|
| 1. Updated 2021 use cases (if required) with PIR learnings   | Completed        |
| 2. Developed draft LiDAR clearance strategic approach (draft policy including risk-based methodology)                  | Completed        |
| 3. Validated 2021 trial site clearance rectification works are compliant by processing data from latest LiDAR campaign | Completed        |
| 4. Approved LiDAR clearance strategic approach (policy including risk-based methodology)                               | 29 December 2023 |
| 5. Formalised implementation plan and developed multiyear risk driven rectification plan                               | 29 December 2023 |
| 6. Agreed LIDAR transition plan & approach with ESV to manage risk and delivery compliance, as far as practicable      | 29 February 2024 |

In 2023, further use cases will be developed. These will include:

- Conductor clearances to buildings
- Low voltage aerial service cables to ground
- Leaning poles.

The specific milestones are outlined in Table 10.

Table 10: Key Milestones to Develop 2022 LIDAR User Cases

| Key Milestone   | Target Date       |
|---|-------------------|
| 1. Developed detailed scope and delivery schedule for 2022 use cases                  | Completed         |
| 2. Completed development and acceptance of 2022 use cases                             | 29 December 2023  |
| 3. Updated 2022 LiDAR use cases (if required) with PIR Learnings                      | 29 March 2024     |
| 4. Developed draft LiDAR Clearance Policy for 2022 use cases (if required)            | 31 May 2024       |
| 5. Applied latest LiDAR campaign data to updated 2022 use cases (if required)         | 31 July 2024      |
| 6. Approved and published updated LiDAR Clearance Policy (if required)                | 30 September 2024 |
| 7. Updated multiyear risk driven rectification plan with 2022 use cases (if required) | 31 October 2024   |

The undertaking of these projects and initiatives reaffirms Powercor's commitment to developing and maintaining its electricity supply network to reduce the bushfire risk across its distribution area.

## 6.12 Asset Replacement Programs

Powercor has identified proactive asset replacement programs to improve risk reduction in the highest fire risk areas of the network.

### 6.12.1 Replacement of EDO Fuses

EDO fuse failures have been identified as a contributor to fire starts within the Powercor network. To mitigate fires caused by EDO fuse failures, Powercor is proactively replacing all EDO fuses with fault tamers (where suitable) in ELCAs. Powercor is also progressively replacing EDO fuses with fault tamers (where suitable) in HBRAs other than ELCAs, on an opportunistic basis.

A product issue with the fault tamer was identified in September 2022, which resulted in a program pause. The cause of the issue was determined, and product rectification undertaken by the manufacturer, however, there has been an impact on product supply. Until product supply becomes available, replacement of EDO fuses with fault tamers is restricted to fault and maintenance activities.

The proactive replacement program will be re-established once product supply becomes available. Powercor's plan is to replace the remaining 1,533 sites by 1 June 2027.

### 6.12.2 Replacement of HV wooden crossarms with steel crossarms

HV wood crossarms have been identified as a significant contributor to fire start risk within the Powercor network. A targeted proactive replacement program of HV wooden crossarms with steel crossarms in high bushfire consequence areas was informed by an AFAP assessment and subsequent analysis. The proactive replacement targets all 600 HV wood crossarms in ELCAs, including replacing 300 HV wood crossarms with steel crossarms by June 2024 and replacing the remaining 300 crossarms by December 2026.

### 6.12.3 Sustainable wood pole management program

This section describes how Powercor complies with the ESV request pursuant to section 109(1) of the *Electricity Safety Act 1998* and its obligations and general duties as set out in s98 of the Act to revise its BMP. Powercor specifically commits to the volume of wood pole interventions (replacements and reinforcements) to achieve sustainable and safe outcomes, as far as practicable, for the Victorian community, particularly in HBRAs to reduce the risk of bushfire as detailed below.

This will be achieved by intervening on poles based on compliance (pole condition) as well as a targeted proactive risk driven program. Together, these asset management actions will result in addressing unsafe or ageing wood poles and will have the overall effect of reducing the average age of the wood pole population.

This commitment requires a minimum of 34,650 wood pole interventions between the period 1 January 2022 and 31 December 2026 including:

1. A minimum of 25,241 wood pole interventions in HBRAs and/or electric line construction areas (with a minimum of 13,614 of these interventions to be replacements); and
2. Replacement of not less than 3,519 reinforced poles.

The sustainable wood pole management program sets out the methodology, approach and policies being used by Powercor to identify and prioritise the committed minimum intervention volumes, and enable ESV to monitor delivery progress and compliance against the following intervention categories:

1. Compliance-driven: measured pole serviceability condition.
2. Compliance-driven: observed defects (visual above ground defects).
3. Risk-driven: applying a Risk-Based Asset Management (RBAM) methodology.

#### Compliance-Driven: Measured Condition Defects

Powercor's approach to determining compliance-driven measured condition defects associated with wood poles are described below in several key policies.

The [Network Asset Maintenance Policy for Inspection of Poles \(05-C001.D-390\)](#) details the management regime of non-routine maintenance identified following an asset inspection, specifically describing the type of inspection, time frames and the pole classification criteria in establishing the pole condition.

Powercor recently implemented the Enhanced Pole Calculator (EPC) incorporating the Serviceability Index (SI) assessment methodology in determining the measured pole condition, as documented in the [Network Asset Maintenance Policy for Strength Assessment of Poles \(D - 406\)](#). These changes were initiated and implemented as part of the Pole Management Improvement Program, with Powercor adopting this serviceability assessment approach to incorporate the pole loading and design standards as per the requirements of *AS/NZS 7000:2016 Overhead Line Design*.

The [Network Asset Maintenance Policy for Strength Assessment of Poles \(D - 406\)](#) details the serviceability thresholds to be used in the assessment of pole structures in determining compliance driven wood pole conditions and outlines the business rules related to the assessment of pole serviceability as it pertains to the ability to withstand pole tip loads on the structure. This policy aligns historical and future design, inspection standards and current knowledge of the performance of pole materials.

Finally, the [Network Asset Maintenance Policy for Management of Permanent Reinforcement Systems on Wood Poles \(05-C001.D - 398\)](#), details how permanent reinforcement systems shall be managed to optimise asset performance. Specifically, for this program, it specifies the management of existing double-staked poles in HBRAs.

#### Compliance-Driven: Observed Condition Defects

The [Network Asset Maintenance Policy for Inspection of Poles \(05-C001.D-390\)](#) outlines the 'Compliance-driven: observed defects' which identifies through a visual above ground assessment, defects not attributable to the EPC serviceability condition assessment that cannot be maintained through a repair.

Observed condition defects considered in the policy include:

- Poles damaged due to fire, vehicle impact, third party or lightning.
- A defect has been identified above 2 metres on the pole (splits, holes, knots) and is assessed as cannot be repaired.
- A pole has been identified with Dampwood termites or fungal fruiting bodies above 2 metres.

Poles assessed during cyclic and non-cyclic asset inspections that may pose a risk due to leaning as set out in the [Network Asset Maintenance Policy for Management of Leaning Poles \(D - 393\)](#), shall be reported and appropriately actioned as specified in the policy.

**Risk-Driven: Risk Based Asset Management**

To achieve the minimum intervention volumes, Powercor will supplement the compliance-driven volumes with a proactive risk-driven approach.

The [Network Asset Maintenance Policy for Risk Based Asset Management of Poles \(D - 407\)](#) details the deployed risk-based asset management approach through a Condition Based Risk Model (CBRM) to determine prudent pole interventions, achieving a balance between risk, cost and performance.

Risk based interventions are determined and calibrated in conjunction with the CBRM process.

To identify the poles for intervention to meet the minimum required volumes, a criticality ranking has been determined to reflect the modelled consequences of a pole failure. This criticality, utilised within the RBAM system, has been established and is applied against every pole on the network within SAP. The combination of the pole condition and the RBAM criticality is used to generate a prioritised list of poles across the network, with this prioritisation used to determine risk-based interventions.

A nominal ranking approach informs the prioritised risk-based interventions as stated in the following matrix (refer Table 11). Powercor plan to prioritise the committed pole intervention volumes using the hierarchy classification ranking (Highest to Lowest Risk). RBAM will provide the flexibility to proactively deliver the required interventions over and above what has been identified through our compliance-driven inspection defects to meet the minimum pole intervention volumes.

Table 11: Prioritised Risk-Based Intervention Matrix

| Pole Criticality                          | 1    | 2    | 3    | 4     | 5    |
|---|------|------|------|-------|------|
| Pole Condition/Target Fire Area           | LBRA | LBRA | HBRA | HBRA1 | ELCA |
| Unserviceable (P1, P2)                    |      |      |      |       |      |
| AC Serviceable (P3)                       |      |      |      |       |      |
| Serviceable (P4)<br>≥50 years & SWT <70mm |      |      |      |       |      |
| Serviceable (P4)<br>≥50 years & SWT ≤75mm |      |      |      |       |      |
| Serviceable (P5)                          |      |      |      |       |      |

| Legend – Hierarchy Classification                       |        |                                  |
|---|--------|----------------------------------|
| Compliance driven measured condition/observable defects | Rank 1 | Highest Risk<br>↓<br>Lowest Risk |
|   | Rank 2 |                                  |
| Risk driven interventions                               | Rank 3 |                                  |
|   | Rank 4 |                                  |
| Ongoing Monitoring and Inspection                       | Rank 5 |                                  |

Powercor’s delivery approach will use the existing 5-year asset inspection program to manage and identify the wood pole interventions to be delivered in the 2022-2026 period.

Utilising our SAP Asset Management systems and procedures, notifications will be assigned and generated to each respective pole for replacement or reinforcement in accordance with our standard maintenance practices and priority

<sup>1</sup> The targeted volumes for wood pole condition P3 & P4 with criticality 4 in HBRA, exclude 66kV poles in LBRA (these are Rank 5 in hierarchy classification)

policy. The [Network Asset Maintenance Priority Policy \(A-025\)](#) supported by the [Network Asset Maintenance Policy for Risk Based Asset Management of Poles \(D - 407\)](#) defines the appropriate maintenance response required to manage maintenance defects specifying the priority ratings and rectification time frames applicable for each priority rating.

These works will be managed accordingly within the Network Services delivery schedules to ensure the design, procurement and construction maintenance activities are undertaken in accordance with the prescribed priority timeframes.

### Minimum Pole Intervention volumes

Across the Powercor network a minimum 34,650 wood pole intervention volumes are committed for delivery over the 1 January 2022 to 31 December 2026 period, to include a minimum of:

- 25,241 wood pole interventions in HBRA, with 13,614 of these to be replacements; and
- 3,519 reinforced wood pole replacements.

These minimum pole intervention volumes are split across the total network by replacements and reinforcements as outlined in Table 12 with an additional breakdown by intervention categories outlined in Table 13.

Table 12: Powercor Intervention Volumes for Period 2022 to 2026

| Pole Intervention Volumes | Actual       | Plans (years) |              |              |              |               |
|---------------------------|--------------|---------------|--------------|--------------|--------------|---------------|
|                           | 2022         | 2023          | 2024         | 2025         | 2026         | Total         |
| Replacements              | 4,051        | 4,155         | 4,187        | 4,187        | 4,187        | 20,767        |
| Reinforcements            | 3,150        | 2,674         | 2,686        | 2,687        | 2,686        | 13,883        |
| <b>Totals</b>             | <b>7,201</b> | <b>6,829</b>  | <b>6,873</b> | <b>6,874</b> | <b>6,873</b> | <b>34,650</b> |

Table 13: Powercor Intervention Volumes by Categories for Period 2022 to 2026

| Pole Intervention Categories (Volumes) | Actual | Plans (years) |       |       |       |        |
|--|--------|---------------|-------|-------|-------|--------|
|  | 2022   | 2023          | 2024  | 2025  | 2026  | Total  |
| Network Interventions                  | 7,201  | 6,829         | 6,873 | 6,874 | 6,873 | 34,650 |
| HBRA Interventions                     | 5,457  | 4,998         | 5,015 | 5,015 | 5,015 | 25,500 |
| HBRA Replacements                      | 2,954  | 2,755         | 2,764 | 2,763 | 2,764 | 14,000 |
| Network Reinforced Replacements        | 763    | 798           | 680   | 679   | 680   | 3,600  |
| HBRA Reinforced Replacements           | 472    | 728           | 600   | 600   | 600   | 3,000  |

Powercor will deliver the minimum 5-year wood pole intervention volume as shown in the Total column in Table 12 and Table 13.

NOTE: Some categories in Table 13 are a subset of another category meaning the category totals do not collectively sum up to the totals described in Table 12.

For each year during this period, Powercor will commit to a minimum wood pole intervention volume no lower than 90% of the yearly values shown in Table 12 and Table 13 and any subsequent updates to these tables.

A tolerance each year allows for any typical variability due to condition-driven find rates, inspection volumes as well as weather and access constraints. Unexpected circumstances beyond Powercor's control may, however, arise resulting in further reducing the volume delivered in any one year. Should Powercor be unable to deliver the required volumes, ESV will be informed together with the associated impacts and recovery plans.

By the end of January each year a revised pole intervention plan will be resubmitted to ESV reflecting the recalculated remaining annual volumes to ensure the minimum 5-year committed volume will be met. The plan will be amended taking into account the actual delivered interventions in the preceding year(s) to ensure the total minimum committed volumes are met by the end of 2026.

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## 6.13 Conductor Clearances (T-On and T-Off Structures)

Powercor has developed and committed to the implementation of an asset inspection-based program to identify, prioritise, and rectify conductor clearance defects to improve the management of conductor clearances.

This section should be read in-conjunction with section 6.11.5 which describes Powercor's commitment, approach, and plan for the development of LIDAR technology to support the management of conductor clearances and leaning poles.

In assessing these risks, Powercor has considered the factors associated with designing, operating, constructing, and maintaining electricity networks in our differing environments, which potentially contribute to increasing the risk of fire ignition due to conductor clashing or flashover, to include:

- Changes in design and construction standards that have varied over the asset's life cycle.
- Incorrect inspection and maintenance practices for identifying conductor clearance breaches.
- Incorrect application of design and construction standards.
- Asset condition change or deterioration over time impacted by environmental conditions (weather, wind, ground subsidence etc).

Powercor is committed to reducing the risk of bushfire ignition arising from conductor clashing or flashover associated with vertical clearance for crossing at T-on and T-off structures, by implementing the following high-level summary of key controls:

- For new assets, application of its design and construction standards to the requirements of *AS/NZS 7000:2016 Overhead Line Design*, to mitigate the risk and potential consequence(s) of a conductor clearance breach leading to a clash or flashover, based on fire area.
- Application of the conductor clearance maintenance policy and approach to manage the identification, measurement, priority, and actions - setting out the reporting triggers and rectification time frames for clearances between conductors on the same or different circuits at all T-on and T-off structures.
- Removal of high voltage T-on structures as a standard structure and can only be adopted, where no alternative design solution is viable, following the completion of a safety in design risk assessment and approval of a non-standard design as set out in the procedure.
- Inspection and measurement of vertical clearance for high voltage and sub-transmission (attached) crossings at T-on and T-off structures.
- Any leaning poles identified through the cyclic inspection program that have a T-on structure on the same pole or at the other side of the span will have their lean measured and recorded, and the clearance between conductors will be measured by an asset inspector. Where a clearance breach is identified it will be recorded as a higher priority defect.

A priority rating of P1 is assigned to conductor clearance defects in HBRA with signs of clashing. Defects that represent a lower risk of bushfire ignition may be assigned a lower priority, consistent with the level of risk.

Powercor is committed to continuous improvement, including the use of new technology to manage the risk associated with conductor clearance breaches as detailed in previous sections.

Powercor's governance and assurance processes for monitoring and ensuring the effectiveness of controls, specifically relating to training and reporting, monitoring, and auditing, are contained within sections 6.15, 7 and 10.

## 6.14 Resourcing

Powercor ensures appropriate resources are available to carry out the activities outlined in this plan.

A detailed asset inspection program, of the following years work, is developed and provided to our asset inspection contractor to enable them to plan their resource requirements to meet the program's needs.

Powercor is responsible for the overall vegetation program management with sub-contractor/s engaged to complete inspection and cutting tasks.

## 6.15 Training

Powercor has an established and documented system to ensure that employees and contractors who are working on or near the electricity network are suitably competent and adequately trained to carry out their duties.

The key steps that Powercor has in place to manage competency and training requirements are illustrated in Figure 7.



Figure 7: Competency and training process

In Powercor, the Electricity Networks business unit sets the training standard for workers who are working on or near the electricity network. The training standards are established through the industry committee VESI Skills and Training Reference Committee for consistency within the State and nationally through Industry Reference Committees.

If training is required specifically for Powercor this is co-ordinated as Enterprise training for employees. For contractors, requirements for additional training would be included in a contract agreement.

Further detail can be found in the [Technical Training Compliance Policy \(JEQA4UJ443MT-173-25\)](#) and [Technical Training Guideline \(JEQA4UJ443MT-173-28\)](#).

All Asset Inspectors are required to meet the training requirements as specified in the [VESI Skills and Training Matrix](#). These training requirements are confirmed by Powercor when an application request is made for an Asset Inspector to work on the network.

Where the qualification (being Cert II in ESI Asset Inspection UET20612 or subsequent version) has been attained in a State or Territory of Australia other than Victoria, induction to Powercor requirements (including our procedures) is conducted by a person holding a Certificate IV in Training and Assessment.

Powercor has developed enterprise specific competency standards for the activity of asset inspection. These standards provide contractors and training providers with the information necessary to develop appropriate training courses that will enable individuals to become approved to inspect Powercor assets.

### Ongoing competency

Audit processes are in place to ensure that there is consistent application of knowledge and skill to the standard of performance required for asset inspectors.

Asset Inspector audit findings are rated and the cause of the finding identified. This may result in the need for refresher training or mentoring of the Asset Inspector to ensure the required competency is achieved.

Overall performance of the asset inspector is monitored whereby frequency rates of audits are determined based on their performance.

Powercor has implemented the Australian ESI Skills Passport in 2010. The Australian ESI Skills Passport system has enhanced the portability of the ESI workforce by mutual recognition of agreed training standards. Training is recorded in the passport and can be viewed to confirm currency of training for the task being undertaken. Further information can be located at [www.esipassport.com.au](http://www.esipassport.com.au).

The training programs for specific job roles in bushfire mitigation activities are described below.

### Asset Inspection

As per ESV's [Training Approval Statement, Asset Inspectors](#) working on the Powercor network are required to hold a Certificate II in Asset Inspection (Course Code: UET20612 or subsequent version).

The [VESI Skills and Training Matrix](#) stipulates the requirements and frequency of refresher training for Asset Inspectors. The matrix is available at [www.vesi.com.au](http://www.vesi.com.au).



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## Vegetation Management

All training requirements for vegetation management are covered in the [Electric Line Clearance \(Vegetation\) Management Plan](#).

## Line Work

The [VESI Skills and Training Matrix](#) stipulates the qualifications and refresher training for a line worker. The employing company is required to organise training to the standards referred to in the matrix. The employing company will keep records of all training undertaken.

Line worker apprentices are engaged in bushfire mitigation activities from time to time. This provides experience in a broad range of tasks. When companies engage apprentices, they work under the [VESI Apprentice Supervision Guidelines](#) as published on the VESI website [www.vesi.com.au](http://www.vesi.com.au).

Formal training of apprentices, in line work, is conducted by a Registered Training Organisation (RTO) and this training is supported “on the job” by designated mentors and tradespersons.

## Technical Standards

Powercor’s Technical Standards group provide information to Powercor employees, Local Service Agents (LSAs) and contractors with regard to new initiatives in the design and construction of network assets, generally on a monthly basis. If a significant new item of equipment or a significant new technical standard is being introduced, then specially convened information sessions may be conducted.

All contractors or other external persons associated with works on Powercor assets can register with Powercor to gain “read only” access to Powercor’s technical standards.

Information sessions are also stored in the “Source” document portal on Powercor’s Intranet System for future viewing.

## 6.16 Liaison with Other Organisations

Powercor has a procedure for coordinating BFM activities and emergency procedures with relevant organisations which may include any of the following:

- ESV
- CFA
- Fire Rescue Victoria (FRV)
- State Emergency Service (SES)
- DEECA
- Department of State Development, Business & Innovation (DSDBI)
- Municipalities
- Mutual Aid Plan Planning Committee (MAPPC)
- Bureau of Meteorology (BOM)
- Other Distribution/Transmission Network Operators.

Actions to be undertaken in the event of a major event or emergency are contained in the [Incident Management Procedure \(JEQA4UJ443MT-185-28490\)](#) and [Crisis Management Plan \(JEQA4UJ443MT-154-391\)](#)

These documents include the responsibilities for communications with emergency services and other relevant organisations during events such as:

- Loss of the Operations Control Centre
- Major supply outages
- Major plant faults
- Lack of supply capacity (load shedding)
- Fires and incidents.

## 6.17 Public Awareness

In an effort to maintain community awareness of bushfire hazards, Powercor provides information to the public concerning various BFM activities. Powercor has a commitment to enhancing public awareness of:

- the potential risks associated with POELs
- the risks of planting inappropriate vegetation near electrical lines
- vegetation species suitable for planting near powerlines

- inspection timeframes
- other fire related matters.

As part of its Vegetation Management and POEL inspection programs, Powercor makes the following information available to its customers, via the Powercor website:

- [Planting Trees Near Power Lines](#)
- [POELs - Understanding Your Responsibilities.](#)

Powercor prepares an annual BFM communications plan with a high-level objective of being recognised as an organisation which values genuine engagement with its key stakeholders and local communities.

The communications plan may be outworked using various forms and channels including social media posts, traditional media releases, newspaper articles & advertisements, radio advertisements & interviews, TV interviews and face to face meetings with various stakeholders.

Powercor releases an annual communication to Registered Electrical Contractors (RECs) within our service territory, in an effort to raise awareness and appreciation of the importance of POEL maintenance works and complying with the regulations and Powercor's processes.

For details of communication with POEL owners refer to Section 6.10.

## 6.18 Assistance Provided to Fire Agencies

There are two rural fire fighting services, operating within Powercor's service area:

- DEECA – who are responsible for state forests and parks.
- Fire Rescue Victoria (FRV) / CFA – who are responsible for all other rural areas and is resourced largely by volunteers.

Powercor will provide assistance and work with the relevant fire control agency in the investigation of fires near our supply network.

Powercor's Emergency Management Liaison Officers (EMLOs) are available to attend fire agency command centres and provide information or assistance with issues relating to our distribution assets. An EMLO is a person that acts as a go-between or the link between two organisations to communicate and coordinate their activities.

### Emergencies

Any requests for resources to assist fire agencies are coordinated by the Network Controller, from Powercor's Operations Control Centre.

Fire emergencies are communicated directly to the Operations Control Centre via a direct phone number for emergency services organisations. Fault Crews are then promptly dispatched according to the information received.

Powercor will work with the relevant fire control agency to provide safe access to a fire or accident scene involving Powercor assets. This may include de-energisation of electrical assets upon request.

Further detail of actions to be undertaken in the event of a major event or emergency are contained in the [Incident Management Procedure \(JEQA4UJ443MT-185-28490\)](#) and [Crisis Management Plan \(JEQA4UJ443MT-154-391\)](#)

Powercor also has representation on the State Control Centre (SCC) electricity industry roster for EMLOs. An EMLO will provide the technical or subject matter expertise relating to the electricity industry and embeds an EMLO into the SCC to provide face-to-face coordination.

### Information Exchange

There are a number of different forums for information exchange that take place between the fire agencies and Powercor.

A Regional Integrated Fire Management Planning Committee operates in each Region. Each committee includes representatives from the FRV, local fire brigades, DEECA, and local municipalities. A Powercor representative may either attend committee meetings or provide written reports on the status of Powercor's Bushfire Mitigation Program.

Each year prior to the fire danger period, the FRV is requested by ESV to hold an information day to provide a briefing and forecast for the coming season. Information presented includes the likely severity of the season and identification of high-risk areas. This information day is attended by Victorian electricity distributors (including Powercor), transmission operators and representatives from the ESV.

Information relating to the Fire Season declaration dates is provided to Powercor by FRV both through the receipt of Fire Season Declaration notices and also through discussions with FRV Regional Community Safety Managers.

## 6.19 Total Fire Ban Days

Powercor has a [Total Fire Ban Day Action Plan \(PAL-PL-0009.1\)](#) which is invoked on TFB days. The plan contains BFM strategies to be employed on days of extreme fire weather conditions to minimise the risk of a fire ignition being caused

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by Powercor's electricity network and is implemented under the direction of the Control Manager with assistance from the TFB Day Coordinator.

POELs which are located in hazardous bushfire risk areas and have defects which are not fire safe are disconnected on days of TFB. These lines are not reconnected until the end of the TFB or until the fire danger has subsided.

For works involving welding, cutting, grinding, or use of naked flame, permits from the appropriate organisation (eg. CFA, MFB, and DEECA) are used and adhered to.

### Enhanced Protection and Suppression Settings on Total Fire Ban days

Enhanced TFB day protection settings are applied to nominated circuit breakers, SWER ACRs and 3 phase ACRs to reduce the fault energy in the event of a fault.

For the nominated ACRs that do not have the enhanced TFB Day setting functionality, these devices will have auto-reclose suppressed on TFB days.

The enhanced TFB day protection setting regimes are applied based on the following criteria:

- Devices located within 80% Highest Consequence using the Tolhurst model 2015/16 Ash Wednesday FDI140 with no previous burn history consequence scenario.
- Devices that are within ELCAs.

All new generation SWER ACRs, regardless of the location, will have enhanced TFB Day settings applied on TFB Days.

## 6.20 Declared Fire Danger Period

During the Declared Fire Danger Period, Powercor will continue with normal operation of its electrical assets. The majority of Powercor's operational and maintenance activities are configured to be undertaken for the full 12 months of the year, irrespective of Declared Fire Danger Periods.

There are however some activities that are specific to the Declared Fire Danger period. These include:

1. Vehicle Movement Off-road (see Appendix C).
2. Use of spark arresters on non-vehicular heat engines equipment such as hoppers, chainsaws and generators (see Appendix C).
3. Fire Fighting Equipment to be carried (see Appendix C).
4. Line Condition Observation Program – This is a series of field observations undertaken across the distribution network (see Section 6.1.4).
5. Enhanced BFM Activities – This is a program of additional activities that may be undertaken each fire season. A decision is made by Senior Management based on information received from various sources, including the CFA and other emergency services. Activities that are considered include:
  - Additional Thermographic and Corona Camera inspections emanating from selected zone substations in high-risk areas identified by CFA.
  - Focusing some of the existing audit/observation programs in these high-risk areas identified by CFA.
  - Additional auditing/observation programs covering both asset condition monitoring and vegetation management in high-risk areas identified by CFA.

## 6.21 Fire Management

In the event of a fire, Powercor's operational and maintenance activities include:

- Receiving notification from or supplying notification to the relevant fire control agency regarding a fire event.
- Liaison with the relevant fire control agency regarding appropriate actions as required.
- Dispatching field crews for fault rectification or as directed/requested by the relevant fire control agency.
- Deployment of EMLOs if required to any Incident Control Centre established by the relevant fire control authority.
- Managing the fire event as set out in the [Incident Management Procedure \(JEQA4UJ443MT-185-28490\)](#) and [Crisis Management Plan \(JEQA4UJ443MT-154-391\)](#).

## 7. Program Timing

Powercor has produced a set of combined BFM program milestones which specify the completion dates required for key BFM activities. A copy of the BFM program milestones document is attached in Appendix B.

The asset inspection program dates are determined by the maintenance plan, in accordance with the relevant asset policy and are generated from SAP.

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Remedial maintenance and asset replacement/modification is completed in accordance with the priority classification policy (refer Section 6.2).

Timing of vegetation management activities are undertaken in accordance with Powercor's [Electric Line Clearance \(Vegetation\) Management Plan](#).

## 8. Fire Investigation

Any fire starts initiated by Powercor assets according to ESV reporting guidelines are reported to ESV. The Network Control Room identifies any fire starts from outage information or from external advice and notifies the Network Availability Officer (NAO) who investigates each situation according to the information provided. The NAO then sends completed reports to the Network Risk & Assurance team for checking and collation and forwarding to ESV as per the ESV reporting guidelines.

At the annual BFM post season review, ground fire start statistics are presented and discussed.

Operational procedures for the reporting of fire starts are contained within:

- [Incident Management Procedure \(JEQA4UJ443MT-185-28490\)](#)
- [Update ESV and AER Reportable Incidents in Cintellate Procedure \(JEQA4UJ443MT-173-45\)](#)

The operational procedures for the reporting of fires contained within the [Incident Management Procedure \(JEQA4UJ443MT-185-28490\)](#) are in accordance with the requirements stipulated in ESV's [Incident and Safety Performance Reporting Guidelines - Major electricity companies](#) located on the ESV website:

<https://www.esv.vic.gov.au/sites/default/files/2022-12/Electrical-Safety-Performance-Reporting-Guidelines-Rev-05072022.pdf>.

The procedure ensures that Powercor meets its responsibilities to employees, customers, members of the public and regulatory requirements.

## 9. Key Measures

### 9.1 Asset Maintenance and Vegetation Performance Measures

#### Asset Maintenance Performance

The Asset Maintenance Compliance Measure (AMCM) is a measure of line inspection and maintenance compliance. The AMCM measures the completion performance of inspection and maintenance activities against policy targets. An explanation of how the AMCM is calculated is provided in Appendix F.

The objective is to reduce the AMCM to zero by the start of the Fire Danger Period and to maintain zero throughout the period.

#### Vegetation Performance

Vegetation compliance is measured as a discrete count of HBRA Vegetation Priorities (VPs) outstanding, as reported to ESV.

### 9.2 Fire Starts

Reporting of ground and pole fires is undertaken as they occur and reported to ESV. Reporting procedures are contained within the following documents:

- [Incident Management Procedure \(JEQA4UJ443MT-185-28490\)](#)
- [Update ESV and AER Reportable Incidents in Cintellate Procedure \(JEQA4UJ443MT-173-45\)](#)

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## 9.3 Asset Failures

As part of continuous improvement towards the mitigation of bushfires, Powercor records the causes of fire ignition which are attributed to failures of electricity assets. Analysis of asset failures and failure trends are carried out in order to develop improvements to maintenance policies, technical standards, work practices and enhanced preventative actions which all contribute to risk management strategies. Investigation of failed assets is the responsibility of the Asset Investigation section.

The [Asset Failure Investigation and Reporting Procedure \(18-06-P0001\)](#) details the reporting, analysis, and investigation of failed assets.

## 9.4 BFM Milestones

Powercor have produced a set of BFM program milestones which specify the completion dates required for key Electricity Networks BFM activities. These BFM activities are:

- Submit the Vegetation Management Plan (if required) to ESV.
- Conduct an annual BFM post season review.
- Submit the Bushfire Mitigation Plan (if required) to ESV.
- Submit the annual compliance report to ESV.
- Complete the annual internal compliance audit of the Bushfire Mitigation Plan.
- Complete the POEL mail out to Powercor customers.
- Conduct the annual summer pre-season briefing to Senior Management.
- Submit an annual summer readiness report to IPART (NSW).
- Complete the Line Condition Observation program.

The achievement of these milestones is closely monitored and a copy of the BFM Program Milestones is attached in Appendix B.

# 10. Reporting, Monitoring and Auditing

## 10.1 Report and Monitoring

The Bushfire Mitigation Committee provides management and governance of the bushfire mitigation processes and fire season readiness activities.

Reporting processes are established which ensures that all levels of the BFM management structure, including executive management levels and ESV, are informed of the status of the company's preparedness and fire performance.

The reporting process incorporates requirements for:

- Prior to the Declared Fire Danger period
- During the fire danger season
- On Total Fire Ban days

Reporting and monitoring arrangements for TFB days are contained in the [Total Fire Ban Day Action Plan \(PAL-PL-0009.1\)](#).

### **BFM Status Report**

The main method of monitoring the BFM plan is the BFM Status report, which includes the AMCM and outstanding HBRA vegetation. This report measures the status of a range of BFM activities against policy or program targets. Reported activities include asset inspection (including POELs), priority maintenance and vegetation outside policy clearance programs.

It is provided to senior management and employees involved in BFM activities and ESV. The report is also loaded onto Powercor's Intranet site for viewing by all Powercor personnel.

The BFM Status report is compiled and reported on a monthly basis, outside the Declared Fire Danger Period and then reverts to weekly reporting during the Declared Fire Danger Period. The frequency of this reporting enables close monitoring by both Powercor management and ESV.

The frequency of this reporting is sufficient to enable the detection and rectification of any situation that could jeopardise the achievement of a state of full preparedness by the start of the Declared Fire Danger Period.

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### Asset Maintenance Compliance Measure

Powercor's strategy to reduce the AMCM is to closely monitor the key programs associated with the BFM program. This includes maintenance and asset inspection items.

### Asset Inspection

The Asset Inspection program is monitored by the Asset Inspection Group.

An automated daily exception report is generated from SAP and distributed by e-mail to relevant employees who monitor the asset inspection program. The Asset Inspection Group investigates any overdue poles and associated assets to ensure appropriate action has been taken (including POEL poles).

### Maintenance

An automated daily Priority 1 report is generated from OMS and distributed to relevant employees by e-mail. The Operational Faults Manager checks any outstanding items to ensure prompt action.

An automated daily Priority 2 exception report is generated from SAP and distributed by e-mail to alert relevant employees of defects that are overdue for rectification or close to becoming overdue. Operational procedures for the Maintenance Program Group to investigate outstanding defects and follow up actions are contained within the [Management of Maintenance Items Outside Policy Timeframes Work Instruction \(JEQA4UJ443MT-158-543\)](#).

### Vegetation Clearance

Powercor produce a weekly report which is distributed to key stakeholders. This report provides program status updates on all vegetation management programs. Status reporting on vegetation outside policy is included into the BFM Status report.

### ESV

Powercor's reporting schedule to ESV, on its BFM activities, is listed below:

- Annual Vegetation Management Plan (supplied every 5 years, minimum).
- Bushfire Mitigation Plan (supplied every 5 years, minimum).
- BFM Status Report (reported monthly or weekly during the Declared Fire Danger period).
- AMCM, Vegetation Compliance and REFCL operational data (reported monthly or weekly during the Declared Fire Danger period).
- Ground and pole fire starts (reported as they occur).
- Fire Start Statistics (reported to ESV as per the ESV reporting requirements).
- Safety Program Report (Quarterly).
- Annual compliance report (regarding the requirements of s120P of the Electricity Safety Act) on or before the 1st of August each year to meet the requirements of the [Electricity Safety Amendment \(Bushfire Mitigation Civil Penalties Scheme\) Act 2017](#).
- REFCL Performance Report (supplied annually).
- Sustainable Wood Pole Management Program (SWPMP) actual volumes against the forecast plan on a quarterly basis as part of the pole performance reporting and, on an annual basis, demonstrate that the pole interventions have been identified in compliance with the policies identified in the BMP.

Reporting on issues found through ESV audit processes is carried out on request.

## 10.2 Auditing

Powercor's [Audit and Inspection Programme Requirements Policy \(JEQA4UJ443MT-175-29\)](#) provides information for the preparation of audit and inspection programmes.

Considering the range of audit and inspection programmes conducted across the organisation, each programme is required to determine the:

- scope of review or focus area
- classification of review activity as Audit or Inspection
- training/competency/qualification requirements of the auditors/inspectors executing
- frequency of review activities
- method of selecting or prioritising the items/aspects to review.

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Powercor also has a program of system audits to validate the effectiveness of BFM processes, policies and systems used to manage or monitor BFM activities, these include:

- Internal audits of the BFM management programs and processes which are carried out by Audit Services. These audits are conducted to an internal audit schedule, which can be viewed on Powercor's Intranet site and are typically carried out between May and August each year.
- An annual ESV audit which is conducted in the lead up to the fire danger period and concentrates on adherence to the BFM plan and the processes and procedures that support the plan.

Audit improvement recommendations are documented and followed up for completion.

Other audits undertaken are described below.

### **Asset Inspection Audits**

Powercor's asset inspection contractor has a self-audit program that they manage and maintain. Any findings require a follow up audit of all inspectors where sub-standard work is identified. An intensified audit program is then established for that inspector until the attainment of satisfactory results.

Additionally, Powercor's asset inspection contractor engages an independent third party to audit the performance of their asset inspectors.

Powercor's asset inspection contractor includes the results of their completed audits (including POEL inspections) and corrective actions proposed/undertaken in their monthly asset inspection report.

Powercor also has its own independent audit program for monitoring the performance of asset inspectors. Powercor's Maintenance Services Officers are responsible for performing this function. Operational procedures for these audits are contained within the [Audit and Inspection Program Requirements Policy \(JEQA4UJ443MT-175-29\)](#).

Monitoring and auditing of the effectiveness of inspections and the competence of persons assigned to carry out inspections under the plan shall be done by monitoring and auditing the adherence to works practices which demonstrate skills and knowledge in Asset Inspection.

### **Maintenance Audits**

Maintenance project field audits are undertaken by the Network Services Field Audit and Quality Group, who have an audit program that includes random audits of completed projects, to ensure that the relevant technical standards and design specifications have been achieved in the finished project. Any additional audits are completed upon request.

This program results in a number of maintenance projects being audited each year.

Network Services have a structured audit program that audits key maintenance works and involves Program Managers, Construction Project Leaders and Maintenance Officers.

### **Vegetation Audits**

Powercor's Vegetation Quality & Engagement Team audit the activities and effectiveness of our vegetation management contractor in accordance with a documented audit schedule.

The vegetation management contractor also has their own internal audit program which addresses two key issues:

- Accuracy of vegetation identification and classification
- Vegetation trimming/removal to the requirements of the code.

## **11. Reviewing**

The Powercor BMP is frequently reviewed and amended as required. There are various means by which feedback is obtained and potential improvements are identified including:

- Changes in Regulation.
- Post Fire Season Review – this review meeting is held at the end of the fire danger period to review performance under the plan. Attendees include Powercor senior managers, corporate risk personnel, internal auditors, and key personnel involved in the BFM program. Presentations are delivered on the business's performance in each of the key BFM activities. Improvement opportunities are discussed and included into the BMP if required.
- Summer Pre-Season Briefing – this briefing is held before the start of the fire declaration period. It provides an opportunity to report on the progress of BMP activities and to plan contingencies, if the need arises, to meet the requirements of the plan.
- Internal and external audit findings.
- Technology changes.

Operational procedures for the review and update of the BMP is contained within the [Bushfire Mitigation Plan Creation & Update Procedure \(JEQA4UJ443MT-161-523\)](#).

## 12. Referenced Documents

Table 14: Internal References

| Title   | Document No.                    |
|---|---------------------------------|
| Asset Failure Investigation and Reporting   | Procedure 18-06-P0001           |
| Asset Inspection Manual   | CPPAL-MA-0450 (prev 05 - M450)  |
| Asset Inspection Procedure  | 18-20-P0002                     |
| Asset Maintenance Policy and Asset Management Plan Review and Development             | 18-05-P0003                     |
| Audit and Inspection Programme Requirements   | JEQA4UJ443MT-175-29             |
| Overhead Conductors Policy  | D-251                           |
| Bushfire Mitigation Plan Creation & Update Procedure                                  | JEQA4UJ443MT-161-523            |
| Bushfire Mitigation Policy  | PO-0003                         |
| Capacity Test Locations   | CP_PAL_REFCL_104                |
| Consideration of GFN Settings   | CP_PAL_REFCL_303                |
| Consideration of Influencing Factors  | CP_PAL_REFCL_106                |
| Crisis Management Plan  | JEQA4UJ443MT-154-391            |
| Cross Arms Policy   | 05 - C001.D-280                 |
| Demonstration of Required Capacity  | CP_PAL_REFCL_103                |
| Distribution Construction Standard DC 161 Clearances - Conductors on the Same Support | DC 161                          |
| Distribution Earthing Systems Policy  | 05-C0001.D290                   |
| Distribution Surge Arresters Policy   | D-540                           |
| Electric Line Clearance (Vegetation) Management Plan                                  | CPPAL & UE 2021-2026 ELCMP V2.3 |
| Electricity Safety Management Scheme  | JEQA4UJ443MT-173-116            |
| ET-series (LVABC) Technical Standards   |                                 |
| EW-series (HVABVC) Technical Standards  |                                 |
| EX-series (Hendrix) Technical Standards   |                                 |
| EY-series (Amokabel) Technical Standards  |                                 |
| Facilities for REFCL Performance Testing  | CP_PAL_REFCL_105                |
| GA-series (General) Technical Standards   |                                 |
| GB-series (HV cables and accessories) Pulling Technical Standards                     |                                 |
| GC-series (Conduit and Cable) Technical Standards                                     |                                 |
| GE-series (Cable Head Poles) Technical Standards                                      |                                 |
| GH-series (Hybrid Underground) Technical Standards                                    |                                 |
| GL-series (Kiosks and Substations) Technical Standards                                |                                 |
| High Voltage Fuses Policy   | D-320                           |
| High Voltage Private Electric Lines Policy  | 05-C001.D-431                   |



| Title  | Document No.           |
|--|------------------------|
| Identification and Rectification of Defective POELs (LV)   | JEQA4UJ443MT-158-503   |
| Inaccessible Asset Procedure   | 18-20-P0004            |
| Incident Management Procedure  | JEQA4UJ443MT-185-28490 |
| Insulators, Associated Hardware & Bird Covers Policy   | D-330                  |
| Line Condition Observation Procedure   | PAL-PR-0002            |
| LV ABC Mains and Services  | ET001                  |
| LV ABC mains and HV ABC Policy   | D-258                  |
| Low Voltage Private Overhead Electric Lines Policy   | 05-C001.D-430          |
| Manage Fault Follow-Up and Repair Guideline  | JEQA4UJ443MT-149-115   |
| Manage Network Faults Procedure  | JEQA4UJ443MT-149-83    |
| Management of Maintenance Items Outside Policy Work Instruction                                  | JEQA4UJ443MT-158-543   |
| Management of Unserviceable Poles Policy   | D-392                  |
| Network Asset Maintenance Policy for Indoor Distribution Substations                             | 05-C001.D-521          |
| Network Asset Maintenance Policy for Overhead Conductors   | D-251                  |
| Network Asset Maintenance Policy for Inspection of Poles   | 05-C001.D-390          |
| Network Asset Maintenance Policy for Management of Leaning Poles                                 | D-393                  |
| Network Asset Maintenance Policy for Strength Assessment of Poles                                | D-406                  |
| Network Asset Maintenance Policy for Management of Permanent Reinforcement Systems on Wood Poles | 05-C001.D-398          |
| Network Asset Maintenance Policy for Risk Based Asset Management of Poles                        | D-407                  |
| Network Asset Maintenance Priority Policy  | A-025                  |
| Planting Trees Near Power Lines  |                        |
| POELs - Understanding Your Responsibilities  |                        |
| Policy for Annual Capacity Testing   | CP_PAL_REFCL_102       |
| Policy for Initial Capacity Testing  | CP_PAL_REFCL_101       |
| Resolution of Conditional Acceptance   | CP_PAL_REFCL_302       |
| Spreaders and Spacers Policy   | 05-C001.D-255          |
| Technical Training Compliance Policy   | JEQA4UJ443MT-173-25    |
| Technical Training Guideline   | JEQA4UJ443MT-173-28    |
| Thermographic and Corona Inspection Policy   | D-570                  |
| Total Fire Ban Day Action Plan   | PAL-PL-0009.1          |
| Update ESV and AER Reportable Incidents in Cintellate Procedure                                  | JEQA4UJ443MT-173-45    |

Table 15: External References

| Title  | Document No.       |
|--|--------------------|
| Country Fire Authority Act 1958  |                    |
| Country Fire Authority Regulations   |                    |
| Electricity Safety Act 1998  |                    |
| Electricity Safety Amendment (Bushfire Mitigation Civil Penalties Scheme) Act 2017     |                    |
| Electricity Safety (Bushfire Mitigation) Amendment Regulations 2016                    |                    |
| Electricity Safety (Bushfire Mitigation) Regulations 2013 (amended 2020)               |                    |
| Electricity Safety (Bushfire Mitigation) Regulations 2023                              |                    |
| Electricity Safety (Bushfire Mitigation) Regulations 2023 Regulatory Impact Statement  |                    |
| Electricity Safety (Electric Line Clearance) Regulations 2020                          |                    |
| ESV Incident and Safety Performance Reporting Guidelines - Major electricity companies |                    |
| ESV Training Approval Statement, Asset Inspectors                                      |                    |
| Knapsack Spray Pumps   | AS 1687 - 1991     |
| Overhead Line Design   | AS/NZS 7000 - 2016 |
| Portable Fire Extinguishers  | AS 1841.2 - 1997   |
| Review of Voltage Standards for Bushfire Mitigation 2018                               |                    |
| VESI Apprentice Supervision Guidelines   |                    |
| VESI Skills and Training Matrix  |                    |

## 13. Definitions

Table 16: Terms and Definitions

| Term               | Definition  |
|--------------------|---|
| Fire Danger Period | A period declared under section 4 of the Country Fire Authority Act 1958 to be a fire danger period                   |
| Powercor           | Powercor Australia Ltd  |
| Total Fire Ban Day | A day that has been declared to be a day of total fire ban under section 40(1) of the Country Fire Authority Act 1958 |

Table 17: Acronyms

| Acronym | Definition                           |
|---------|--------------------------------------|
| ABC     | Aerial Bundled Conductor             |
| ACR     | Automatic Circuit Recloser           |
| ACT     | Annual Capacity Test                 |
| AFAP    | As Far As Practicable                |
| AIM     | Asset Inspection Manual              |
| AMCM    | Asset Maintenance Compliance Measure |
| AMP     | Asset Management Plan                |
| BFM     | Bushfire Mitigation                  |

| Acronym | Definition   |
|---------|--|
| BMP     | Bushfire Mitigation Plan                               |
| BOM     | Bureau of Meteorology                                  |
| CBRM    | Condition Based Risk Model                             |
| CFA     | Country Fire Authority                                 |
| DAPR    | Distribution Annual Planning Report                    |
| DB      | Distribution Business                                  |
| DEECA   | Department of Energy, Environment and Climate Action   |
| DSDBI   | Department of State Development, Business & Innovation |
| EDO     | Expulsion Drop Out                                     |
| ELCA    | Electric Line Clearance Area                           |
| EMLO    | Emergency Management Liaison Officer                   |
| EPC     | Enhanced Pole Calculator                               |
| ESC     | Essential Services Commission                          |
| ESMS    | Electricity Safety Management Scheme                   |
| ESV     | Energy Safe Victoria                                   |
| FMC     | Field Mobile Computing                                 |
| FOLCB   | Fused Overhead Line Connection Box                     |
| FRV     | Fire Rescue Victoria                                   |
| FSD     | Fused Switch Disconnect                                |
| GIS     | Geographical Information System                        |
| HBRA    | Hazardous Bushfire Risk Area                           |
| HVC     | High Voltage Customers                                 |
| HVCC    | High Voltage Covered Conductor                         |
| ICT     | Initial Capacity Test                                  |
| IS      | In-service   |
| LIDAR   | Light Detection and Ranging                            |
| LSA     | Local Service Agent                                    |
| MAPPC   | Mutual Aid Plan Planning Committee                     |
| NAO     | Network Availability Officer                           |
| NS      | No-service   |
| OMS     | Outage Management System                               |
| PDA     | Portable Data Assistant                                |
| PINS    | Pole Inspection Orders                                 |
| PEL     | Private Electric Line                                  |
| POEL    | Private Overhead Electric Line                         |
| RBAM    | Risk Based Asset Management                            |
| REC     | Registered Electrical Contractor                       |
| REFCL   | Rapid Earth Fault Current Limiter                      |

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| Acronym | Definition                               |
|---------|--|
| RCM     | Reliability Centred Maintenance          |
| RTO     | Registered Training Organisation         |
| SCC     | State Control Centre                     |
| SEFM    | Station Earth Fault Management           |
| SES     | State Emergency Service                  |
| SI      | Serviceability Index                     |
| SWER    | Single Wire Earth Return                 |
| SWPMP   | Sustainable Wood Pole Management Program |
| TFB     | Total Fire Ban                           |
| VMS     | Vegetation Management System             |
| VP      | Vegetation Priority                      |

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## Appendix A: Total Fire Ban Day Action Plan

Refer separate document [Total Fire Ban Day Action Plan \(PAL-PL-0009.1\)](#).

## Appendix B: BFM Program Milestones

Table 18: BFM Program Milestones

| Item No. | BFM Milestone Description  | Activity   | Responsible Officer/Business Stream  | Target Date  |
|----------|--|--|--------------------------------------|--------------|
| 1        | Submit Electric Line Clearance (Vegetation) Management Plans to ESV. | Management Plan submission is a regulatory requirement.  | Vegetation Manager                   | As required  |
| 2        | Conduct the annual BFM Post Season Review.                           | Review previous fire season.   | Head of Network Risk and Performance | 31 May       |
| 3        | Submit annual compliance report to ESV.                              | Prepare and submit the annual compliance report.   | Network Risk and Assurance Manager   | 31 July      |
| 4        | Conduct annual internal audit of the BFM Plan.                       | Identify areas for auditing and undertake audit  | Head of Audit Services               | 30 September |
| 5        | Submit BFM Plan to ESV.  | BFM Strategy plan submission is a regulatory requirement.  | Network Risk and Assurance Manager   | As required  |
| 6        | Submit summer readiness report to IPART (NSW)                        | Prepare Asset Maintenance Compliance Measures and Vegetation Compliance readiness indicators for IPART | Network Risk and Assurance Manager   | 31 October   |
| 7        | Complete mail out to Powercor POEL customers.                        | Letters will raise awareness / importance of POEL maintenance works with POEL owners.                  | Network Risk and Assurance Manager   | 30 November  |
| 8        | Conduct the annual BFM Pre Season Review.                            | Review the upcoming fire season preparedness   | Head of Network Risk and Performance | 30 November  |
| 9        | Complete Line Condition Observation program.                         | Ensure program of observations are completed.  | Network Risk and Assurance Manager   | 31 December  |

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# Appendix C: Vehicle Fire Equipment & Vehicle Movement

## C.1 Vehicle Fire Equipment & Vehicle Movement

### Declared Fire Danger Period & Total Fire Ban (TFB) Days

This applies for all Powercor personnel including contractors and sub-contractors when travelling off-road. All drivers are to be advised that vehicles with hot exhausts entering grassed areas can initiate fires.

#### Definition of Off-road

“Vehicle travelling off a formed roadway or a paved or gravel surface”.

**During “Declared Fire Danger Periods”** - for all travel on non-formed roadways or surfaces other than paved or gravel surfaces, a risk assessment must be undertaken.

The following checks should be included:

- Vehicle Clearance – Check that grass and other combustible material will not come in prolonged contact with the vehicle exhaust system whilst accessing/leaving the work site.
- Vehicles should be checked to ensure they are fitted with an efficient exhaust silencing device.
- Vehicles should be checked to ensure no grass or other combustible material is trapped on or near the exhaust system, both before going off-road and before leaving the work site.
- Vehicles must carry the prescribed fire suppression equipment prescribed in the [Country Fire Authority Regulations](#) i.e. At least one knapsack spray pump or stored pressure fire extinguisher of at least 9 litres capacity. (See below for more details).
- Check the worksite before leaving, looking for any signs of possible ignition.

Other Items for Consideration:

- During “Declared Fire Danger Periods”, off-road activities should be limited as much as possible.
- Vehicles with greater ground clearance i.e. 4 wheel drive vehicles, are preferred to be used when travelling off-road.
- Drivers are to use already formed roads/tracks where possible, to access the work site, to limit contact with combustible material (If risk assessed as safe to do so).
- At the work site, park vehicles in areas where there is the least amount of combustible fuel.

## C.2 Total Fire Ban Days (TFB)

**On Total Fire Ban (TFB) days** - off-road activity should be restricted to emergency/fault situations and other works necessary to maintain the network, which is risk assessed as safe to undertake.

### Fire Fighting Equipment

The prescribed fire suppression equipment must be:

- a) at least one knapsack spray pump that –
    - i) is in proper working order; and
    - ii) Is fully charged with water; and
    - iii) has a tank capacity of not less than 9 litres; and
    - iv) complies with [Knapsack Spray Pumps AS 1687-1991](#) approved by Standards Australia in 1990 and published in February 1991 as amended and in force on 31 January 2004.
- or
- b) at least one water (stored pressure) fire extinguisher that –
    - i) is in proper working order; and
    - ii) is fully charged with water and maintained at the correct pressure; and

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iii) has a tank capacity of not less than 9 litres; and

iv) complies with *Portable Fire Extinguishers AS/NZ 1841.2:1997* approved by the Standards Australia in June 1997 as amended and in force on 31 January 2004.

Note: Where knapsacks are exposed to the elements the plastic knapsack may crack and be inoperative, hence they should be regularly checked for signs of deterioration.

### **Non-Vehicular Heat Engines**

(Examples: Generators, Hoggers, Chainsaws etc.)

This applies for all Powercor personnel including contractors and sub-contractors.

During Declared "Fire Danger Periods" a heat engine must not be used in the open air unless:

- a) the heat engine is fitted with an effective spark arrester; and
- b) the area around the heat engine is cleared of flammable material for a radius of not less than 3 metres  
or
- c) a person is in attendance at all times the heat engine is in operation together with the prescribed fire suppression equipment for vehicles going off road.

Note: After use heat engines should not be placed near flammable/combustible material whilst the engine is still hot.

### **All Vehicles carrying Portable Generators**

All vehicles that carry portable generators must carry a rake.



# Appendix D: Inspecting Powerlines on your Property Brochure

NO ACTION REQUIRED

ADDRESS:  
 REF#:  
 NM#:#

**Hi there,**

I'm  . I'm a  at CitiPower/Powercor. We own and operate two separate electricity distribution networks across Urban, Central and Western Victoria. We deliver the power that you buy from your retailer, along our network of poles, wires and equipment.

I visited your property at  on .

**I came by to:**

- Inspect the supply to the meter, carry out a meter reading, or respond to a request lodged at our Customer Contact Centre.
- Carry out testing / maintenance / repairs.
- Conduct quality of supply monitoring on or near your property.
- Inspect your Private Overhead Electrical Line (POEL) for safety.
  - Your POEL does not need maintenance.     Your POEL requires maintenance.
  - Your POEL requires URGENT maintenance.


CitiPower/Powercor will send you written instructions in the next week on the repairs required to your POEL, and the date by which you need to make them.

Please note that on days of Total Fire Ban, government regulations require CitiPower/Powercor to disconnect power to all POELs in need of URGENT maintenance in high bushfire risk areas.

**What next?:**

- Nothing. No action required.
- Look out for further contact from CitiPower/Powercor or your electricity retailer.
- I'll be back to: \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

If you'd like to know more about our visit today, we're here to chat. Call us on **13 22 06**, and mention the reference number on this card. We'd love to hear your feedback. You can get in touch at [www.powercor.com.au](http://www.powercor.com.au).



**Good people in power**

Figure 8: No Action Required Brochure

ACTION REQUIRED

ADDRESS:  
 REF#:  
 NM#:#

**Hi there,**

I'm  . I'm a  at CitiPower/Powercor. We own and operate two separate electricity distribution networks across Urban, Central and Western Victoria. We deliver the power that you buy from your retailer, along our network of poles, wires and equipment.

I visited your property at  on .

**I came by to:**

- Test / repair / replace our equipment at your premises.
- Connect / disconnect / reconnect your electricity supply.
- But was unable to because I couldn't gain access to our equipment.
- Inspect your Private Overhead Electrical Line (POEL) for safety.
- \_\_\_\_\_
- \_\_\_\_\_

**What we need YOU to do:**

- Contact us on **13 22 06**
- Contact your electricity retailer.
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

If you'd like to know more about our visit today, we're here to chat. Call us on **13 22 06**, and mention the reference number on this card. We'd love to hear your feedback. You can get in touch at [www.powercor.com.au](http://www.powercor.com.au).



**Good people in power**

Figure 9: Action Required Brochure

## Appendix E: POEL Inspection Notification Letter



CitiPower Pty  
ABN 76 064 651 056  
www.citipower.com.au

Head Office: 40 Market Street Melbourne Victoria  
Telephone: (03) 9683 4444 Facsimile: (03) 9683 4499 DX 433 Melbourne  
Postal address: Locked Bag 14090 Melbourne Victoria 8001 Australia



Powercor Australia Ltd  
ABN 89 064 651 109  
www.powercor.com.au

[insert date]

(Customer Name)  
(Postal Address)

**Supply Address:-**  
(Supply Address)

**Account Number:-**  
(Account Number)

### NOTICE OF INSPECTION

Dear Customer/Name

CitiPower and Powercor is inspecting Assets in your area as part of our routine 2.5 year inspection cycle.

In accordance with Section 113F of the **Electricity Safety Act**, please be advised that on or about [insert date] our asset inspector will inspect all private electric lines above the surface of land on the property you occupy that contain one or more private poles, except for those parts of the lines that are installed after the point at which they are connected to a building or other structure (not including a pole).

Our asset inspector requires safe, unhindered access to these lines for the purpose of this inspection. If the asset inspector is unable to gain safe, unhindered access to your private electric line, we will provide you with written advice that a time and date for inspection must be arranged.

The inspection may reveal that defects exist and maintenance is required on a private electric line on the property that you occupy. If this is the case, we will provide you with written notice of the maintenance work required to be carried out.

Please contact CitiPower and Powercor's Customer Contact Centre on telephone 132206 to speak with Mr John Perry if you have any queries.

Nick Osborn  
**Maintenance Planning Team Leader**  
CitiPower and Powercor

Figure 10: POEL Inspection Notification Letter

# Appendix F: Powercor Asset Maintenance Compliance Measure

## Asset Maintenance Compliance Measure

An example of how the Asset Maintenance Compliance Measure is calculated is provided below.

| Index category | Index sub-category   | HBRA                               |  | Weighting by sub category | BMI by sub category | BMI by Category |
|----------------|----------------------|------------------------------------|--|---------------------------|---------------------|-----------------|
|                |                      | Items not completed by policy date | Items completed by policy date plus items not completed by policy date |                           |                     |                 |
| Assets         | Asset Inspection     | 5                                  | 100  | 40%                       | 0.02                |                 |
|                | Asset defects (P42s) | 10                                 | 100  | 30%                       | 0.03                |                 |
|                | Asset defects (P2s)  | 10                                 | 100  | 30%                       | 0.03                |                 |
|                |                      |                                    |  | 100%                      | <b>0.08</b>         | 8%              |

*Total result means 8% of items were non-compliant in the reporting period.*

Figure 11: Asset Maintenance Compliance Measure

## Appendix G: Bushfire Mitigation Plan Documents

Table 19 lists the documents that Powercor will not change without first seeking ESV approval and are the only documents that form part of the BMP. References within these documents do not form part of the Bushfire Mitigation Plan.

Table 19: Bushfire Mitigation Plan Documents

| Count | Document Title   | Document No.     | Revision Number | Date       |
|-------|--|------------------|-----------------|------------|
| 1.    | Policy for Initial Capacity Testing                      | CP_PAL_REFCL_101 | 1               | 23/03/2018 |
| 2.    | Policy for Annual Capacity Testing                       | CP_PAL_REFCL_102 | 2               | 31/08/2021 |
| 3.    | Demonstration of Required Capacity                       | CP_PAL_REFCL_103 | 1               | 23/03/2018 |
| 4.    | Facilities for REFCL Performance Testing                 | CP_PAL_REFCL_105 | 1               | 03/04/2018 |
| 5.    | Consideration of Influencing Factors                     | CP_PAL_REFCL_106 | 1               | 11/04/2018 |
| 6.    | Resolution of Conditional Acceptance                     | CP_PAL_REFCL_302 | 1               | 01/11/2019 |
| 7.    | Consideration of GFN Settings                            | CP_PAL_REFCL_303 | 1               | 29/08/2023 |
| 8.    | Network Asset Maintenance Priority Policy                | A-025            | 4.6             | 30/04/2022 |
| 9.    | Network Asset Maintenance Policy for Inspection of Poles | 05-C001.D-390    | 5.6             | 30/11/2022 |
| 10.   | Total Fire Ban Day Action Plan                           | PAL-PL-0009.1    | 1               | 28/11/2023 |

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## Appendix H: Exempt High Voltage Lines

Table 20 lists all 22kV polyphase lines that are exempt from the requirements of required capacity.

Table 20: Exempt High Voltage Lines

| Name and Location  | Start Coordinates         | End Coordinates           |
|--|---------------------------|---------------------------|
| <b>Wombat Gully - Kangaroo Drive, Coomoora (BAN003)</b>          | -37.336110,<br>144.199096 | -37.322228,<br>144.231340 |
| <b>Ballarat Hospital - 1016 Mair St, Lake Wendouree (BAN005)</b> | -37.558210,<br>143.845710 | -37.558541,<br>143.846125 |

| Column 1<br>Zone Substation   | Column 2<br>Segment of Polyphase electric line which is exempt from the requirement to have the required capacity  |
|---|--|
| <b>Castlemaine (CMN)</b><br>Located at Lat -37-07182, Long 144-20637 (Item 10 of Schedule 1 to the <i>BMD Regulations</i> ) | The segment of the <i>polyphase electric line</i> designated 'CMN3' which begins at the <i>isolation transformer</i> located at, or close to, Lat -37.055988, Long 144.217829, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                  |
| <b>Castlemaine (CMN)</b><br>Located at Lat -37-07182, Long 144-20637 (Item 10 of Schedule 1 to the <i>BMD Regulations</i> ) | The segment of the <i>polyphase electric line</i> designated 'CMN5' which begins at the <i>isolation transformer</i> located at, or close to, Lat -37.053303, Long 144.208937, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                  |
| Column 1<br>Zone Substation   | Column 2<br>Segment of Polyphase electric line which is exempt from the requirement to have the required capacity  |
| <b>Castlemaine (CMN)</b><br>Located at Lat -37-07182, Long 144-20637 (Item 10 of Schedule 1 to the <i>BMD Regulations</i> ) | The segment of the <i>polyphase electric line</i> designated 'CMN4' which begins at the <i>isolation transformer</i> located at, or close to, Lat -36.987919, Long 143.969960, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                  |
| <b>Colac (CLC)</b><br>Located at Lat -38-34092, Long 143-60619 (Item 2 of Schedule 1 to the <i>BMD Regulations</i> )        | The segment of the <i>polyphase electric line</i> designated 'CLC3' which begins at the <i>isolation transformer</i> located at, or close to, Lat -38.312965, Long 143.648464, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                  |
| <b>Colac (CLC)</b><br>Located at Lat -38-34092, Long 143-60619 (Item 2 of Schedule 1 to the <i>BMD Regulations</i> )        | The segment of the <i>polyphase electric line</i> designated 'CLC3' which begins at the <i>isolation transformer</i> located at, or close to, Lat -38.328649, Long 143.609393, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                  |
| <b>Colac (CLC)</b><br>Located at Lat -38-34092, Long 143-60619 (Item 2 of Schedule 1 to the <i>BMD Regulations</i> )        | The segment of the <i>polyphase electric line</i> designated 'CLC4' which begins at the <i>isolation transformer</i> located at, or close to, Lat -38.351365, Long 143.603721, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                  |
| <b>Colac (CLC)</b><br>Located at Lat -38-34092, Long 143-60619 (Item 2 of Schedule 1 to the <i>BMD Regulations</i> )        | The segment of the <i>polyphase electric line</i> designated 'CLC11' which begins at the <i>isolation transformer</i> located at, or close to, Lat -38.340371, Long 143.606125, and ends at the first <i>points of supply</i> along each branch of the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> . |
| Column 1<br>Zone Substation   | Column 2<br>Segment of Polyphase electric line which is exempt from the requirement to have the required capacity  |
| <b>Eaglehawk (EHK)</b><br>Located at Lat -36-71772, Long 144-25089 (Item 3 of Schedule 1 to the <i>BMD Regulations</i> )    | The segment of the <i>polyphase electric line</i> designated 'EHK34' which begins at the <i>isolation transformer</i> located at, or close to, Lat -36.751519, Long 144.280878, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                 |
| <b>Eaglehawk (EHK)</b><br>Located at Lat -36-71772, Long 144-25089 (Item 3 of Schedule 1 to the <i>BMD Regulations</i> )    | The segment of the <i>polyphase electric line</i> designated 'EHK31' which begins at the <i>isolation transformer</i> located at, or close to, Lat -36.700207, Long 144.294836, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                 |
| <b>Eaglehawk (EHK)</b><br>Located at Lat -36-71772, Long 144-25089 (Item 3 of Schedule 1 to the <i>BMD Regulations</i> )    | The segment of the <i>polyphase electric line</i> designated 'EHK22' which begins at the <i>isolation transformer</i> located at, or close to, Lat -36.701945, Long 144.300482, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                 |
| <b>Eaglehawk (EHK)</b><br>Located at Lat -36-71772, Long 144-25089 (Item 3 of Schedule 1 to the <i>BMD Regulations</i> )    | The segment of the <i>polyphase electric line</i> designated 'EHK33' which begins at the <i>isolation transformer</i> located at, or close to, Lat -36.737520, Long 144.281813, and ends at the first <i>point of supply</i> along the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> .                 |
| <b>Eaglehawk (EHK)</b><br>Located at Lat -36-71772, Long 144-25089 (Item 3 of Schedule 1 to the <i>BMD Regulations</i> )    | The segment of the <i>polyphase electric line</i> designated 'EHK22' which begins at the <i>isolation transformer</i> located at, or close to, Lat -36.735694, Long 144.290907, and ends at the first <i>points of supply</i> along each branch of the <i>polyphase electric line</i> which is, with reference to the <i>zone substation</i> , downstream of that <i>isolation transformer</i> . |

Figure 12: Segments of Exempt Polyphase Electric lines

Table 21 lists all REFCL Polyphase Line Segments that are exempt from the prescribed particulars as specified in the *Electricity Safety (Bushfire Mitigation) Regulations 2023*.




Table 21: Exempt REFCL Polyphase Line Segments

| Equipment | Tech ID No.               | Description                                    | Manufacture Part No.             | Start-up date         | Size/dim.           | Asset Type             | Description   | Feeder            | Latitude                | Longitude              |
|-----------|---------------------------|--|----------------------------------|-----------------------|---------------------|------------------------|---|-------------------|-------------------------|------------------------|
| 41114573  | DSM-2255740800            | RICHARDS-GWF-22kV                              | ISOLATING TRANSFORMER            | 23/07/2018            | 6000 KVA            | Transformer            | RICHARDS-GWF TRANS 1                                | CMN005            | -37.05328633            | 144.2088558            |
| 41114622  | <del>DSM-2255741400</del> | <del>CAIRN CURRAN RESERVOIR AGL HYD 22kV</del> | <del>ISOLATING TRANSFORMER</del> | <del>20/03/2018</del> | <del>3000 KVA</del> | <del>Transformer</del> | <del>CAIRN CURRAN RESERVOIR AGL HYDRO TRANS 1</del> | <del>CMN004</del> | <del>-36.98767819</del> | <del>143.9701971</del> |
| 41114642  | DSM-2255741500            | PARKER-BARKER ISOL KIOSK-22kV                  | ISOLATING TRANSFORMER            | 04/09/2018            | 6000 KVA            | Transformer            | PARKER-BARKER ISOL KIOSK TRANS 1                    | CMN003            | -37.05593989            | 144.2178855            |
| 41114693  | DSM-2254793400            | MILLMAN-COLIBAN-22kV                           | ISOLATING TRANSFORMER            | 03/10/2018            | 3000 KVA            | Transformer            | MILLMAN-COLIBAN TRANS 1                             | EHK023            | -36.70028259            | 144.294709             |
| 41114694  | DSM-2254793500            | HOWARD-COLIBAN-22kV                            | ISOLATING TRANSFORMER            | 10/10/2018            | 3000 KVA            | Transformer            | HOWARD-COLIBAN TRANS 1                              | EHK033            | -36.70205484            | 144.3006561            |
| 41114705  | DSM-2254793600            | NOLAN-PARMALAT-22kV                            | ISOLATING TRANSFORMER            | 24/10/2018            | 3000 KVA            | Transformer            | NOLAN-PARMALAT TRANS 1                              | EHK022            | -36.73742465            | 144.2816211            |
| 41114850  | DSM-2254794000            | MURPHY-POWELL-22kV                             | ISOLATING TRANSFORMER            | 21/10/2018            | 6000 KVA            | Transformer            | MURPHY-POWELL TRANS 1                               | EHK021            | -36.74244546            | 144.3061055            |
| 41115120  | DSM-2254794800            | BUSHMASTER-FINN ISO KIOSK-22kV                 | ISOLATING TRANSFORMER            | 19/11/2018            | 3000 KVA            | Transformer            | BUSHMASTER-FINN ISO KIOSK TRANS 1                   | EHK033            | -36.73583676            | 144.2911205            |
| 41115176  | DSM-2266778600            | WARROWIE-AKD-22kV                              | ISOLATING TRANSFORMER            | 16/12/2018            | 3000 KVA            | Transformer            | WARROWIE-AKD TRANS 1                                | CLC006            | -38.3127766             | 143.6484954            |
| 41115185  | DSM-2266778700            | HEARN-FOREST-22kV                              | ISOLATING TRANSFORMER            | 12/01/2019            | 3000 KVA            | Transformer            | HEARN-FOREST TRANS 1                                | CLC004            | -38.35150202            | 143.603656             |
| 41115326  | DSM-2266778800            | TRISTANIA-CLARK-22kV                           | ISOLATING TRANSFORMER            | 09/12/2018            | 6000 KVA            | Transformer            | TRISTANIA-CLARK TRANS 1                             | CLC006            | -38.32867831            | 143.6093567            |
| 41115411  | DSM-2266779100            | CAPE OTWAY-DEANS MARSH-22kV                    | ISOLATING TRANSFORMER            | 26/10/2018            | 3000 KVA            | Transformer            | CAPE OTWAY-DEANS MARSH TRANS 1                      | WIN011            | -38.29920032            | 143.9815015            |
| 41115418  | DSM-2266779300            | WINCH DEANS MARSH-SMITHS-22kV                  | ISOLATING TRANSFORMER            | 08/11/2018            | 3000 KVA            | Transformer            | WINCH DEANS MARSH-SMITHS TRANS 1                    | WIN011            | -38.3864005             | 143.895713             |
| 41115664  | DSM-2254798900            | BARNARD-BENDIGO HEALTH-22kV                    | ISOLATING TRANSFORMER            | 12/11/2018            | 6000 KVA            | Transformer            | BARNARD-BENDIGO HEALTH TRANS 1                      | EHK034            | -36.75152977            | 144.2807708            |
| 41115926  | DSM-2266780200            | CONNOR SCOTT-22kV                              | ISOLATING TRANSFORMER            | 16/12/2018            | 6000 KVA            | Transformer            | CONNOR SCOTT TRANS 1                                | CLC001            | -38.33980968            | 143.5789919            |
| 41119756  | DSM-2236602500            | BASE HOSPITAL ISO-22kV                         | ISOLATING TRANSFORMER            | 13/09/2020            | 6000 KVA            | Transformer            | BASE HOSPITAL ISO TRANS 1                           | BAN005            | -37.55858893            | 143.846243             |
| 41120153  | DSM-2236611500            | WOMBAT EX P8-KANGAROO ISO-22kV                 | ISOLATING TRANSFORMER            | 11/11/2020            | 1000 KVA            | Transformer            | WOMBAT EX P8-KANGAROO ISO TRANS 1                   | BAN003            | -37.33642523            | 144.1988917            |
| 41120714  | DSM-2266787500            | HORDERN VALE EX P41A ISO-22kV                  | ISOLATING TRANSFORMER            | 11/09/2021            | 1000 KVA            | Transformer            | HORDERN VALE EX P41A ISO TRANS 1                    | CLC003            | -38.75902253            | 143.4217546            |
| 41121104  | DSM-2259773200            | TRENTHAM EX P153A-SPRINGHILL I-22kV            | ISOLATING TRANSFORMER            | 20/06/2021            | 1000 KVA            | Transformer            | TRENTHAM EX P153A-SPRINGHILL ISO TRANS 1            | WND024            | -37.33133272            | 144.3931719            |

| Equipment | Tech ID No.    | Description                       | Manufacture Part No.  | Start-up date | Size/dim. | Asset Type  | Description                          | Feeder | Latitude     | Longitude   |
|-----------|----------------|-----------------------------------|-----------------------|---------------|-----------|-------------|--------------------------------------|--------|--------------|-------------|
| 41122647  | DSM-2266790200 | EUCALYPT-COMMON ISO TX-22kV       | ISOLATING TRANSFORMER | 23/03/2023    | 3000 KVA  | Transformer | EUCALYPT-COMMON ISO TX TRANS 1       | WIN023 | -38.08729083 | 144.0471054 |
| 41122666  | DSM-2217771600 | SURFCOAST-MESSMATE ISO-22kV       | ISOLATING TRANSFORMER | 12/08/2022    | 6000 KVA  | Transformer | SURFCOAST-MESSMATE ISO TRANS 1       | WPD022 | -38.30112845 | 144.3219201 |
| 41123687  | DSM-2217773000 | HORSESHOE BEND-BLACKGATE ISO-22kV | ISOLATING TRANSFORMER | 02/09/2022    | 6000 KVA  | Transformer | HORSESHOE BEND-BLACKGATE ISO TRANS 1 | TQY022 | -38.28825641 | 144.3435761 |
| 41125694  | DSM-2259780600 | TYLDEN WOODEND-CHANTERS ISO-22kV  | ISOLATING TRANSFORMER | 21/03/2023    | 1000 KVA  | Transformer | TYLDEN WOODEND-CHANTERS ISO TRANS 1  | WND024 | -37.33442819 | 144.4243762 |



## Appendix I: Bushfire Mitigation Policy



# Bushfire Mitigation Policy

CitiPower, Powercor and United Energy are committed to providing our customers with **safe, reliable and affordable electricity network services** through the application of an effective asset management framework. We are committed to bushfire mitigation activities and making our communities safer. Therefore, we plan, design, construct, operate, maintain and decommission the network to minimise as far as practicable the **bushfire danger** arising from the electricity network.

We will achieve our commitment by adopting the following principles:


- Minimise fire ignition **risks** as far as practicable.
- Apply a **risk-based approach** to optimise the management of our network and systems.
- **Comply with** all relevant **legislative and regulatory requirements** as well as Australian, international and industry standards and any other requirements to which we subscribe.
- Continuously improve our asset management framework and activities by **embracing innovation and technology** to enhance our reputation, leading the industry in adopting and promoting asset management practices.

We meet these important fire mitigation commitments by conducting the following activities:


- **Monitor and evaluate** appropriate metrics to effectively manage network performance.
- Focus on **reducing** the number of network fire risk **incidents** and their **consequence**.
- Ensure that **developments** having a relevance to fire risk reduction are adequately **supported**.
- Work with our communities and other agencies to ensure a **coordinated approach** to fire risk management.

**We strive for excellence** in everything we do and are always **accountable** for our own performance including the management and operation of our network to achieve the objectives outlined in this Policy.

This Policy is to be read in conjunction with the **Asset Management Policy** and the **Network Safety Policy**.



**Mark Clarke**  
General Manager, Electricity Networks



**James Walker**  
General Manager, Service Delivery

March 2023  
PO-0003

Figure 13: Bushfire Mitigation Policy

## Appendix J: Revision History

Table 22: Revision History

| Rev No. | Revision Summary  | Reviewer/ Approver          | Date  |
|---------|---|-----------------------------|---|
| 1.      | <ul style="list-style-type: none"> <li>Plan submitted to ESV</li> </ul>   | Bushfire Mitigation Manager | 27 June 2014  |
| 2.      | <ul style="list-style-type: none"> <li>Plan amended to include ESV Direction relating to Powerline Replacement projects (<b>Section 8.5</b>).</li> <li>Plan amended to include information relating to auditor training and qualification requirements (<b>Section 12.1</b>).</li> <li>Plan amended to include information relating to ESV Direction regarding SWER ACR replacement/installation program as per 2012-2013 BFM Plan (<b>Section 8.5</b>).</li> <li>Plan amended to include the requirements Electricity Safety (Bushfire Mitigation) Amendment Regulations 2015 dated 23 June 2015.</li> <li>Plan amended to include information relating to vegetation auditing (<b>Section 12.1</b>).</li> <li>Plan amended to include information relating to the trial installation of Rapid Earth Fault Current Limiters (REFCLs) to enable Powercor to meet the requirements of the proposed Electricity Safety Further Amendment (Bushfire Mitigation) Regulations 2015 (<b>Section 8.8</b>).</li> <li>Plan amended to include an update on the SWER ACR Replacement/Installation Program (<b>Section 8.5</b>).</li> <li>Plan amended to remove reference to the Conductor Tie Performance Study (<b>Section 8.8</b>).</li> <li>Plan amended to include planned commission dates for the trial installation of Rapid Earth Fault Current Limiters (REFCLs) at the Gisborne and Woodend Zone Substations (<b>Section 8.8</b>).</li> <li>Plan amended to include the new asset inspection training requirements (<b>Section 8.10</b>).</li> <li>Plan amended to include information relating to the prioritisation of SWER ACR replacements and also information added regarding SWER ACR settings on TFB Days (<b>Section 8.5</b>).</li> </ul> | Bushfire Mitigation Manager | 10 July 2014<br>10 July 2014<br>3 September 2015<br>3 September 2015<br>3 September 2015<br>17 September 2015<br>18 December 2015<br>18 December 2015<br>18 December 2015<br>18 December 2015<br>4 March 2016 |
| 3.      | <ul style="list-style-type: none"> <li>Plan amended to include the requirements of the Electricity Safety (Bushfire Mitigation) Amendment Regulations 2016 relating to Rapid Earth Fault Current Limiters (REFCLs), Electric Line Construction Areas and SWER ACRs. (<b>Section 6.5</b>)</li> <li>Additional information regarding ACR protection application on TFB Days (<b>Section 6.6</b>)</li> <li>Expanded descriptions in <b>Section 6.11</b> – Training, and <b>Section 8</b> – Fire Investigation</li> <li>Added new milestone for vegetation reporting in <b>Section 9.4</b> – BFM Milestones and <b>Appendix C</b></li> <li>Amended <b>Appendix A</b> TFB Day Action Plan, revised re-energisation of supply requirements</li> <li>Removed <b>Appendix B</b> – Electric Line Clearance (Vegetation) Management Plan</li> </ul>   | Head of Network Compliance  | 5 December 2016   |

| Rev No. | Revision Summary  | Reviewer/ Approver                           | Date            |
|---------|---|--|-----------------|
|         | <ul style="list-style-type: none"> <li>• <b>Rev 3.1</b> – minor amendment to <b>Section 6.5</b>, additional information regarding the intended application of REFCL operating modes</li> </ul>  |  |                 |
| 4.      | <ul style="list-style-type: none"> <li>• Added <b>Section 6.18</b> HVABC replacement program and <b>Appendix K</b> listing the project sites</li> <li>• Amended <b>Section 6.5.3</b> to include further information about Fuse-savers for the SWER ACR replacement program</li> <li>• Amended <b>Section 6.5.1 Table 1</b> to include the bring-forward of EHK zone substation into REFCL tranche 1</li> </ul>  | Head of Network Compliance                   | 30 March 2017   |
| 5.      | <ul style="list-style-type: none"> <li>• <b>Section 6.5.1</b> REFCLs – additional text added regarding operating modes and annual compliance testing. REFCL program updated to reflect Terang and Ararat into Tranche 2 and Geelong to Tranche 3</li> <li>• <b>Section 6.5.2</b> Notes relating to the construction solutions in the ELCA's have been added</li> <li>• <b>Section 6.5.4</b> Annual compliance report to be provided to ESV before the 1st August each year, pertaining to the Electricity Safety Act sections 120M, 120N, 120O and 120P (Bushfire Mitigation Civil Penalties Scheme)</li> <li>• <b>Section 6.6</b> Revised staging of SWER ACRs, HV Conductor Clearances, and ARVDs. ARVD direction concludes in 2018.</li> <li>• <b>Section 6.9</b> New technologies and initiatives – added the development of the Bushfire Risk Reduction Strategy which includes examples such as the IND-T trial on SWER lines and the bushfire risk modelling</li> <li>• <b>Section 6.15</b> Total Fire Ban Days – relocated and updated enhanced protection and suppression settings information from Section 6.6</li> <li>• <b>Section 9.4</b> BFM milestones – removed the annual CFA fire hazard mapping project and Senior Management Program reviews. Added submission of annual compliance report to ESV and annual internal compliance audit of the Bushfire Mitigation Plan</li> <li>• <b>Section 10.1</b> Audits – addition of a compliance audit pertaining to the Electricity Safety Act sections 120M, 120N, 120O and 120P (Bushfire Mitigation Civil Penalties Scheme)</li> <li>• <b>Appendix A</b> - TFB Day Action Plan updated</li> <li>• <b>Appendix J</b> – Reference Documents added</li> </ul> | Head of Network Compliance                   | 20 Dec 2018     |
| 6.      | <ul style="list-style-type: none"> <li>• <b>Section 6</b> Updated Asset Management overview incl. latest asset inspection terminology and asset inspection and defect management timelines.</li> <li>• <b>Section 6.6.1</b> REFCL sections updated</li> <li>• <b>Section 6.7</b> Updates provided on each of the directions</li> <li>• <b>Section 6.8</b> New section added. ESV exemptions</li> <li>• <b>Section 6.12</b> New section added. Bushfire asset replacement and new technology implementation programs</li> <li>• <b>Section 6.21</b> HVABC replacement program completed</li> <li>• <b>Appendix A - TFB Day Action Plan</b> Updated to reflect revised personnel and role descriptions and new <b>section 5.12</b> added – Protocol for bypassing REFCLs on TFB days.</li> </ul>  | Network Safety & Bushfire Mitigation Manager | 9 December 2019 |

| Rev No. | Revision Summary   | Reviewer/ Approver                           | Date                         |
|---------|--|--|------------------------------|
| 7.      | <ul style="list-style-type: none"> <li>• <b>Section 6.12.1</b> Proactive wooden pole replacement program removed and replaced with 6.22</li> <li>• <b>Section 6.22</b> Pole Management Improvement Program (PMIP) plan incorporated to monitor and report on the progress to ESV for oversight of implementation of the PMIP.</li> <li>• <b>Section 8</b> – Fire investigation updated to include new Incident and Safety Performance Reporting Guidelines – Major electricity companies and link</li> <li>• <b>Section 10.2</b> – Add PMIP plan for reporting purposes</li> <li>• <b>Appendix J</b> – Include copy of accepted Pole Management Improvement Program MS Project plan</li> </ul>   | Network Safety & Bushfire Mitigation Manager | 8 April 2020                 |
| 8.      | <ul style="list-style-type: none"> <li>• <b>Section 6.6.1</b> REFCL section updated regarding operating modes and annual testing requirements</li> <li>• <b>Section 6.6.2</b> amended to include high voltage covered conductor trial projects.</li> <li>• <b>Section 6.7</b> updated SWER ACR information and removed references to armour rods and dampers as this direction was completed in 2018</li> <li>• <b>Section 6.8</b> updated to include REFCL exemption for CRO and GL zone substations</li> <li>• <b>Section 6.21</b> removed. HVABC replacement program completed in 2018.</li> <li>• <b>Section 6.22</b> added Stay Management Improvement Plan</li> <li>• <b>Section 9.4</b> new milestone added – submission of annual report to IPART (NSW)</li> <li>• <b>Section 10.3</b> added Stay Management Improvement Plan</li> <li>• <b>Appendix A</b> TFB Day Action Plan updated regarding REFCL operating modes</li> <li>• <b>Appendix B</b> new milestone added – submission of annual report to IPART (NSW)</li> <li>• <b>Appendix G</b> HVABC replacement program removed due to completion in 2018, Appendix re-labelled.</li> <li>• <b>Appendix H</b> removed. All SWER ACRs have the functionality to be remotely controlled.</li> <li>• <b>Appendix I</b> removed. All SWER isolating substations are protected by a SWER ACR</li> <li>• <b>Appendix J</b> re-labelled to Appendix G, List of Reference Documents</li> </ul> | Network Safety & Bushfire Mitigation Manager | 15 June 2020                 |
| 9.      | <ul style="list-style-type: none"> <li>• <b>Section 6.2</b> additional procedure included (Asset Maintenance Policy and Asset Management Plan Review and Development). Updated title of referenced policy (Inspection of Poles)</li> <li>• <b>Section 6.2.1</b> Updated title of referenced policy (Thermographic and Corona Inspection)</li> <li>• <b>Section 6.2.2</b> Updated title of referenced policy (Distribution Earthing Systems)</li> <li>• <b>Section 6.3</b> Updated title of referenced policy (Priority Policy)</li> <li>• <b>Section 6.4</b> document reference update (Manage Network Faults). Updated title of referenced procedure (Manage Fault Follow Up and Repair)</li> <li>• <b>Section 6.5</b> document reference updates (Distribution Surge Arresters), (Insulators, Associated Hardware &amp; Bird Covers), (Spreaders and Spacers), (Management of Unserviceable</li> </ul>   | Network Risk and Assurance Manager           | 19 April 2022 (revision 9.3) |

| Rev No. | Revision Summary   | Reviewer/ Approver | Date |
|---------|--|--------------------|------|
|         | <p>Poles) and (Bare Conductor). Removed document reference (Overhead Conductors Asset Management Plan)</p> <ul style="list-style-type: none"> <li>• <b>Section 6.6.1 Table 1</b> updated to include Gheringhap and remove Corio and Geelong zone substations</li> <li>• <b>Section 6.6.1</b> Operating modes – Table 3 REFCL application on Powercor 22kV Polyphase Networks updated with REFCL settings in different conditions</li> <li>• <b>Section 6.6.1</b> Performance Caveats – updated to clarify REFCL out of service or bypass mode to facilitate fault finding</li> <li>• <b>Section 6.6.2.4</b> updated status on HVCC trials.</li> <li>• <b>Section 6.6.3</b> updated. SWER ACR program has been completed.</li> <li>• <b>Section 6.7</b> updated to reflect the completion of the SWER ACR and fitting of spacers on aerial lines directions in 2020.</li> <li>• <b>Section 6.8</b> updated to include exemption for wholly underground polyphase lines (REFCL protected) and exemption request for SWER lines</li> <li>• <b>Section 6.10</b> document reference update (Identification and Rectification of Defective POELs)</li> <li>• <b>Section 6.11</b> updated to include developments associated with smart meter technology, LiDAR capabilities to identify conductor clearances and trialling use of drones for enhanced pole top inspection and conductor condition assessment</li> <li>• <b>Section 6.12</b> updated to LiDAR technology for clearance management</li> <li>• <b>Section 6.12.8</b> added – LiDAR technology development for clearance management</li> <li>• <b>Section 6.12.9</b> added – Remote Aerial Inspection. Aerial imagery using drone technology</li> <li>• <b>Section 6.14</b> title update to referenced document (Technical Training Compliance Policy)</li> <li>• <b>Section 6.15</b> document reference update (Incident Management Procedure) and (Crisis Plan). Removed reference (Coordinating Bushfire Mitigation with other Organisations)</li> <li>• <b>Section 6.17</b> document reference update (Incident Management Procedure). Removed references (Crisis and Emergency System Management Manual) and (Event Command Organisation Manual)</li> <li>• <b>Section 6.20</b> document reference update (Incident Management Procedure)</li> <li>• <b>Section 6.21</b> Minimum Pole Intervention volumes updated to include information pertaining to planned pole interventions</li> <li>• <b>Section 6.22</b> Stay Management Improvement Plan- updated to reflect current status and change to quarterly progress reports</li> <li>• <b>Section 6.23</b> added - Conductor clearances management, Leaning pole management, Asset inspection conductor clearance practices, Asset inspection training, competency and auditing, Conductor clearance plan and Approach</li> <li>• <b>Section 8</b> document reference update (Update ESV and AER Reportable Incidents in Cintellate)</li> <li>• <b>Section 9.2</b> document reference update (Update ESV and AER Reportable Incidents in Cintellate). Added reference (Incident Management Procedure)</li> </ul> |                    |      |

| Rev No. | Revision Summary   | Reviewer/ Approver                 | Date           |
|---------|--|------------------------------------|----------------|
|         | <ul style="list-style-type: none"> <li>• <b>Section 9.3</b> document reference update (Asset Failure Investigation and Reporting)</li> <li>• <b>Section 10</b> document reference update (Management of Maintenance items Outside Policy)</li> <li>• <b>Section 10.1</b> document reference update (Audit and Inspection Program Requirements). Removed reference (Line Condition Observation)</li> <li>• <b>Section 11</b> document reference update (Bushfire Mitigation Plan Creation &amp; Update) and (Bushfire Mitigation Index Review)</li> <li>• <b>Appendix A</b> updated personnel and role changes</li> <li>• <b>Appendix D</b> updated brochures</li> <li>• <b>Appendix G</b> updated to identify incorporated documents</li> <li>• <b>Appendix H</b> added exempt HV lines</li> </ul>   |                                    |                |
| 10.     | <ul style="list-style-type: none"> <li>• <b>General</b> – Updated document template. Updated text for clarity and readability and general formatting. Removed references to programs that have been completed.</li> <li>• <b>Plan Definitions</b> – moved to section 13</li> <li>• <b>Section 1.1</b> Updated contacts and included Powercor Australia Ltd CAN</li> <li>• <b>Section 1.2</b> Updated Regulation Compliance Information – Table 2 to reflect Electricity Safety (Bushfire Mitigation) Regulations 2023</li> <li>• <b>Section 2.1</b> Updated to reflect Electricity Safety (Bushfire Mitigation) Regulations 2023</li> <li>• <b>Section 3.1</b> Updated the bushfire policy to address ESV response provided on 21 June 2023</li> <li>• <b>Section 4</b> - Removed other key document reference to address ESV response provided on 21 June 2023</li> <li>• <b>Section 4.1</b> – Removed GIS extract figures</li> <li>• <b>Section 4.2</b> – Updated bushfire risk areas figure (4)</li> <li>• <b>Section 4.3</b> Updated the bushfire risk area map to address ESV response provided on 21 June 2023</li> <li>• <b>Section 6.2</b> Updated to reflect amendment to Asset Inspection Manual MA-0450. Also updated definition of inspection to be consistent with table 4 to address ESV response provided on 21 June 2023</li> <li>• <b>Section 6.2.1</b> – Updated to address ESV response provided on 21 June 2023</li> <li>• <b>Section 6.4</b> - Amended remedial maintenance, defect management section to address ESV response provided on 21 June 2023</li> <li>• <b>Section 6.5</b> – Amended for clarity</li> <li>• <b>Section 6.6</b> amended to reflect completion of the REFCL program. Updated table 6 to further clarify REFCL operating modes. Added a “REFCL Performance and Capability Assessment” section. Updated REFCLs and High Voltage Customers section in line with the completion of the REFCL program.</li> <li>• <b>Section 6.7</b> - Amended to reflect the completion of ESV directions</li> </ul> | Network Risk and Assurance Manager | 25 August 2023 |

| Rev No. | Revision Summary  | Reviewer/ Approver                 | Date              |
|---------|---|------------------------------------|-------------------|
|         | <ul style="list-style-type: none"> <li>• <b>Section 6.7.2</b> – Reordered section for clarity. Updated HV Covered Conductor to reflect the adoption of Amokabel and Hendrix HVCC solutions.</li> <li>• <b>Section 6.8</b> - Amended to reflect current status of exemptions</li> <li>• <b>Section 6.9</b> - Added to address Regulation 7(1)(m) of the Electricity Safety (Bushfire Mitigation) Regulations 2023</li> <li>• <b>Section 6.11</b> - Amended to reflect “private electric line” requirements as specified in the Electricity Safety (Bushfire Mitigation) Regulations 2023</li> <li>• <b>Section 6.12</b> - Updated to reflect current status of new technologies</li> <li>• <b>Section 6.12.5</b> – Updated LiDAR section to reflect current status.</li> <li>• <b>Section 6.13</b> - Amended to address ESV response provided on 21 June 2023</li> <li>• <b>Section 6.13</b> - Removed remote aerial inspection to address ESV response provided on 21 June 2023</li> <li>• <b>Section 6.16</b> - Replaced DELWP with DEECA</li> <li>• <b>Section 6.22</b> - Updated sustainable wood pole management program section to reflect completion of 1<sup>st</sup> year of program and communication to ESV on 3 February 2023</li> <li>• <b>Section 6.22</b> - Removed - in line with completion, the stay management improvement plan has been removed</li> <li>• <b>Section 6.23</b> - Amended to provide clarity and address ESV response provided on 21 June 2023. In line with completion, removed table 14 Key Milestones for Conductor Clearance program.</li> <li>• <b>Section 8</b> - Updated reference to ESV incident reporting guideline</li> <li>• <b>Section 9.1</b> - Updated to reflect recent amendments to the Bushfire Mitigation Index, now referred to as the Asset Maintenance and Vegetation Performance Measures,</li> <li>• <b>Section 10</b> - Updated to Line Condition Observation section to include reference to procedure. Removed section 10.3 related to stay management improvement program</li> <li>• <b>Section 12</b> – Updated reference documents table</li> <li>• <b>Section 13</b> – Definitions table updated and acronyms table added.</li> <li>• <b>Appendix A-I</b> – Included into the main body of the Bushfire Mitigation Plan document PL-0009.</li> <li>• <b>Appendix G</b> – Bushfire Mitigation Plan Documents table updated.</li> <li>• <b>Appendix I</b> – Revision history moved from front of document to Appendix I.</li> <li>• <b>PAL-PL-0009.1</b> – Total Fire Ban (TFB) Day Action Plan has become a standalone document and included in Appendix G.</li> </ul> |                                    |                   |
| 10.1    | <ul style="list-style-type: none"> <li>• <b>Section 1.1</b> – Amended contacts to include email.</li> <li>• <b>Section 1.2</b> – Amended Table 2</li> <li>• <b>Section 1.3</b> – Added referenced documents clarification.</li> <li>• <b>Section 3.1</b> – Amended to include reference to Bushfire Mitigation Policy</li> <li>• <b>Section 4.1</b> – Amended in accordance with ESV reply</li> </ul>   | Network Risk and Assurance Manager | 27 September 2023 |

| Rev No. | Revision Summary   | Reviewer/ Approver                 | Date            |
|---------|--|------------------------------------|-----------------|
|         | <ul style="list-style-type: none"> <li>• <b>Section 6</b> – Amended section title.</li> <li>• <b>Section 6.1.1</b> – Amended in accordance with ESV reply.</li> <li>• <b>Section 6.1.2</b> – Added to include other above ground asset inspection, including Table 5.</li> <li>• <b>Section 6.1.3</b> – Amended thermal and corona imaging section to add further details.</li> <li>• <b>Section 6.3</b> – Updated fault follow up section.</li> <li>• <b>Section 6.4</b> – Amended in accordance with ESV reply.</li> <li>• <b>Section 6.5</b> – Amended table 7 to clarify REFCL operation in no rating and moderate ratings.</li> <li>• <b>Section 6.7</b> – Removed redundant information.</li> <li>• <b>Section 6.8</b> – Amended to clarify.</li> <li>• <b>Section 6.10</b> – Amended Private Overhead Electric Line Section</li> <li>• <b>Section 6.11</b> – Amended to include quarterly reporting.</li> <li>• <b>Section 6.12.1</b> – Amended to include program numbers and timeframe.</li> <li>• <b>Section 6.12.2</b> – Amended to clarify program timeframe.</li> <li>• <b>Section 6.12.3</b> – Amended to reduce detail as discussed with ESV.</li> <li>• <b>Section 6.13</b> – Amended conductor clearance section in response to ESV reply.</li> <li>• <b>Section 10.1</b> – Amended to provide clarification of automated daily report.</li> <li>• <b>Section 12</b> – Updated reference document</li> <li>• <b>Appendix H</b> – Updated</li> <li>• <b>Appendix I</b> – Added</li> <li>• <b>Appendix J</b> – Updated, added section 10.1</li> </ul> |                                    |                 |
| 10.2    | <ul style="list-style-type: none"> <li>• <b>Section 6.3</b> – Amended to address ESV feedback received 6 October 2023</li> <li>• <b>Section 6.20</b> – Amended to clarify spark arrester equipment.</li> <li>• <b>Section 6.12.2</b> - Amended to address ESV feedback received 6 October 2023</li> <li>• <b>Section 6.12.3</b> - Amended to address ESV feedback received 6 October 2023, including reinstating text from revision 10.</li> <li>• <b>Section 6.13</b> – Amended to clarify conductor clearances relating to T-on and T-off structures and to address ESV feedback received 6 October 2023.</li> <li>• <b>Appendix G</b> – Amended to include date for TFB day action plan (PAL-PL-0009.1)</li> </ul>  | Network Risk and Assurance Manager | 10 October 2023 |