

CITIPOWER

CitiPower Bushfire Mitigation Plan 2019 - 2024

Electricity Safety (Bushfire Mitigation) Regulations 2013



December 9, 2019

Revision 5

Administrator: Manager Network Safety & Bushfire Mitigation

Document No: 05-M800

CitiPower Bushfire Mitigation Plan 2019 - 2024

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1 PLAN INTRODUCTION

1.1 CONTACTS

| Responsibility | Title | Address | Contact Details |
|------------------------------|---|---|---|
| BMP Responsible Organisation | CitiPower Pty Ltd | 40 Market Street Melbourne, 3000 Victoria | Phone: 13 22 06 |
| BMP Preparation | Senior Advisor Bushfire Mitigation | 40 Market Street Melbourne, 3000 Victoria | Phone: 13 22 06 |
| BMP Implementation | Manager Network Safety & Bushfire Mitigation | 40 Market Street Melbourne, 3000 Victoria | Phone: 13 22 06 |
| BMP Emergency Contact | CitiPower Pty Ltd | 40 Market Street Melbourne, 3000 Victoria | Phone: 13 12 80 (24 x 7 emergencies and faults contact number for members of the public) |

1.2 DOCUMENT APPROVALS

| | Title | Name | Signature | Date |
|--------------|---|----------------------------------|--|-----------|
| Prepared by: | Senior Advisor Bushfire Mitigation | Robert Stevens |  | 9/12/2019 |
| Approved: | Manager Network Safety & Bushfire Mitigation | Dene Ward (Luke Farrugia for) |  | 9/12/2019 |
| Endorsed: | General Manager Electricity Networks | Steven Neave |  | 9/12/2019 |

1.3 DOCUMENT REVISION HISTORY

| Issue | Revision Summary | Reviewer | Date |
|-------|-----------------------|--|------------|
| 5 | Plan submitted to ESV | Manager Network Safety & Bushfire Mitigation | 10/12/2019 |

1.4 PLAN DEFINITIONS

Act: Electricity Safety Act 1998.

Fire Danger Period: a period declared under section 4 of the **Country Fire Authority Act 1958** to be a fire danger period.

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**.

For other definitions refer to the Act, Regulations and Code.

2 REGULATION COMPLIANCE INFORMATION

The purpose of this section is to provide assistance to quickly identify the specific items required in Regulation 7 of the "Electricity Safety (Bushfire Mitigation) Regulations 2013".

| Regulation | 7 - Prescribed particulars for bushfire mitigation plans—major electricity companies. | Reference in this Plan |
|------------|---|------------------------|
| 7(1)(a) | the name, address and telephone number of the major electricity company; | Contacts |
| 7(1)(b) | the position, address and telephone number of the person who was responsible for the preparation of the plan; | Contacts |
| 7(1)(c) | the position, address and telephone number of the persons who are responsible for carrying out the plan; | Contacts |
| 7(1)(d) | the 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; | Contacts |
| 7(1)da | 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; | Contacts |
| 7(1)(e) | the bushfire mitigation policy of the major electricity company to minimise the risk of fire ignition from its supply network; | Section 4.1 |
| 7(1)(f) | the objectives of the plan to achieve the mitigation of fire danger arising from the major electricity company's supply network; | Section 4.2 |
| 7(1)(g) | a description, map or plan of the land to which the bushfire mitigation plan applies; | Section 5.1 |
| 7(1)(h) | 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 7 |
| 7(1)(i) | a plan for inspection that ensures that – <ul style="list-style-type: none"> (i) 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. (ii) 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. | Section 7.2 |

| Regulation | 7 - Prescribed particulars for bushfire mitigation plans—major electricity companies. | Reference in this Plan |
|------------|---|--|
| 7(1)(j) | details of the processes and procedures for ensuring that each person who is assigned to carry out inspections referred to in paragraph (i) and of private electric lines has satisfactorily completed a training course approved by Energy Safe Victoria and is competent to carry out such inspections; | Section 7.11 |
| 7(1)(k) | details of the processes and procedures for ensuring that persons (other than persons referred to in paragraph (j) who carry out or will carry out functions under the plan are competent to do so; | Section 7.11 & 12 |
| 7(1)(l) | the operation and maintenance plans for the major electricity company's supply network— <ul style="list-style-type: none"> (i) in the event of a fire (ii) during a total fire ban day (iii) during a fire danger period | Section 7.17 Section 7.15 Section 7.16 |
| 7(1)(m) | 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 10.4 |
| 7(1)(n) | details of the processes and procedures by which the major electricity company will; <ul style="list-style-type: none"> (i) monitor the implementation of the bushfire mitigation plan; and (ii) audit the implementation of the plan; and (iii) identify any deficiencies in the plan or the plan's implementation; and (iv) change the plan and the plan's implementation to rectify any deficiencies identified under subparagraph (iii) (v) monitor the effectiveness of inspections carried out under the plan; and (vi) audit the effectiveness of inspections carried out under the plan. | Section 11 Section 12 Section 13 Section 13 Section 12 Section 12 |
| 7(1)(o) | 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 7.12 |
| 7(1)(p) | details of processes and procedures for enhancing public awareness of; <ul style="list-style-type: none"> (i) the responsibilities of the owners of private overhead electric lines that are above the surface of the land in relation to maintenance and mitigation of bushfire danger; (ii) the obligation of the major electricity company to inspect private overhead electric lines that are above the surface of the land within its distribution area. | Section 7.8 Section 7.8 |
| 7(1)(q) | a description of the measures to be used to assess the performance of the major electricity company under the plan. | Section 10 |

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, for acceptance under this Division, a plan for the company's proposals for mitigation of bushfire in relation to the company's supply network at the end of each period of 5 years commencing on the later of –

- a) the date when the accepted bushfire mitigation plan is first accepted under this Division; or
- b) the date of the most recent acceptance of a revision of the accepted bushfire mitigation plan submitted under this Division.

In accordance with the Electricity Safety (Bushfire Mitigation) Regulations 2013 this Bushfire Mitigation plan provides the prescribed particulars as specified in Regulation 7.

A copy of the accepted CitiPower Bushfire Mitigation Plan (BMP) will be published on the website of CitiPower Ltd.

A copy of the current accepted bushfire mitigation plan will be available for inspection at the company's principal office in the State of Victoria during ordinary business hours.

This plan is a living document and will evolve as the fire danger period approaches each year. Appendices to this document will be reviewed and additional information may be added to the appendices as it becomes available.

3 INTRODUCTION

3.1 CITIPOWER

CitiPower owns and manages the electricity distribution network in Melbourne's central business district and inner suburbs.

Statistics regarding the CitiPower distribution network are presented in the table below.

| Attribute | Statistic |
|--|----------------------------|
| Network area | 157 square kilometres |
| Length of distribution network (all lines) | 7,324 kilometres |
| Underground lines | 40.67% |
| Number of poles (all poles) | 58,660 |
| Number of zone substation transformers | 106 |
| Number of distribution substation transformers | 4,621 |
| Total number of customers | 321,567 |
| Customer density | 2,048 per square kilometre |
| Network availability | 99.98% |

Figure 1 – CitiPower Network footprint



4 BFM POLICY & OBJECTIVES

4.1 POLICY

To minimise the risk of fire starts from its electrical assets as far as reasonably practicable by complying with legislative and regulatory requirements, whilst allowing flexibility within the business to encourage innovation, continuous improvement and the efficient use of resources.

4.2 OBJECTIVES

The objectives of this plan 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 relating to bushfire mitigation activities into one reference document
- demonstrate a high level of commitment to meeting bushfire mitigation responsibilities

5 SCOPE

CitiPower's bushfire mitigation program includes asset inspection, maintenance, construction, upgrading, replacement, vegetation management, performance monitoring and auditing. The planning and scheduling of this program is based principally on the system of asset inspection and maintenance reporting supported by a program of audits.

There are no "hazardous bushfire risk areas" designated within CitiPower's service area. However the CitiPower Vegetation Management Plan identifies "Native Vegetation Areas".

This plan applies to all CitiPower assets that could cause fire ignition. 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.

The main causes of fire ignition in an electricity distribution network are:

- Surface contamination of insulators, combined with moisture, resulting in electrical tracking (leading to pole/cross arm fires)
- Failure or malfunction of network devices such as Surge Arresters and HV fuses
- Contact between vegetation and the electricity network
- Bird, or animal, contact with electricity assets
- Failure of line hardware (electrical and mechanical)

This plan makes reference to other plans, manuals, standards, policies, procedures and work instructions which, when combined with this plan, cover all of the activities that contribute to the reduction of bushfire risk.

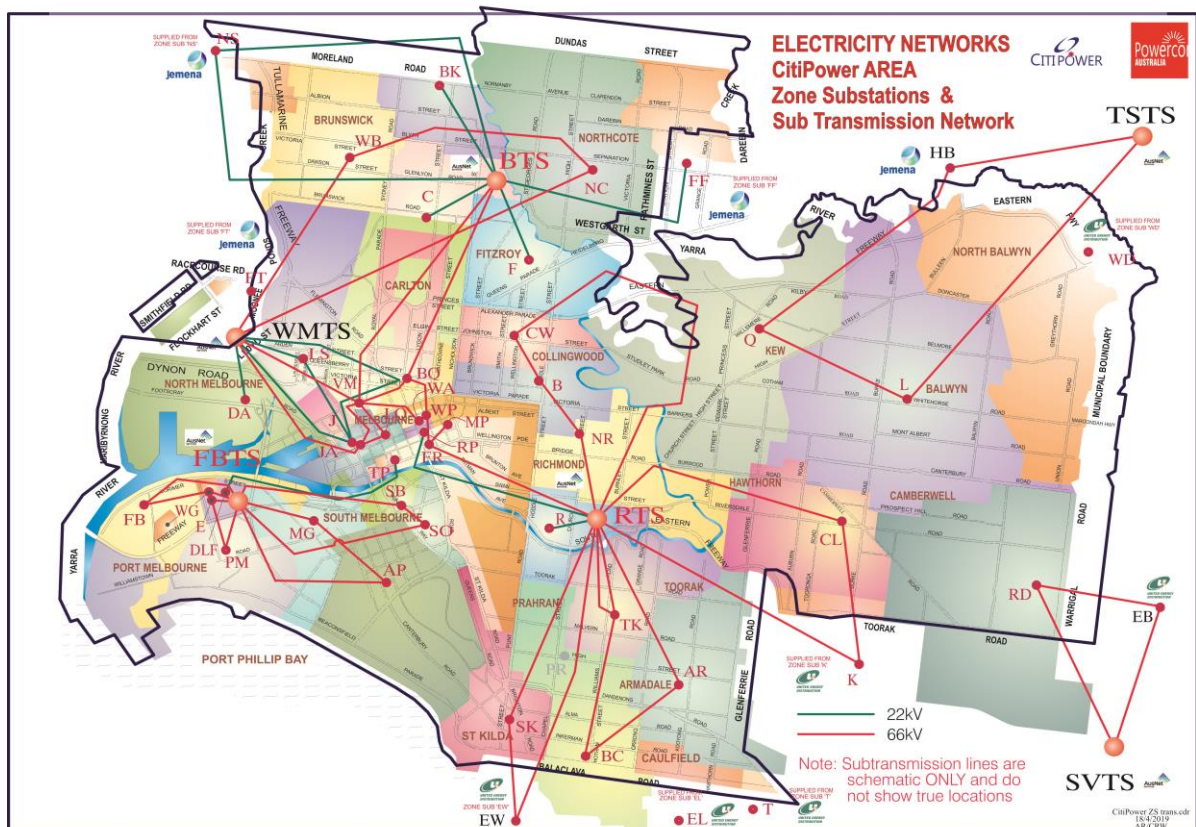
Other key documents include:

- The Electric Line Clearance Vegetation Management Plan (ELCMP)
- The Asset Management Framework & associated plans
- The Event Command Organisation (ECO) Manual

- The Asset Inspection Manual
- Electricity Safety Management Scheme
- Technical Standards (covering design & construction of assets)
- Maintenance Policies
- Technical Bulletins
- The various Manuals, Procedures, Guidelines and Work Instructions covering BFM related activities

5.1 ELECTRICAL NETWORK MAP

Figure 2 – CitiPower Network diagram



Full network details are available from CitiPower’s Graphical Information System (GIS).

6 MANAGEMENT STRUCTURE

CitiPower has a formal management structure for the implementation and control of BFM related activities. This structure has clearly assigned authorities and responsibilities associated with each position. It takes into account the inter-relationships between those that manage, perform, record, verify and report bushfire mitigation activities and has been set up to maintain independence of reporting and monitoring tasks. External to the BFM management structure are the Audit Services group which annually audit and report on BFM performance and compliance.

A copy of the current CitiPower Management Structure is available on the Company’s Intranet site.

7 POLICIES AND STRATEGIES

CitiPower uses a number of strategies, plans, policies and standards to achieve its' Asset Management objectives. The principle documents for ongoing asset management will be the Network Asset Management Plans and Specific focus plans/strategies and policies, standards, specifications and guidelines.

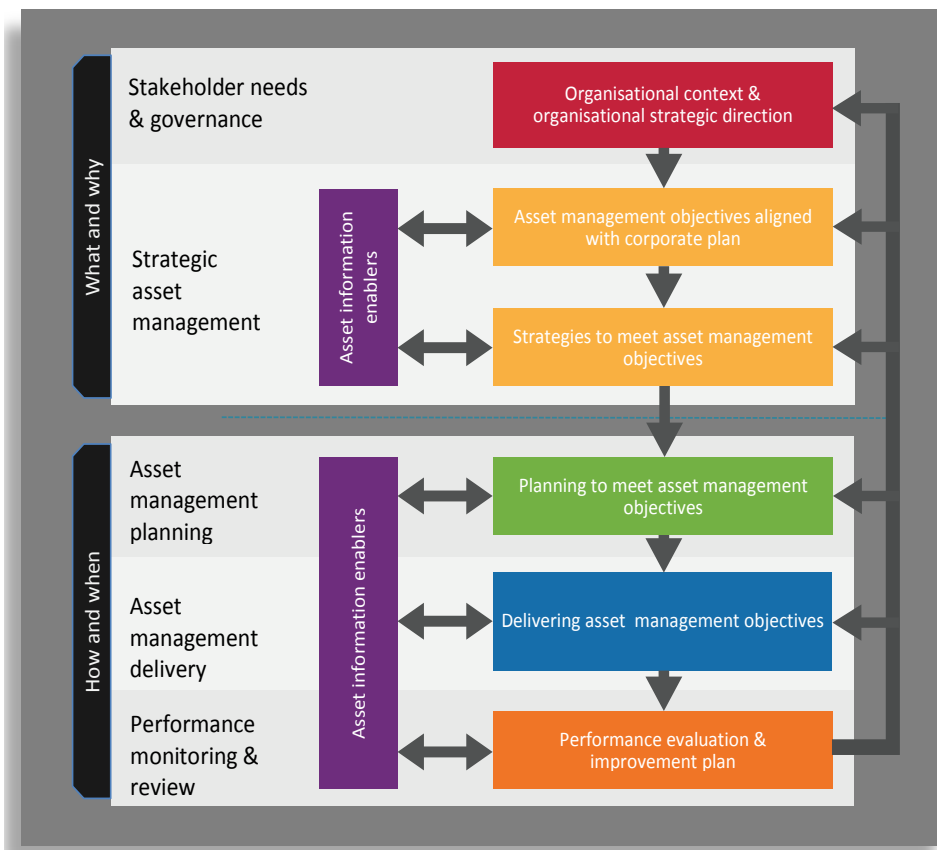
7.1 OVERVIEW OF THE ASSET MANAGEMENT SYSTEM

The CitiPower asset management system reflects the structure aligned with ISO 55001. It is structured into five levels in simplified form as shown in figure 3:

- Level 1: Stakeholder needs and governance;
- Level 2: Asset management objectives aligned with the CitiPower five strategic pillars;
- Level 3: Asset management planning;
- Level 4: Asset management delivery; and
- Level 5: Performance monitoring and review.

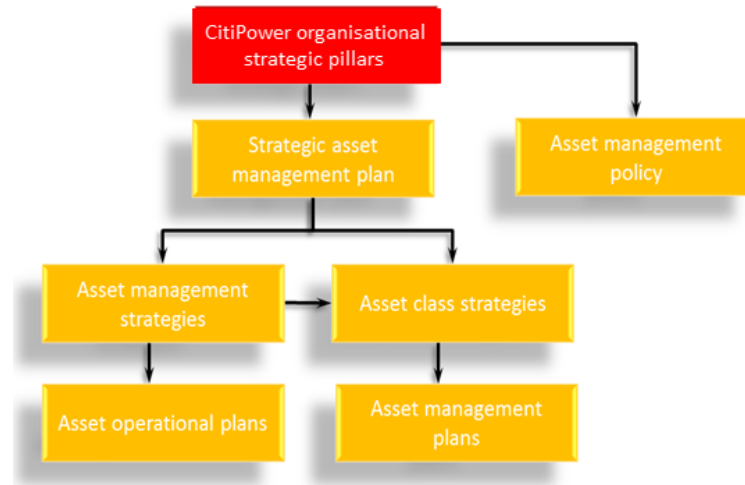
Levels 1 and 2 describe 'What' asset management strategies and objectives are to be targeted and provide details regarding 'Why' these are required. Level 3 describes the approach taken to plan and budget for the delivery of the asset management activities, while level 4 describes 'how' and 'when' these activities are delivered to meet the strategies and objectives. Level 5 describes CitiPower's approach to performance monitoring and review of the asset management system.

Figure 3 - CitiPower asset management system



The relationship between the various strategy and planning documents in CitiPower's asset management system is shown in figure 4.

Figure 4 – Asset planning, strategies and policy document relationships



CitiPower has developed and implemented a number of policies and procedures across a broad range of areas to minimise the risk of fire ignition starting from its supply network. These areas include:

- Bushfire Mitigation
- Asset Management
- Incident Reporting & Investigation
- Private Overhead Electric Lines
- Environmental
- Information Technology
- Purchasing and Procurement
- Contract and Contractor Management

The specific policies, strategies and procedures related to BFM activities are described below.

7.2 MONITORING ASSET CONDITION

Preventative maintenance strategies have been created for all of CitiPower zone substations, sub-transmission and distribution assets. These strategies were developed from Reliability Centred Maintenance (RCM II) 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 the CitiPower Asset Management Enterprise System, called SAP, which automatically generates time based work orders for inspection and maintenance planning.

Asset maintenance policies are developed, reviewed and implemented in accordance with:

Procedure 18-05-P0003 - Asset Maintenance Policy and Asset Management Plan Review and Development

Document JEQA4UJ443MT-173-116 - Electricity Safety Management Scheme

These documents outline how CitiPower 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; and
- Manage the risks to as low as reasonably practicable levels.

7.2.1 Asset Inspection Cycle

Inspection of poles is carried out in a dedicated program conducted over the following cycles (referred to as cyclic inspections):

| Included poles | Type of inspection | Cycle |
|---------------------------|-------------------------|-------------------------|
| Serviceable poles in HBRA | Above ground inspection | 2.5 years +/- one month |
| All serviceable poles | Full Inspection | 5 years +/- one month |
| AC serviceable poles① | Above ground inspection | 1 year +/- six months |
| AC serviceable poles① | Full Inspection | 2 years +/- six months |

① Added Controls Serviceable Poles (AC Serviceable Poles) are referred to as Limited Life poles in SAP records.

Definition of inspection types:

Full Inspection - Full inspection of pole and pole top assets in accordance with:

Policy 05-C001-D390 – Network Asset Maintenance Policy for Inspection of poles

Pole Above Ground Inspection – Visual inspection of pole and pole top assets in accordance with:

Policy 05-C001-D390 – Network Asset Maintenance Policy for Inspection of poles

Note: This inspection excludes excavation, treatment, and pole assessment at or below ground line. (Both inspection types include the inspection of electrical assets between poles).

Operational instructions for the inspection, testing and assessment of assets are contained in:

Manual 05-M450 - Asset Inspection Manual

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 approved replacement or modification programs. The manual sets out criteria for categorising the urgency for remedial maintenance actions and the reporting and information recording requirements.

Due to access difficulties associated with the inspection of poles located in inaccessible locations these inspections are conducted in accordance with:

Procedure 18-20-P0004 – Inaccessible Asset

The Asset Inspection Officer controls the program of power line inspection in accordance with CitiPower policies using maintenance plans established within SAP. Each maintenance plan covers all of the poles within a specific electrically isolatable section of the network. Maintenance plans are managed in accordance with:

Procedure 18-20-P0002 –Asset Inspection

When SAP transaction “Date Monitoring” is run, pole inspection orders (PINS) are created in accordance with the scheduled dates specified in the maintenance plans. These work orders are electronically transferred to the Field Mobile Computing (FMC) system, reviewed by the Asset Inspection Officer and released to the Asset Inspection contractor. FMC is an interface application, linked to SAP and GIS, that prepares data for dispatch to the Asset Inspection contractor. Individual work orders are created by the Asset Inspection contractor and downloaded to individual asset inspectors.

Asset Inspectors carry out the inspections and enter the results into a Portable Data Assistant (PDA). After inspection the “as found” data, in the PDA, is uploaded to FMC via remote data transfer connection. An overnight batch run in SAP automatically updates the equipment details as per the uploaded data and raises Notifications for all defects identified. Each Notification contains details of the defect located on a specific pole.

The Asset Inspection Officer is responsible for preparation of the asset inspection program and monitoring of the performance of the contractor in adhering to the program. This is performed with the use of exception reporting to monitor variations from policy. A daily automated report is generated and sent to key stakeholders across the business.

7.2.2 Thermal and Corona Imaging

Thermal imaging inspections are undertaken in accordance with:

Policy No. 05-C001.D-570 - Thermovision policy

Corona imaging inspections are undertaken in accordance with:

Guideline 18-20-G0001 Corona Camera Application Guideline

The thermal and corona inspection policies/guidelines stipulate the required inspection schedules and repair timeframes.

7.2.3 Priority Classifications

Assets defects identified by our inspection program, or are internally/externally reported, are assessed for their associated risk and prioritised for remedial action.

Any report of a network defect will be managed in accordance with:

Policy No 05-C001.A-025 - Priority Policy

This policy sets out the criteria for classification of defects as shown in Table 1 below.

Table 1 - Priority Schemes

| 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 28 days | FFU28 | > 28 days | 28 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 |

Extract from Priority Policy (05-C001.A-025) Issue 4.4

7.3 REMEDIAL MAINTENANCE

CitiPower's maintenance programs are generated from a number of different sources, the main one being the asset inspection program (refer Section 7.1).

Maintenance can also be identified from the following:

- Reports from employees or contractors
- Customer calls
- Line Condition Observations
- BFM Vegetation Audits
- The Report It Application

Refer Section 12 for more information on audits.

7.3.1 Defect Management

Maintenance works, identified through the inspection program are issued for remediation. Resources are scheduled to match the needs of the issued projects in order to achieve the required response times.

7.3.2 Faults/Fault Follow-up

Repairs to defects identified through the Network Faults/Outage process are managed in accordance with:

Procedure 07-30-P00013 - Manage Network Faults

Procedure 07-20-G0013 - Fault Follow-up & Repair

7.3.3 Audits/Observations

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

7.3.4 Non Cyclic Maintenance

Maintenance found out of cycle is reported using the "Report It" Application.

7.4 ASSET REPLACEMENT/MODIFICATION

CitiPower has a number of specific programs that deal with the replacement and modification of CitiPower assets. These include:

- Replacement of HV fuses
- Unacceptable types of surge diverters
- Fitting of LV spreaders
- Replacement of reinforcement of unserviceable poles
- Replacement of deteriorated cross-arms
- Replacement of obsolete HV insulators
- Bird and Animal Mitigation
- Conductor Management

These activities are carried out in accordance with:

Policy No. 05 - C001.D - 320 - High Voltage Fuses

Policy No. 05 - C001.D - 540 - Distribution Surge Arresters

Policy No. 05 - C001.D - 330 - Insulators, Associated Hardware & Bird Covers

Policy No. 05 - C001.D - 255 - Low Voltage Spreaders

Policy No. 05 - C001.D - 392 - Management of Unserviceable Poles

Policy No. 05 - C001.D - 280 - Cross Arms

Policy No. 05 - C001.D - 398 - Permanent Reinforcing of Wood Poles

Policy No. 05 - C001.D - 251 - Bare Conductor Policy

Document No. - 01 - 00 - M0020 – Overhead Conductors Asset Management Plan

In addition to these, CitiPower is progressively replacing the aged and slow operating electromechanical feeder protection relays at Zone Substations. The new relays have faster operating times which has the benefit of reducing fault clearance time and reducing fault energy supplied.

7.5 PROPOSED PROACTIVE POLE REPLACEMENT

CitiPower is submitting a proposal as part of its 2021 to 2025 Electricity Distribution Price Reset to sustainably manage its wooden pole population resulting in an increase in wooden pole interventions. This will also address the heightened safety concerns from the community in relation to the ageing pole population.

The business as usual condition based wood pole replacement volume over the period will be supplemented with a risk based asset management program of approximately 900 additional pole interventions.

Energy Safe Victoria (ESV) have assessed and provided recommendations to support CitiPower's wood pole management strategies.

7.6 ESV DIRECTIONS

Under section 141 (2)(d) of the Electricity Safety Act 1998, ESV may issue directions in relation to electrical safety.

7.6.1 Current Directions

Bushfire Mitigation related Directions issued by ESV to CitiPower that are currently open include;

- Fitting of Spacers in Aerial Lines : issued 4 January 2011

7.6.2 Fitting of Spacers in Aerial Lines

This direction was issued on 4 January 2011, with the requirement to establish and deliver a program that would ensure that

- Bare wire LV spans in HBRA areas are to have LV spreaders fitted – *this direction was completed in 2011*
- Conductors on the same support to maintain minimum separation in accordance with ENA document C(b)1 Guidelines for design and maintenance of overhead distribution and transmission lines.
 - In HBRA – before 1 November 2015 – *this direction was completed 2015*
 - All other areas – before 1 November 2020

7.6.3 Fitting of Armour Rods & Vibration Dampers

This direction was issued on 4 January 2011, with the requirement to establish and deliver a program that would ensure that all locations requiring the fitting of armour rods and/or vibration dampers to be completed;

- In HBRA – before 1 November 2015 - *this direction was completed in 2015*
- All other areas – before 1 November 2020 - *this direction was completed in 2018*

7.7 VEGETATION MANAGEMENT

CitiPower is responsible for the management of vegetation around power lines and other electricity assets in its network area. The whole of the CitiPower service area is a “Declared Area”, where the Councils are managers of public land and are responsible for keeping trees clear of electric lines.

CitiPower’s Vegetation activities are managed in accordance with:

Document – 2019 -2020 Electric Line Clearance (Vegetation) Management Plan V2.6 (ELCMP)

The CitiPower 2019-2020 ELCMP was submitted to ESV for endorsement as prescribed by the Electricity Safety (Electric Line Clearance) Regulations 2015. On the 22nd July 2019 ESV approved the plan.

7.8 PRIVATE OVERHEAD ELECTRIC LINES (POEL)

7.8.1 POEL Inspections

CitiPower has an obligation under the Electricity Safety Act 1998 to inspect Private Overhead Electric Lines. POEL lines are inspected to identify any defects, or infringing vegetation, which may affect the fire and/or electrical safety of the line.

Inspections are undertaken to include the prescribed standards of inspection contained in section 10 of the Electricity Safety (Bushfire Mitigation) Regulations 2013. There are 3 variations to these prescribed standards of inspection being applied by CitiPower.

CitiPower meets the required outcomes of regulation 10(1)g(ii), 10(1)g(iii) and 10(1)h(ii) by the inspection techniques shown in (1) and (2) 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.

CitiPower meets the required outcomes of regulation 10(1)i by the inspection technique described 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.

The POEL inspection program is conducted in accordance with:

Policy No. 05-C001.D-430 - Low Voltage Private Overhead Electric Lines

Policy No. 05-C001.D-431 - High Voltage Private Overhead Electric Lines

Manual No. 05-M450 - CitiPower Asset Inspection Manual

CitiPower's inspection cycle for Private Overhead Electric Lines is as follows:

All Private Overhead Electric Lines required to be inspected, shall be inspected within a 36 month timeframe.

CitiPower'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 will be required to leave a pamphlet informing POEL owners that an inspection of their POEL was undertaken, a brief summary of inspection findings and general information regarding POELs including the requirement for CitiPower to inspect POELs as required under the Electricity Safety Act 1998. A copy of this pamphlet is contained in **appendix C**.

The annual POEL mail out ensures that all CitiPower 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, maintenance, vegetation clearance, electrical safety, disconnection and a guide to POEL inspection. The mail out of these normally commences in early November.

CitiPower notifies the owners of up-coming POEL inspections, as required in the Electricity Safety (Bushfire Mitigation) Regulations 2013. These letters notify the owner which part of the line we will be inspecting and what will happen if defects are found refer **appendix B**. Notice is given not less than 21 days and not more than 45 days before inspection.

7.8.2 POEL Disconnection

Land owners, 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 we become 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.

CitiPower regularly contacts the responsible land owner, or occupier, by telephone to monitor the progress of corrective action. POEL's referred to ESV for non-compliance are reinspected in accordance with POEL policy.

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

When a disconnection is necessary, CitiPower's Customer Compliance Group advises the customer and creates an entry into their Outage Management System (OMS) which in turn prompts the Operations Control Centre to dispatch a crew to disconnect supply.

Identification and rectification of defective Low Voltage POELs are managed in accordance with the following:

Procedure JEQA4UJ443MT-158-503 - Identification and Rectification of Defective POELs (LV)

7.9 NEW TECHNOLOGIES & INITIATIVES

CitiPower has implemented numerous new technologies and initiatives to minimise the risk of electricity assets causing fire ignition.

The Electricity Networks business unit has the charter to optimise the maintenance strategies/policies and continually assess new technologies for the network assets.

Technologies that are currently being assessed include:

- Enclosed Substation Protection
- Use of LiDAR to determine conductor clearances
- Non-destructive technologies for wood pole inspections
- Hi resolution aerial imagery for pole top inspections
- Early fault detection technology

7.10 RESOURCING

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

Each year, typically in the fourth quarter, historical data is entered into various forecasting models for asset maintenance activity. The forecasts obtained from these models, for the following years work, are then entered into CitiPower's Asset Management System (SAP). Resource requirements are then checked against the projects listed in SAP and resources are sourced accordingly.

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.

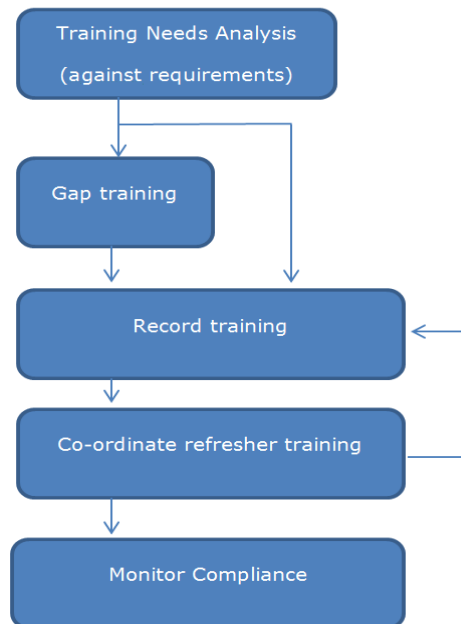
CitiPower's vegetation management contractor is required to manage the resourcing of vegetation management activities throughout the year.

7.11 TRAINING

CitiPower has an established and documented system to ensure that employee and contractors who are working on or near the Network are suitably competent and adequately trained to carry out their duties.

The key steps that CitiPower has in place to manage competency and training requirements are illustrated in figure 5:

Figure 5 - Competency and training process



In CitiPower, the Electricity Networks business unit sets the training standard for workers who are working on or near the Network. The training standards are established through the industry committee VESI Skills and Training Reference Committee for consistency within the State and nationally through the Australian Industry & Skills Committee (refer <https://www.aisc.net.au/> for more information).

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

CitiPower has a documented Technical Training Policy and a Technical Training Guideline which references to training requirements.

Policy JEQA4UJ443MT-173-25 - Training Policy

Guideline Policy JEQA4UJ443MT-173-25 - Training Guideline

All Asset Inspectors are required to meet the training requirements as specified in the VESI Skills and Training Matrix for Asset Inspectors. These training requirements are confirmed by CitiPower 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 CitiPower requirements (including our procedures) is conducted by a person holding a Certificate IV in Training and Assessment.

CitiPower 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 CitiPower assets.

7.11.1 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.

CitiPower has implemented the Australian ESI Skills Passport. 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

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

7.11.2 Asset Inspection

Asset Inspectors working on the CitiPower network are required to hold a Certificate II in Asset Inspection.

- **Course Code UET20612** (or subsequent version)

The VESI Skills and Training Matrix stipulate the requirements and frequency of refresher training for asset inspectors. The matrix is available at www.vesi.com.au

7.11.3 Vegetation Management

All training requirements for vegetation activities are managed in accordance with the CitiPower's Electric Line Clearance Vegetation Management Plan.

Document – 2019 -2020 Electric Line Clearance (Vegetation) Management Plan V2.6 (ELCMP)

7.11.4 Line work

The VESI Skills and Training Matrix stipulate 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

Formal training of apprentices is conducted by a Registered Training Organisation. Training is further supported "on the job" by designated mentors and tradespersons.

7.11.5 Technical Standards

CitiPower's Technical Standards group provide information to CitiPower employees, Local Service Agents (LSAs) and contractors with regard to new initiatives in the design and construction of network assets.

All contractors or other external persons associated with works on CitiPower assets can register with CitiPower to gain "read only" access to CitiPower's technical standards.

7.12 LIAISON WITH OTHER ORGANISATIONS

CitiPower has procedures/plans for coordinating BFM activities and emergency procedures with relevant organisations which may include any of the following:

- Energy Safe Victoria (ESV)
- Metropolitan Fire Brigade (MFB)
- State Emergency Service (SES)
- Emergency Management Victoria (EMV)
- Department of Environment Water & Planning (DELWP)
- Victoria Police (VICPOL)
- Bureau of Meteorology (BOM)
- Municipalities
- Other Distribution/Transmission Network Operators

Actions to be undertaken in the event of a major event or emergency are contained in:

Procedure JEQA4UJ443MT-185-28490 Incident Management Procedure

Manual 13-40-CP0001 - Crisis and Emergency System Management Manual

Manual 13-40-M0002 - Event Command Organisation Manual

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

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

Communication processes are managed in accordance with:

Procedure 16-30-P0003 - Coordinating Bushfire Mitigation with other Organisations

7.13 PUBLIC AWARENESS

CitiPower 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

As a part of Vegetation Management and POEL inspection programs CitiPower provides the following information brochures to customers:

- “Planting Trees Near Power Lines”
- “POELs - Understanding Your Responsibilities”
- “Powerlines and Your Property”

7.14 ASSISTANCE PROVIDED TO FIRE AGENCIES

The Metropolitan Fire Brigade (MFB) is the fire-fighting agency which operates within CitiPower’s service area.

CitiPower provides assistance and works with the relevant fire control agency in the investigation of fires near our electrical assets.

CitiPower’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.

7.14.1 Emergencies

Any requests for resources to assist fire agencies are coordinated by the Network Controller, from CitiPower’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.

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

Actions to be undertaken in the event of a major event or emergency are contained in:

Procedure JEQA4UJ443MT-185-28490 Incident Management Procedure

Manual 13-40-CP0001 - Crisis and Emergency System Management Manual

Manual 13-40-M0002 - Event Command Organisation Manual

CitiPower also has representation on the State Control Centre Electricity Industry roster for Emergency Management Liaison Officers (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.

7.14.2 Information Exchange

Any opportunity/requests for information exchange between fire agencies and CitiPower will be followed up.

Each year prior to the fire danger period, the CFA and ESV conduct an information 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 CitiPower), transmission operators and representatives from the ESV.

The MFB are covered by CitiPower’s Business Relationship Management program, which is a managed program of meetings with key (major) customers, organisations and stakeholders, to discuss programs, issues and any suggested improvements.

7.15 TOTAL FIRE BAN DAYS

The communication of TFB days is carried out by the Control and Operations Group after notification from the CFA.

Since there is no hazardous bushfire risk areas within the CitiPower service area, there are no auto reclose suppressions or fault energy reduction undertaken, defective POEL's are not disconnected and observers are not posted or patrols undertaken of items outside policy on a day of TFB.

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

7.16 DECLARED FIRE DANGER PERIOD

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

7.17 FIRE MANAGEMENT

In the event of a fire, CitiPower'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.
- Dispatching field crews for fault rectification or as directed/requested by the relevant fire control agency.
- Deployment of Emergency Management Liaison Officers if required to any Incident Control Centre established by the relevant fire control authority.
- Fire events are managed in accordance with the following:

Manual 13-40-M0002 - Event Command Organisation Manual

Procedure JEQA4UJ443MT-185-28490 Incident Management Procedure

8 PROGRAM TIMING

CitiPower have 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 A**.

The asset inspection program dates are determined by the maintenance plan, in accordance with the relevant asset policy and are generated from SAP (Refer Section 7.2).

Remedial maintenance and asset replacement/modification is completed accordance with the priority classification policy (refer Section 7.2.3).

9 FIRE INVESTIGATION

According to ESV reporting guidelines, any fire starts initiated by CitiPower Assets 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 in turn investigates each fire according to the information provided. As a subsequent the NAO enters fire details and submits the electrical incident into the 'NAO Incident Notification' portal of CitiPower's incident reporting system namely Cintellate. The Network Safety section will receive a Cintellate email notification and follow-up accordingly.

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

The following manual and policy cover the reporting requirements for fire starts:

Procedure JEQA4UJ443MT-185-28490 Incident Management Procedure

Procedure JEQA4UJ443MT-173-47 F-Factor Fire Start Incident Reporting

Procedure JEQA4UJ443MT-173-45 Update ESV & AER Reportable Incidents in Cintellate

The Incident Management Procedure describes the requirements for the reporting and investigation of incidents involving employees and contractors, plant, property, customers or customer installations and facilities belonging to others where CitiPower assets or works are involved.

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

Fires initiated from CitiPower assets are reported in accordance with the manual and to the requirements stipulated in ESVs "Electrical Infrastructure Safety – Electrical Incident and Safety Performance Reporting Guidelines" located on the ESV website:

<https://www.esv.vic.gov.au/pdfs/electrical-incident-and-safety-performance-reporting-guidelines/>

10 KEY MEASURES

10.1 BFM INDEX

The BFM Index is a level of preparedness measured against key elements of CitiPower's BFM program. It measures the performance of a range of inspection and maintenance activities against policy targets. The index is constructed from figures contained in CitiPower's consolidated BFM status report.

The BFM status report includes a breakdown of the individual elements that comprise the index, with their respective weightings ("multipliers"), together with the actual incidence of non-compliant items. Elements covered include asset, vegetation management, pole replacement and priority maintenance compliance with policy.

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

10.2 FIRE STARTS

Reporting on Ground Fires and Pole Fires is done as they occur and reported to ESV. This is carried out in accordance with:

Procedure JEQA4UJ443MT-173-47 F-Factor Fire Start Incident Reporting

Procedure JEQA4UJ443MT-185-28490 Incident Management Procedure

10.3 F-FACTOR SCHEME

The f-factor scheme is a Victorian Government initiative that provides financial incentives to Victorian electricity distribution businesses to lower the number of fire starts on their networks. If the number of fire starts rises, the networks are required to pay a penalty.

This scheme provides distributors with an incentive to enhance safety outcomes. Under the scheme, networks which reduce the number of fire starts relative to their long-term targets receive an incentive payment.

Conversely, if a network reports a higher number of fire starts relative to their targets, they face penalties or reduced revenues.

10.4 ASSET FAILURES

As part of continuous improvement towards the mitigation of bushfires, CitiPower 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 Strategic Asset Management Committee provides management and governance of the asset failure investigation process. The committee consists of representatives from Asset Policy and Performance, Bushfire Mitigation, Plant and Stations Maintenance, Compliance, Safety, Technical Standards as well as Senior Management including the General Manager Electricity Networks. The committee meets quarterly to:

- Ensure actions resulting from asset failure investigations address the identified issues, are appropriately prioritised and completed in a timely manner.
- Monitor the overall performance of the network assets and ensure that appropriate causal analysis and investigation is undertaken when unfavorable trends become evident.

The following procedure covers the reporting, analysis and investigation of failed assets:

Procedure JEQA4UJ443MT-150-379 - Asset Failure Investigation and Reporting

10.5 BFM MILESTONES

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

- Submission of the Vegetation Management Plan to ESV
- Conducting the annual BFM Post Season review
- Submission of the Bushfire Mitigation Plan to ESV
- Submit the annual compliance report to ESV
- Complete annual internal compliance audit of the Bushfire Mitigation Plan
- Completion of POEL mail out to CitiPower customers
- Conducting the annual summer Pre-Season Briefing to Senior Management
- Completion of Line Condition Observation program

11 REPORTING AND MONITORING

CitiPower has a reporting process 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.

The reporting process prior to the fire danger period and during the fire danger period is the same.

11.1 BFM STATUS

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

It is provided to senior management, the various people involved in BFM activities and ESV. The report is also loaded onto CitiPower's Intranet site for viewing by all 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 CitiPower 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.

CitiPower's Senior Bushfire Mitigation Advisor prepares the BFM Status Report from automated reports generated from SAP and OMS.

11.2 BFM INDEX

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

11.3 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 to ensure appropriate action has been taken (including POEL poles).

11.4 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, with the Outage Co-ordinator, 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.

The Maintenance Program group investigates any outstanding defects and actions in accordance with:

Work Instruction JEQA4UJ443MT-158-543 - Management of Maintenance Items outside Policy

11.5 VEGETATION CLEARANCE

CitiPower 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.

11.6 ESV

CitiPower's reporting schedule to ESV, on its BFM activities, is listed below.

- Annual Vegetation Management Plan (supplied by the 31st March in each year)
- Bushfire Mitigation Plan (supplied every 5 years, minimum)
- BFM Status Report (reported monthly or weekly during the Declared Fire Danger Period)
- Bushfire Performance Index (reported monthly or weekly during the Declared Fire Danger Period)
- Ground and Pole Fire starts (reported in accordance with ESV reporting guidelines)
- Fire Start Statistics (reported in accordance with ESV reporting guidelines)
- POELs for disconnection on TFB days (reported monthly or weekly during the Declared Fire Danger Period)
- Safety Program Report (Quarterly)
- Electricity Safety (Bushfire Mitigation) Amended Regulations 2016 (monthly)

- Electricity Safety Act (Bushfire Mitigation Civil Penalties Scheme) compliance report (by 1st August each year)

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

12 AUDITING

CitiPower has produced a policy document covering auditing and inspection programme requirements:

Policy JEQA4UJ443MT-175-29 - Audit and Inspection Programme Requirements

This policy provides information for the process of preparing audit and inspection programmes conducted by CitiPower.

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
- the classification of review activity as Audit or Inspection
- the training, competency and qualification requirements of the auditors and inspectors executing the programme
- the frequency of review activities
- the method of selecting or prioritising items and aspects to review

CitiPower 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 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 CitiPower'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.
- An independent audit to assess compliance to the Electricity Safety Act sections 120M, 120N, 120O and 120P (Bushfire Mitigation Civil Penalties Scheme).

Audit improvement recommendations are documented and followed up for completion.

Other audits undertaken include:

12.1 ASSET INSPECTION AUDITS

CitiPower's asset inspection contractor has a self-audit program that they will manage and maintain. The audit program requires 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.

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

CitiPower has its own independent audit program for monitoring the performance of asset inspectors also. CitiPower's Maintenance Services Officers are responsible for performing this function.

These audits are conducted in accordance with:

05-C001.A-090 - Asset Inspection Compliance Audit Procedure

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.

12.2 MAINTENANCE AUDITS

Maintenance project field audits are undertaken by the Electricity Network's Audit and Compliance 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.

12.3 VEGETATION AUDITS

CitiPower's Vegetation Quality & Engagement Team audits 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 areas:

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

12.4 LINE CONDITION OBSERVATIONS

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

CitiPower's Senior Bushfire Mitigation Advisor organises the line condition observation program and selects suitable managers and employees to participate in the program.

The program is undertaken in accordance with:

Work Instruction 16-30-W0004 - Line Condition Observation

13 REVIEWING

The CitiPower Bushfire Plan is reviewed each year and adjustments/improvements are made to better meet the objectives of the plan. There are various means by which feedback is obtained and improvements are identified including:

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

Reviewing/Updating of the Bushfire Mitigation Plan is undertaken in accordance with:

Procedure – JEQA4UJ443MT-161-523 - Bushfire Mitigation Plan Creation & Update

The value of the measures contained in the BFM Index is reviewed annually before the start of each fire danger period.

This review considers each of the components of the BFM Index to determine ongoing relevance of each the contributing elements which make up the index. This review is carried out in accordance with:

Work Instruction 16-30-W0001 - Bushfire Mitigation Index Review

14 APPENDICES

APPENDIX A - BFM PROGRAM MILESTONES

APPENDIX B - POEL INSPECTION NOTIFICATION LETTER

APPENDIX C - INSPECTING POWERLINES ON YOUR PROPERTY BROCHURE