BUSHFIRE MITIGATION STRATEGY PLAN 2014-2019

Electricity Safety (Bushfire Mitigation) Regulations 2013

1st JULY 2014 – 30th JUNE 2019

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Document Revision History			
Issue	**Revision Summary**	**Reviewer**	**Date**
1	Submitted to ESV	Bushfire Mitigation Manager	27/6/2014
2	Plan amended to include information relating to auditor training and qualification requirements (Section 12.1).	Bushfire Mitigation Manager	15/7/2014

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1 COMPLIANCE INFORMATION

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

Reg.	7 - Prescribed particulars for bushfire mitigation plans—major electricity companies.	Location in CitiPower Plan
7(1)(a)	the name, address and telephone number of the major electricity company;	Contacts & Approvals
7(1)(b)	the position, address and telephone number of the person who was responsible for the preparation of the plan;	Contacts & Approvals
7(1)(c)	the position, address and telephone number of the persons who are responsible for carrying out the plan;	Contacts & Approvals
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 & Approvals
7(1)(e)	the bushfire mitigation policy of the major electricity company to minimise the risk of fire ignition from its supply network;	Section 8 Section 8.1 to Section 8.8
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 5
7(1)(g)	a description, map or plan of the land to which the bushfire mitigation plan applies;	Section 6.1,
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 8.1 to Section 8.8
7(1)(i)	a plan for inspection that ensures that – (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; and (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 8.1
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 8.10

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 8.10 & 12.1
7(1)(l)	the operation and maintenance plans for the major electricity company's supply network— (i) in the event of a fire; and (ii) during a total fire ban day; and (iii) during a fire danger period;	 Section 8.16 Section 8.14 Section 8.15
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 11.3
7(1)(n)	details of the processes and procedures by which the major electricity company will— (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); and (v) monitor the effectiveness of inspections carried out under the plan; and (vi) audit the effectiveness of inspections carried out under the plan;	 Section 12 Section 12.1 Section 13 Section 13 Section 12.1 Section 12.1
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 8.13
7(1)(p)	details of processes and procedures for enhancing public awareness of— (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 8.7 and Section 8.12 Section 8.7
7(1)(q)	a description of the measures to be used to assess the performance of the major electricity company under the plan.	Section 11

2 KEY CHANGES FROM 2013/14 PLAN

Section	Change	Comment
8.5	New Section added to cover ESV Directions.	Information regarding the ESV Directions is shown in this section.

3 DEFINITIONS

- ***Total Fire Ban Day*** means 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.***

4 INTRODUCTION

4.1 LEGISLATION

Section 113A(1) of the Electricity Safety Act 1998 (incorporating amendments as at 1 January 2012) 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.

This plan can be found on Powercor's Intranet site by following this path:

Home > Our Organisation > CitiPower and Powercor > Electricity Networks > Network Compliance > BushFire Mitigation > BFM Strategy

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

a) on the company's Internet site; and

b) at the company's principal office in the State during ordinary business hours.

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

4.2 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 shown 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%

5 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

6 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 strategy 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/crossarm 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)

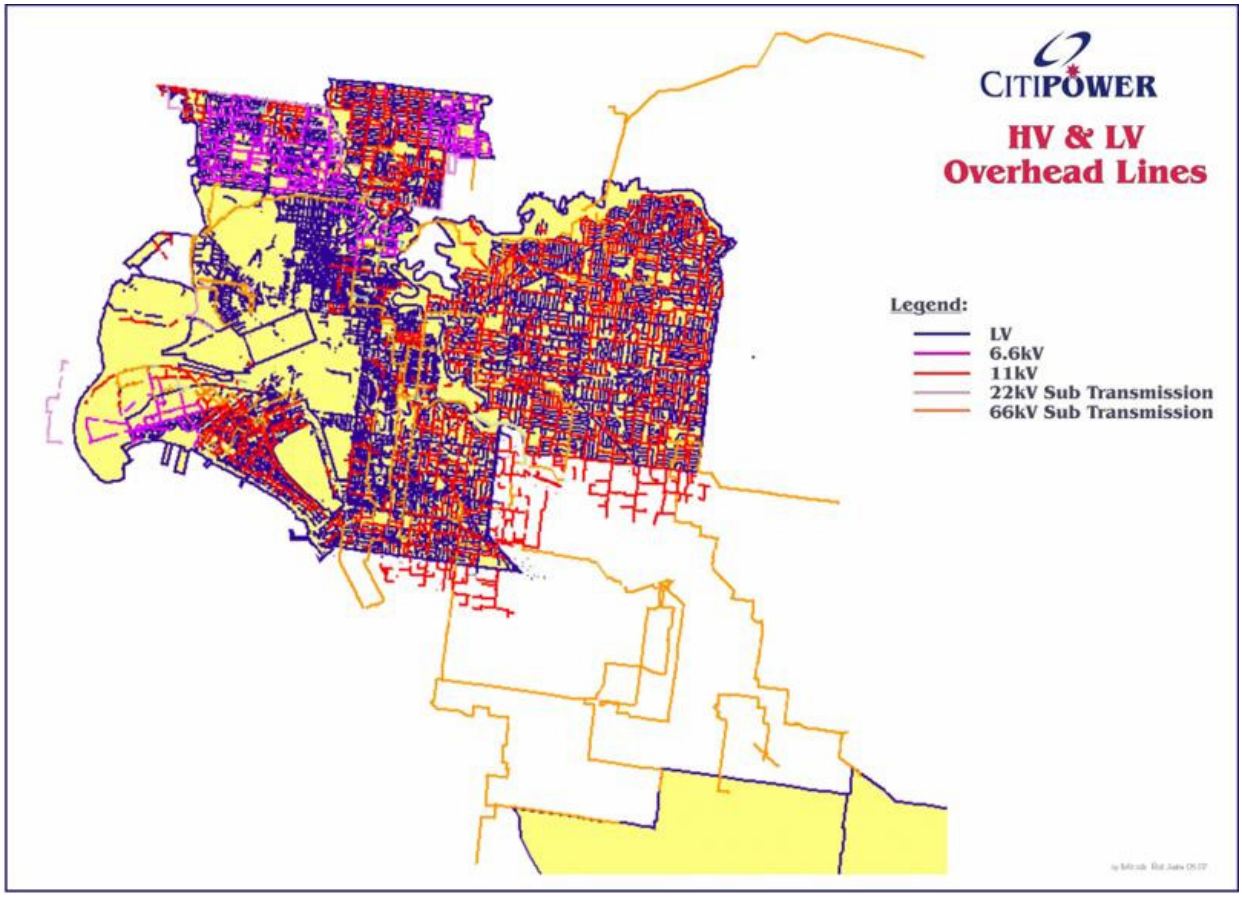
This strategy plan makes reference to other plans, manuals, standards, policies, procedures and work instructions which, when combined with this plan, cover all of the activities that contribute to the reduction of bushfire risk.

Other key documents include:

- The Vegetation Management Plan (VMP) - refer **Appendix A**
- 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

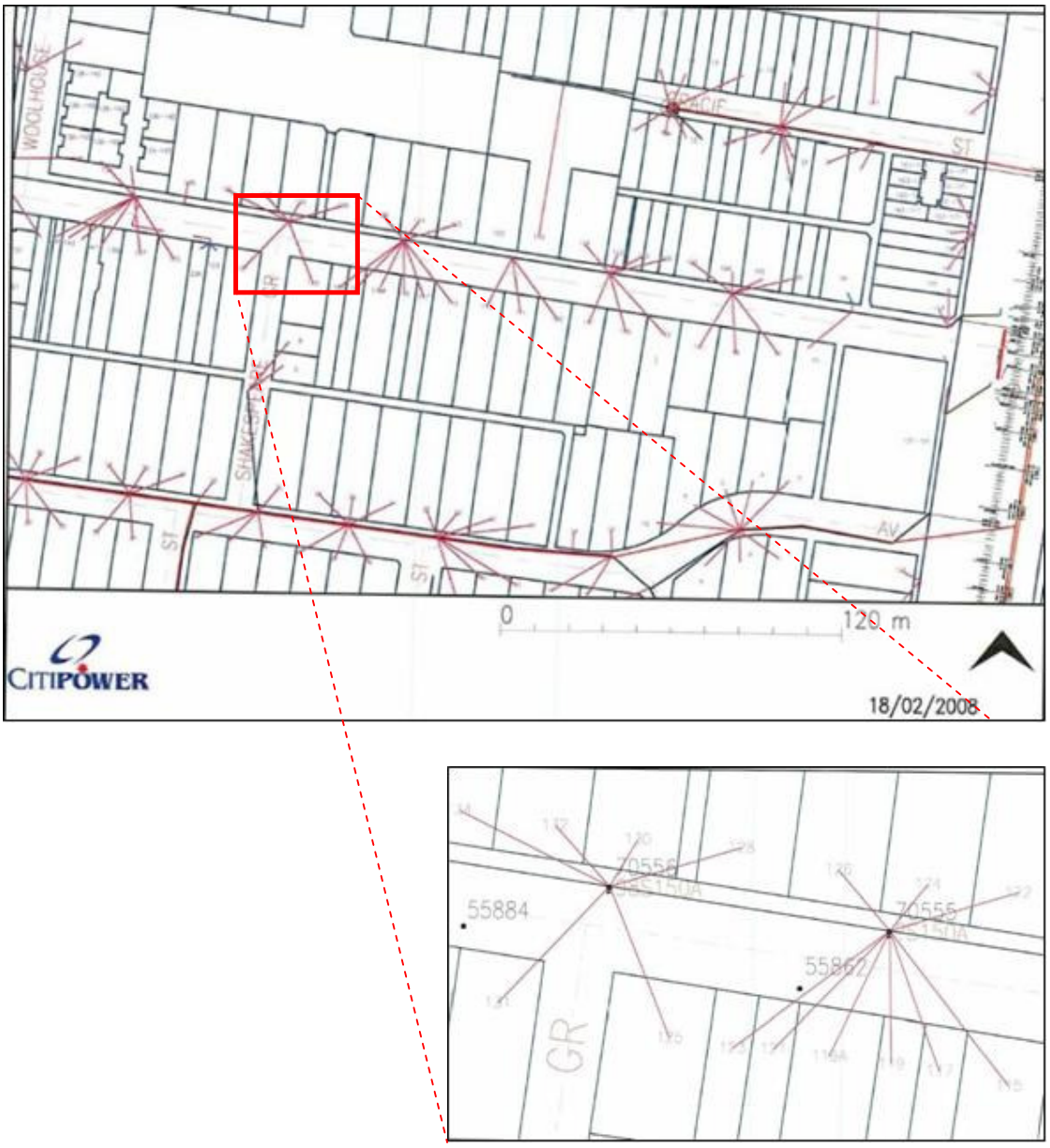
- The various Manuals, Procedures, Guidelines and Work Instructions covering BFM related activities
- Technical Bulletins

6.1 ELECTRICAL NETWORK MAP



To maintain clarity the LV Overhead network has not been shown. Full network details are available from CitiPower's Graphical Information System (GIS).

GIS Sample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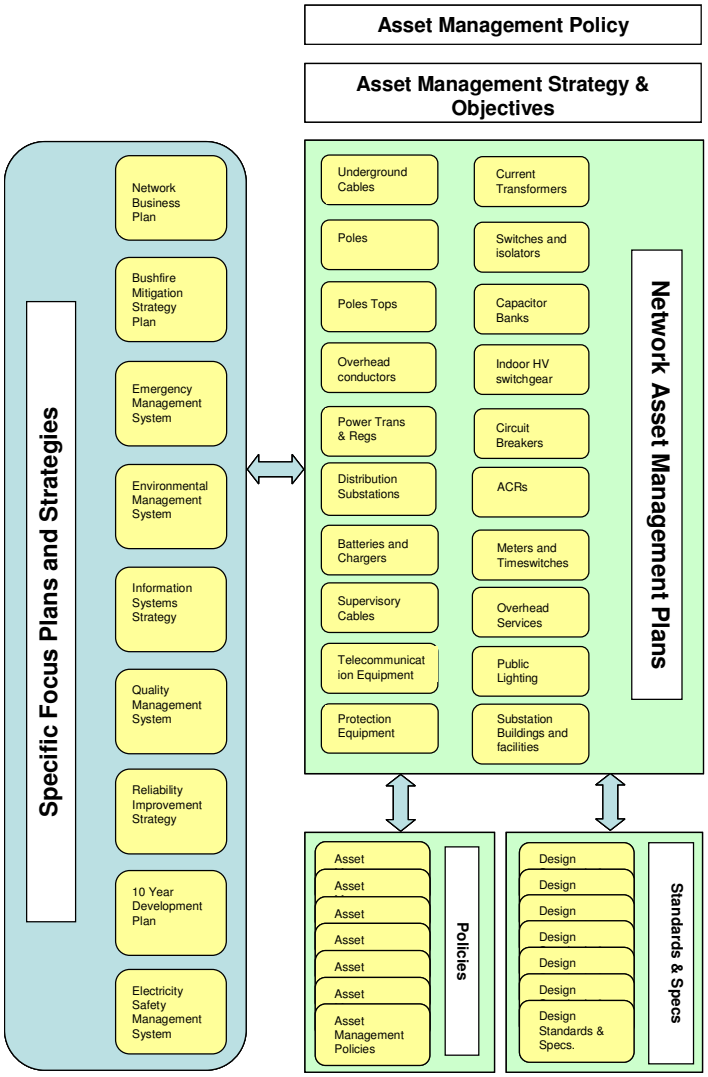
7 MANAGEMENT STRUCTURE

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.

8 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. The diagram below shows how all these documents relate.



CitiPower has implemented a broad range of policy areas to mitigate the risk of a bushfire starting from its assets. These 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 and strategies related to BFM activities are described below.

8.1 MONITORING ASSET CONDITION

Preventative maintenance strategies have been created for all of CitiPower's zone substations, sub-transmission and distribution assets. Where applicable 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 CitiPower's 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 and Asset Management Plan Review and Development.

CitiPower's inspection of poles is undertaken in accordance with:

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

Inspection Cycle:

All serviceable poles shall be inspected within 1 month of their 5 year cyclic inspection date.

All Limited Life poles shall be inspected within 1 month of their 2.5 year cyclic inspection date.

All assets on or associated with a pole (including the electrical assets between poles) are inspected at every inspection interval.

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

Manual **18 – 20 – M0001** - 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.

The Maintenance Planner controls the program of power line inspection in accordance with CitiPower's policies using maintenance plans established within SAP. Each maintenance plan covers all of the poles within a specific electrically isolatable section of the network.

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 Maintenance Planners and released to Electrix. FMC is an interface application, linked to SAP and GIS, that prepares data for dispatch to Electrix. Individual work orders are created by Electrix 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 Maintenance Planner 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.

8.1.1 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.

8.2 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 – 28 days	24 hours
Fault Follow Up 14 Days	FFU14	> 14 days	14 days
Fault Follow Up 28 Days	FFU28	> 28 days	28 days
Priority 28	P28	28 days - 6 months	28 days
Priority 2	P2	6 months – 3 years	26 weeks (6 months)
Priority 3	P3	3 - 5 years	3 years
Priority 4	P4	N/A	3 years, or as defined in the applicable maintenance policy

8.3 REMEDIAL MAINTENANCE

CitiPower's maintenance programs are generated from a number of different sources, the main one being the asset inspection program (refer Section 8.1).

Maintenance can also be identified from the following:

- Reports from employees or contractors
- Customer calls
- Line Condition Observations
- Senior Management Audits
- BFM Vegetation Audits
- The Eyes & Ears Application
- The Outages Application

Refer Section 12.1 for more information on audits.

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.

Faults/Fault Follow-up

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

Procedure **07- 20 - P00013** - Manage Network Faults

Temporary repairs to defects identified through the Network Faults/Outages process may be flagged for follow up. These defects are managed in accordance with:

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

Audits/Observations

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

Non Cyclic Maintenance

Maintenance found by non-program means is reported on the following form:

Form **18 - 20 - F0002** - Miscellaneous Maintenance Report

These reports are reviewed in accordance with the Manage Miscellaneous Maintenance Request procedure.

8.4 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 - 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 - 330** - Insulators, Associated Hardware & Bird Covers
Policy No. 05 - **C001.D - 131** - Possum Guards
Policy No. 05 - **C001.D - 251** - Bare Conductor Policy

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

8.5 ESV DIRECTIONS

The ESV directions relating to Spreaders, Vibration Dampers and Armour Rods are to be actioned in accordance with the:

*CitiPower Overhead Conductors Asset Management Plan – **(01- 00 – M0020)***

8.6 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:

CitiPower's Vegetation Management Plan (refer **Appendix A**)

CitiPower's Vegetation Management Plan has been submitted to ESV for endorsement as prescribed by the Electricity Safety (Electric Line Clearance) Regulations 2010. The plan outlines management processes, programs and cycles for maintaining clearances between vegetation and network assets.

8.7 POELs

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 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.

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 **18 – 20 - M0001** - Powercor Asset Inspection Manual

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

All Private Overhead Electric Lines (POELs) shall be inspected within the Regulatory 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 D**). Notice is given not less than 21 days and not more than 45 days before inspection.

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.

POEL repairs and disconnections are managed in accordance with the following:

Work Instruction **18 - 55 - W0002** - Private Overhead Electric Line (POEL) Overdue Repairs
Procedure **18 - 55 - P0001** - Identification and rectification of defective POELs (LV)

8.8 NEW TECHNOLOGIES/INITIATIVES

CitiPower/Powercor 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
- Aerial Asset Inspection
- Google Earth FDI Overlay
- Fusesavers

CitiPower/Powercor has also conducted a Conductor Tie Performance Study to gain a better understanding of Conductor Tie deterioration. From this study there were some recommendations which have been implemented and others which are in various stages of implementation

8.9 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.

8.10 TRAINING

CitiPower has developed a Guideline which outlines the qualification, training and licensing requirements for persons undertaking activities on, or requiring access to the CitiPower Electricity Distribution Networks which is Technical Training (18-80-G0003).

Records of employee training and employee and contractor authorisations are kept in the company's database. In addition, the Australian ESI Skills Passport is used by an individual as a mechanism to record training, authorities, competencies and induction. The Australian ESI Skills passport encourages nationally consistent practices, common training standards, and individual ownership of refresher training currency. Hence, evidence of currency of refresher training and network authorisations become easily accessible, and promotes portability of resources across jurisdictions, as well as assisting with mutual aid requests.

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

Asset Inspection

Asset Inspectors working on the CitiPower network are required to hold a Certificate II in Asset Inspection (Course Code: 22109VIC).
The RTO providing training for the Certificate II needs to be approved by ESV. Current qualifications have been obtained through Federation Training which is an ESV approved trainer (ESV reference: G61045, 19 October 2011).

Note: Course 22109VIC expires on 30 June 2015 and it is assumed that ESV will approve the national qualification UET201612 – Certificate II in ESI – Asset Inspection which future Asset Inspectors will be trained to.

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**

Vegetation Management

All training requirements for vegetation management are covered in the Vegetation Management Plan in **Appendix B**.

Linework

The VESI Skills and Training Matrix stipulate the qualifications and refresher training for a Lineworker. 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.

Lineworker 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, in linework, is conducted by a RTO and this training is supported "on the job" by designated mentors and tradespersons.

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. This information is provided bi-annually and consists of a live show and tell demonstration. Participants have the opportunity to ask questions, receive clarification and provide feedback to relevant CitiPower personnel.

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 CitiPower assets can register with CitiPower to gain "read only" access to CitiPower's technical standards.

8.11 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)
- Department of Sustainability & Environment (DSE)
- Department of State Development, Business and Innovation (DSDBI)
- Victoria Police
- Municipalities
- Mutual Aid Plan Planning Committee (MAPPC)
- Bureau of Meteorology
- Other Distribution/Transmission Network Operators

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

Manual **14 - 40 - M0001** – Incident Reporting & Investigation Manual
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:

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

Communication processes are managed in accordance with:

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

CitiPower is also a participant in the Integrated Fire Management Planning (IFMP) project. This project will provide a more consistent and systematic State approach to planning for fires.

Planning will cover all types of fires including wildfires, chemical fires and structural fires. With all the agencies and municipalities working together, this project will improve the way fire events are managed in Victoria. The State Fire Management Planning Committee was established, in 2007, to provide a multi-agency strategic planning forum. This charter of this committee is to establish a consistent, sustainable and integrated approach to fire management planning across all of Victoria.

Eight Strategic Regional Fire Management Planning Committees will bring together the representatives of the fire agencies, organizations with responsibility for fire management, local government and others, to plan strategically across each region. Municipal Fire Management Planning Committees will bring together representatives of local government, fire agencies, organizations with responsibilities for fire management and the community to plan in their municipality.

8.12 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
- inspection timeframes

As part of its Vegetation Management and POEL inspection programs CitiPower makes the following information brochures available to its customers, free of charge:

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

CitiPower’s Regional Business Manager (RBM) is involved in communication programs with customers, asset owners and municipalities.

A periodical information update, from the RBM, is often printed in local newspapers. The media often provides free space, time and coverage for such messages and advertisements through community service programs. The RBM provides a range of information to the public including information regarding the following BFM related activities:

- Asset Inspection
- Maintenance programs
- Vegetation Management

This communication program is conducted in various forms and may include media releases, newspaper articles & advertisements, radio advertisements & interviews, TV interviews and face to face meetings with various stakeholders.

For details of communication with POEL owners refer Section 8.7.

8.13 ASSISTANCE PROVIDED TO FIRE AGENCIES

The Metropolitan Fire Brigade (MFB) is the fire fighting service 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.

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:

Manual **14 - 40 - M0001** – Incident Reporting & Investigation Manual
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.

Information Exchange

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

CitiPower is also a participant in the Integrated Fire Management Planning (IFMP) project. This project will provide a more consistent and systematic State approach to planning for fires.

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

CitiPower holds a BFM Post Season review, at the end of the fire danger period, to review our performance under this plan. The attendees may include fire agency representatives.

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.

8.14 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 are no hazardous bushfire risk areas in CitiPower's 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.

8.15 DECLARED FIRE DANGER PERIOD

During the Declared Fire Danger Period CitiPower will continue with normal operation of it's 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.
There is however some one activity that is specific to the Declared Fire Danger period. This is:

1. 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, MFB or other emergency services.
   Activities that may be undertaken include:
   - Additional observation programs covering both asset condition monitoring and vegetation management.

8.16 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.
- Managing the fire event in accordance with Powercor's Event Command Organisation Manual **(13 - 40 - M0002)** and Incident Reporting & Investigation Manual **(14 - 40 - M0001).**

9 PROGRAM TIMING

CitiPower and Powercor 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 B**.

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 8.1).

Remedial maintenance and asset replacement/modification is completed accordance with the priority classification policy (refer Section 8.2).

10 FIRE INVESTIGATION

As part of continuous improvement towards the mitigation of bushfires, CitiPower/Powercor investigates incidents of fire ignition caused by electricity assets and the risks associated with the various elements of the network. Detailed analysis of asset failure trends are also carried out in order to develop policy improvements and enhanced preventative actions.

Any fire starts initiated by CitiPower 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 Manager Risk Management 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.

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

Manual **14 - 40 - M0001** – Incident Reporting & Investigation Manual

Policy **18 - 80 - CP0007** – ESMS Reporting to Energy Safe Victoria (ESV) and Fire Start Reporting to AER

11 KEY MEASURES

11.1 BFM INDEX

As there is no current Industry Standard for the BFM Index calculation, CitiPower has developed an in house BFM Index for it's Bushfire Mitigation activities. This BFM Index is an index 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 inspection 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.

11.2 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:

Policy **18 - 80 - CP0007** – ESMS Reporting to Energy Safe Victoria (ESV) and Fire Start Reporting to AER

Manual **14 - 40 - M0001** – Incident Reporting & Investigation Manual

11.3 ASSET FAILURES

As part of continuous improvement towards the mitigation of bushfires, CitiPower investigates incidents of fire ignition which are attributed to its electricity assets. Analysis of asset failure trends are also carried out in order to develop improvements to maintenance policies, technical standards and enhanced preventative actions.

Investigation of failed assets is performed and carried out by the Asset Investigations & Reliability section.

An Asset Failure Review Committee has been charged with reviewing asset failures and consists of representatives from Asset Investigations & Reliability, Lines Maintenance, Bushfire Mitigation, Plant and Stations Maintenance, Compliance and Safety, Technical Standards, Asset Inspection Contractor (Electrix), Works Practices and field resources from across the business. The committee meets quarterly to review asset failure investigations and to look for opportunities to improve the management of the asset of interest to mitigate future failures. The location of these meetings is rotated across our field resource sites to facilitate input from local representatives into the process.

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

Procedure **18 - 06 - P0001** - Asset Failure Investigation and Reporting

Investigation results and recommendations form the basis for review of relevant technical standards, works practices, maintenance policies and the initiation of any special asset inspection/replacement/modification programs, as required. Policy reviews are managed by the Lines section for the distribution lines network or the Plant and Stations section for primary electrical plant

11.4 BFM MILESTONES

CitiPower and Powercor have produced a set of combined BFM program milestones which specify the completion dates required for key Electricity Networks BFM KPIs. The BFM KPIs that relate to CitiPower/Powercor are:

- Submission of the Vegetation Management Plan to ESV
- Conducting the annual BFM Post Season review
- Submission of the Bushfire Mitigation Strategy Plan to ESV
- Update any CFA Fire Hazard Mapping Project changes to HBRA areas received before 30th June each year into GIS/SAP.
- Conducting the annual Summer Pre-Season Briefing to Senior Management.
- Completion of Mail out to Powercor customers and Registered Electrical Contractors.
- Completion of Senior Management BFM Program Reviews.
- Completion of Line Condition Observation program.
- Completion of Vegetation Audit program.

The achievement of these milestones is an Electricity Networks Key Performance Indicator (KPI). A copy of the Electricity Networks BFM KPIs is attached in **Appendix B**.

12 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.

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 key BFM activities against policy or program targets. Reported activities include asset inspection (including POELs) and priority maintenance.

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

The BFM Status report is compiled and reported on a monthly basis. The frequency of this reporting enables close monitoring by 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 summer period.

CitiPower's Senior Bushfire Mitigation Advisor prepares the BFM Status Report from automated reports generated from SAP and OMS as well as from reports received from various responsible officers.

BFM Index

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

Asset Inspection

The Asset Inspection program is monitored by the Maintenance Planner.

An automated daily exception report is generated from SAP and distributed by e-mail to relevant employees who monitor the asset inspection program. The Maintenance Planner investigates any overdue poles 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 Maintenance Planner 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 Senior Maintenance Planner investigates any outstanding defects and follows up with the Program Manager Asset Maintenance to action them in accordance with:

Work Instruction **18 – 10 - W0006** - Management of Maintenance Items Outside Policy

Vegetation Clearance

CitiPower's vegetation management contractor produces a monthly report which is presented at the monthly operational meetings with CitiPower. This report provides program status updates on all vegetation management programs.

ESV

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

- Annual Vegetation Management Plan (supplied by the 31st March)
- BFM Strategy Plan (supplied every 5 years)
- Monthly BFM Status and BFM Index reports
- Ground and Pole Fire starts (reported as they occur)
- Fire Start Statistics (reported to ESV as per the ESV reporting requirements)

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

12.1 AUDITING

CitiPower has produced a Guideline: **12-15-G0026** - Define Audit and Inspection Requirements MATRIX, to provide support information for the process of preparing audit and inspection programmes conducted by the CitiPower / Powercor organisation.
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/qualification requirements of the auditors/inspectors executing the programme
- the frequency of review activities
- the method of selecting or prioritising the items/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 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 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.

- Internal audits of the BFM management procedures and processes which are carried out by CitiPower's corporate Quality Team.

Audit improvement recommendations are documented and followed up for completion.

Other audits undertaken include:

Asset Inspection Audits

Our 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/undertaken in their monthly asset inspection report.

CitiPower also has its own independent audit program for monitoring the performance of asset inspectors. CitiPower's Asset Maintenance Compliance Officer is responsible for performing this function.

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 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.

CitiPower/Powercor's Asset Inspection Auditor also audits a sample of maintenance files and Priority Maintenance repairs.

Vegetation Audits

CitiPower's Vegetation Contract Management Officers 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 areas:

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

A program of audits will also be undertaken by the Bushfire Mitigation Group in the lead up or during the early part of the summer period.

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 fire danger period.

CitiPower's Bushfire Mitigation Officer organises the line condition observation program and selects employees to participate in the program.

The program is undertaken in accordance with:

Work Instruction **16 - 30 - W0004**- Line Condition Observation

Senior Management BFM Program Reviews

The objective of the pre-summer Senior Management BFM Program Reviews is to review overall management of the BFM program and performance against targets. During the November/ December period each year, a series of reviews are conducted across four key areas of the BFM program:

- Asset inspection
- Asset maintenance
- Vegetation management
- Network Operations Control Room

The Senior Managers involved in these audits include:

- CEO
- General Manager Electricity Networks
- General Manager Network Services

- Manager Network Compliance

Each review usually involves two or more responsible officers, for each activity and involves a desktop review followed by a field audit component for the asset inspection, asset maintenance and vegetation management functions.

13 REVIEWING

The BFM Strategy 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:

- The Post Fire Season Review, which is held at the end of the fire danger period to review our performance under the plan. Attendees include CitiPower/Powercor's senior managers, insurance underwriters, corporate risk, 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 in the BFM Strategy Plan 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 plan activities and to plan contingencies, if the need arises, to meet the requirements of the plan.
- Internal and external audit findings.

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