

Bushfire Mitigation Plan 2009-2010

Distribution Network

Bushfire Mitigation Plan 2009-2010 Distribution Network

Issue/Amendment Status

Issue Number	Date	Description	Author	Approved by
1	25/5/2006	Document updated to reflect 2006-07 season requirements.	R Negrelli	P Adams
2	14/11/2006	Document updated to reflect comments received from ESV	R Negrelli	P Adams
3	1/6/2007	Document updated to reflect 2007-08 season requirements	R Negrelli	P Adams
4	23/7/2007	Appendix 2. Excerpt from Section 9 of referenced Document 30-4111 (drawing EVX9/7020/232/A) added.	R Negrelli	P Adams
5	5/6/2008	Document updated to reflect 2008-09 season requirements	R Negrelli	P Adams
6	30/6/2009	Document updated to reflect 2009-10 season requirements	R Negrelli	C Pople

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1 Objective

The objectives of the Bushfire Mitigation Plan are:

- to be the primary tool for the implementation of SP AusNet's bushfire mitigation programs
- to compile in one place all the essential information for the implementation of SP AusNet's bushfire mitigation programs in a format that can be readily understood by personnel at all levels
- to be an information resource on bushfire mitigation issues, relevant legislation and policies for the control of associated operational activities
- to provide a basis for assigning responsibilities for bushfire mitigation to SP AusNet's personnel and service providers
- to provide a consistent approach to bushfire mitigation management which will ensure that changes to personnel and organisation structure do not detract from the standard of bushfire mitigation performance
- to minimise and control incidents with the potential to start a bushfire; and
- to help demonstrate due diligence on the part of SP AusNet in preventing incidents which may cause the ignition of fire and threaten public safety.

We aim to adopt the following long-term strategies to minimise the risk of electric lines starting fires or causing electrocution.

- Use skilled people and modern technology to continue to develop and improve methods of environmental management and ongoing development of fire safe distribution assets.
- Work with municipalities, landowners and other affected persons to ensure the planting of appropriate trees near powerlines and relocation of powerlines where appropriate.
- Investigation and implementation of new technologies that reduce the risk. eg. Line insulation techniques, undergrounding and line protection devices.

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2 Policy

SP AusNet policy is to implement a bushfire mitigation management strategy that complies with legislative requirements and creates a harmonious balance for community safety, preservation of the environment and cost effectiveness.

We aim to:

- Minimise the risk of fire ignitions by SP AusNet's distribution network assets that could become a wildfire and threaten public safety and property.
- Meet the requirements of the Act, Regulations and Code
- Regularly review and develop management programs, processes, practices, methods and implement efficiencies for the benefit of customers and other stakeholders.
- Minimise the frequency and length of disruptions to the general public.
- Be committed to the safety of the community, as a whole, and employees engaged in the provision of the services.
- Preserve and enhance the environment.
- Raise awareness of all aspects of bushfire mitigation through increased communication

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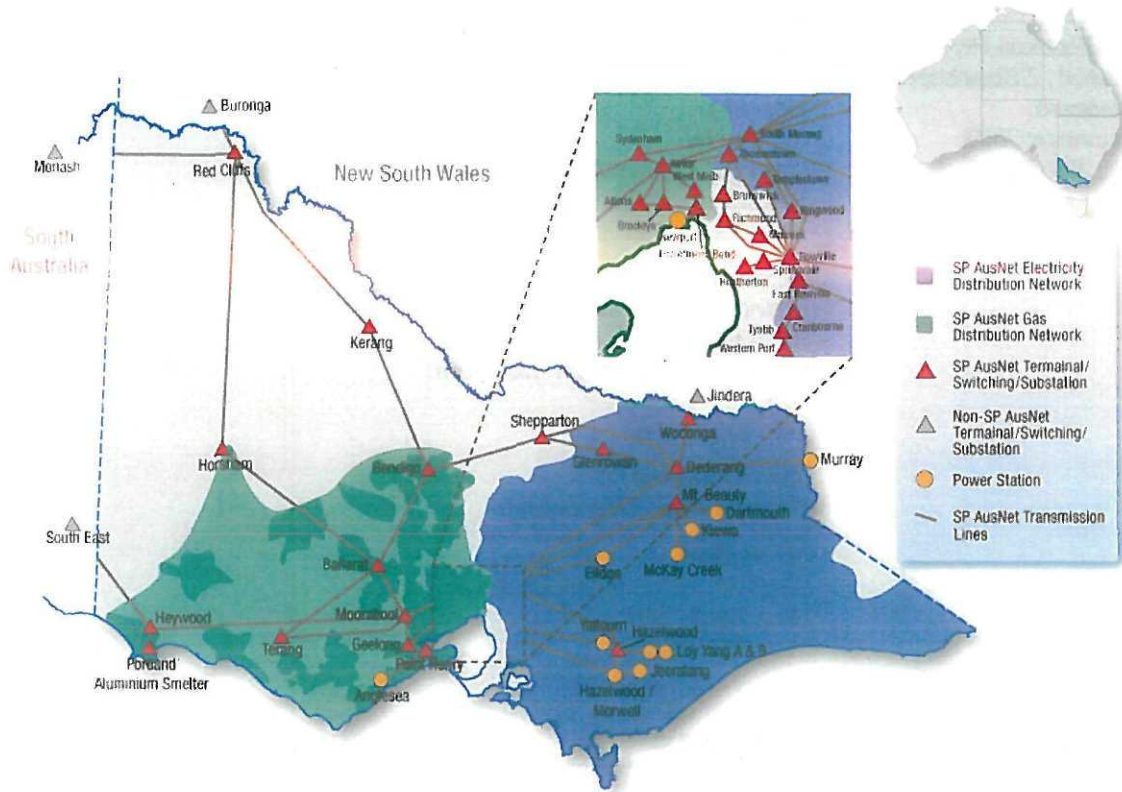
3 References

SP AusNet Vegetation Management Plan 2009/2010
30-4111 SP AusNet Line Inspection Manual

4 Definitions

Act	Electricity Safety Act 1998
Regulations	Electricity Safety (Bushfire Mitigation) Regulations 2003 Electricity Safety (Electric Line Clearance) Regulations 2005
Code	Code of Practice for Electric Line Clearance (Vegetation) 2005 prescribed for the purpose of Part 8 of the Electricity Safety Act and is the Schedule contained in the Electricity Safety (Electric Line Clearance) Regulations 2005
AM/FM	SP AusNet distribution asset management schematic system plan.

5 Geographic Area of Responsibility



Distribution Network area within Eastern Victoria as detailed within our AM/FM System.

A typical download from AM/FM is attached at Appendix 1. This shows details of Electricity Assets and the HBRA and LBRA areas

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6 Contacts

Electricity Supplier	Functional Contacts (preparation and delivery of the plan)	Emergency Contact
SPI Electricity Pty Ltd Level 31, 2 Southbank Boulevard Southbank 3006 Tel: 9695 6000	<p>Charles Pople General Manager, Network Strategy & Planning SP AusNet Level 31, 2 Southbank Boulevard Southbank 3006 Tel: 9695 6000</p> <p>Renzo Negrelli Environmental Manager ** SP AusNet Level 31, 2 Southbank Boulevard Southbank 3006 Tel: 9695 6465</p> <p>John Theunissen Director Asset Engineering SP AusNet Level 31, 2 Southbank Boulevard Southbank 3006 Tel: 9695 6734</p> <p>** Principal contact</p>	Network Operations Centre 131 799 (24 hours)

7 Public Information & Material Available

Material	Availability
<i>Your Guide to Planting Near Powerlines</i>	Freshwater Place Southbank (8.30 am to 5.00 pm Monday to Friday). Call Centre 1300 360 795 http://www.sp-ausnet.com.au/
Brochure <i>Private Electric Lines Your Responsibilities</i>	Freshwater Place Southbank (8.30 am to 5.00 pm Monday to Friday). Call Centre 1300 360 795
<i>BFM Advertising Material</i>	Regional TV, Radio, Newspaper & Billboards http://www.sp-ausnet.com.au/

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8 Structure of Plan

The essential elements of the SP AusNet's Bushfire Mitigation Plan are detailed in the following documents:

- the Bushfire Mitigation Manual Doc. BFM 21-79
- the Bushfire Mitigation Strategy Plan 2009/10 and
- specific Bushfire Mitigation Procedures (Refer Attachments)

Detailed requirements are also included in the Vegetation Management Plan 2009/2010 and the Line Inspection Manual

The table in Section 7.1 references location of the prescribed particulars of Regulation 5 of the Electricity Safety (Bushfire Mitigation) Regulations 2003

The table in Section 7.2 references locations within the SP AusNet Plans of prescribed particulars detailed the ESV Bushfire Mitigation Plan Evaluation Form (BMP4)

8.1 Prescribed Particulars of Regulation 5

Regulation	Requirements	SP AusNet References Document
5(a)	the name, address and telephone number of the electricity supplier	Section 6 - This Document
5(b)	the name, position, address and telephone number of the person who was responsible for the preparation of the plan	Section 6 - This Document
5(c)	the name, position, address and telephone number of the persons who are responsible for carrying out the plan	Section 6 - This Document BFM Strategy Plan 2009/2010 - Roles & Responsibilities - Appendix B Org. Structure
5(d)	the telephone number of a person who can be contacted in an emergency that requires action by the electricity supplier to mitigate the danger of bushfire	Section 6 - This Document
5(e)	the bushfire mitigation policy of the electricity supplier to minimise the risk of fire ignition from its electrical assets	Section 6 - This Document 2
5(f)	the objectives of the plan to achieve the mitigation of bushfire danger	Section 1 - This Document
5(g)	a description, map or plan of the land to which the bushfire mitigation plan applies, identifying all hazardous bushfire risk areas and the location of all the electricity supplier's electrical assets in those areas	Section 5 – This Document Appendix 1 – This Document

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Regulation	Requirements	SP AusNet References Document
5(h)	the preventative strategies to be adopted by the electricity supplier to minimise the risk of the electricity supplier's electrical assets starting fires	Doc. BFM 21-79 Bushfire Mitigation Manual - Section 6 Doc. BFM 21-79 Bushfire Mitigation Manual - Section 7 Doc. BFM 21-79 Bushfire Mitigation Manual - Section 9.5 BFM Strategy Plan 2009/2010 – Objectives and Strategies
5(i)	a list of all works required for the strategies referred to in paragraph (h) to be undertaken and the date by which the works are to be completed in readiness for the following summer season	Doc. BFM 21-79 Bushfire Mitigation Manual - Section 8 Doc. BFM 21-79 Bushfire Mitigation Manual - Section 9.5 BFM Strategy Plan 2009/2010 – Objectives and Strategies Procedure BFM 21-62 Bushfire Mitigation Calendar of Important Events
5(j)	the operation and maintenance plans for the electricity supplier's electrical assets in the event of a fire or during (i) any day that has been declared to be a day of total fire ban under the Country Fire Authority Act 1958; and (ii) a fire danger period;	Procedure BFM 21-78 Guidelines for Communication of Electrical Hazards to Emergency Response authorities Procedure BFM 21-70 Reporting Procedures Procedure BFM 21-71 Investigation of Significant Fires Procedure BFM 21-83 Operations Procedures when a Fire Occurs Doc. BFM 21-79 Bushfire Mitigation Manual - Section 7.4 Procedure BFM 21-80 Permits Required for Days of Total Fire Ban Procedure BFM 21-77 CFA Restrictions for the Declared Fire Danger Period Procedure BFM 21-82 Maintenance and Construction Activities on Total Fire Ban Days BFM Strategy Plan 2009/2010 – Total Fire Ban Day Note that during the fire danger period the electricity system operates as per normal.
5(k)	the investigations, analysis and methodology to be adopted by the electricity supplier for the prevention of fire ignition from its electrical assets	Doc. BFM 21-79 Bushfire Mitigation Manual - Section 4 Procedure BFM 21-70 Reporting Procedures Procedure BFM 21-71 Investigation of Significant Fire
5(l)	details of processes and procedures for enhancing public awareness of - (i) the responsibilities of the owners of private overhead electric lines in relation to mitigation of bushfire danger; and (ii) the obligation of the electricity supplier to inspect private overhead electric lines within its distribution area;	Doc. BFM 21-79 Bushfire Mitigation Manual - Section 7.5 Doc. BFM 21-79 Bushfire Mitigation Manual - Section 7.4.5 Procedure BFM 21-75 Procedures for Defective Private Electric Lines Procedure BFM 21-76 Guideline for Requiring the Undergrounding of Private Electric Lines BFM Strategy Plan 2009/2010 – Private Electric Lines Section 7 – This Document
5(m)	a description of the measures to be used to assess the performance of the electricity supplier under the plan;	Doc. BFM 21-79 Bushfire Mitigation Manual - Section 8 Doc. BFM 21-79 Bushfire Mitigation Manual - Section 9 Procedure BFM 21-81 Notice of Completion of Bushfire Mitigation Obligations Procedure BFM 21-62 Bushfire Mitigation Calendar of Important Events Procedure BFM 21-84 Auditing of Vegetation Management Companies Procedure BFM 21-85 Auditing of Network for Fire Safety BFM Strategy Plan 2009/2010 – Accountabilities

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Regulation	Requirements	SP AusNet References Document
5(n)	the policy of the electricity supplier in relation to the assistance to be provided to fire control authorities in the investigation of fires near the supplier's electrical assets.	Procedure BFM 21-79 Bushfire Mitigation Manual - Section 10.5 Procedure BFM 21-78 Guidelines for Fire Fighting Authorities Electrical Hazards
9&10	The Form of the notice and the Prescribed Period of the notice to the occupier of the land for inspection of POELs.	Appendix 2. Excerpt from Section 9 of referenced Document 30-4111 (Drawing EVX9/7020/232/A).

8.2 Location of Prescribed Particulars

r5	Prescribed particulars for bushfire mitigation plans [BM Regulations, r5]	SP AusNet Reference Document	Section
(a)	Name, address and telephone number of the electricity supplier.	BFM Plan 2009/2010	4
(b)	Name, position, address and telephone number of the person who was responsible for the preparation of the plan.	BFM Plan 2009/2010	4
(c)	Name, position, address and telephone number of the persons who are responsible for carrying out the plan.	BFM Plan 2009/2010	4
(d)	The telephone number of a person who can be contacted in an emergency that requires action by the electricity supplier to mitigate the danger of bushfire		
d1	Control Room Number indicated or 24x7 availability number	BFM Plan 2009/2010	4
(e)	The bushfire mitigation policy of the electricity supplier to minimise the risk of fire ignition from its electrical assets	BFM Plan 2009/2010	2
e1	Inspection cycle for electricity supplier assets	Doc. BFM 21-79 Bushfire Mitigation Manual	8.4.3
e2	Inspection cycle for POELs	Doc. BFM 21-79 Bushfire Mitigation Manual	8.4.3
e3	Vegetation management clearing cycle	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3.2
e4	Training of personnel (including contractors)	BFM Strategy Plan 2009/2010 Vegetation Management Plan 2009/2010	Line Inspection – Training Section 6 & Appendix 2
e5	Required response time to an ignition or potential ignition	Procedure 30-2402 Unplanned Shutdowns and Faults Procedure Procedure BFM 21-83 Operations Procedures when a Fire Occurs	
e6	POEL - disconnection on total fire ban days	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3.5
e7	Monitoring and review plan	Doc. BFM 21-79 Bushfire Mitigation Manual	6.1

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r5	Prescribed particulars for bushfire mitigation plans [BM Regulations, r5]	SP AusNet Reference Document	Section
e8	Audit & Review of processes, reporting of progress	Doc. BFM 21-79 Bushfire Mitigation Manual Procedure BFM 21-84 Auditing of Vegetation Management Companies Procedure BFM 21-85 Auditing of Network for Fire Safety	9.5
e9	Monitoring of Bushfire mitigation index	Doc. BFM 21-79 Bushfire Mitigation Manual Procedure. BFM 21-62 Bushfire Mitigation Calendar of Important Events	8.2 & 9.4
e10	Asset management strategy		
e10.1	Response time standard for identified maintenance work	Doc. BFM 21-79 Bushfire Mitigation Manual	7.2.1 & 8.4.3
e10.2	Response time standard for emergency rectification	Doc. BFM 21-79 Bushfire Mitigation Manual	7.2.1
e10.3	Requirement to assess fire safety of procured plant and equipment	Doc. BFM 21-79 Bushfire Mitigation Manual Document 30-4050 - Procurement Manual	7.3.4
(f)	The objectives of the plan to achieve the mitigation of bushfire danger	BFM Plan 2009/2010	2 & 3
f1	Minimise fire starts from electrical assets	BFM Plan 2009/2010	2
f2	Vegetation in line with minimum clearances	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3.2
f3	Secure and sound assets	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3.1
(g)	A description, map or plan of the land to which the bushfire mitigation plan applies, identifying all hazardous bushfire risk areas and the location of all the electricity suppliers electrical assets in such areas		
g1	copy of boundary map	BFM Plan 2009/2010	2
g2	hazardous risk areas (expected to be declared) clearly shown	BFM Plan 2009/2010	2
(h)	Preventative Strategies to be adopted by the electricity supplier to minimise the risk of the electricity suppliers electrical assets starting fires		
h1	Management structure, processes and procedures		
h1.1	Clearly defined management structure and roles of personnel	Doc. BFM 21-79 Bushfire Mitigation Manual BFM Strategy Plan 2009/2010	6
h1.2	Procedures for preventing fire ignition including liaison with ESV, CFA, MFB, SES, DSE, DISPLAN, councils	Doc. BFM 21-79 Bushfire Mitigation Manual	10.5
h1.2.1	Determine declaration periods	Doc. BFM 21-79 Bushfire Mitigation Manual	8.4.5
h1.2.2	Assessment of bushfire risk and priorities	Doc. BFM 21-79 Bushfire Mitigation Manual	4
h1.3	Resource strategy	BFM Plan 2009/2010 Doc. BFM 21-79 Bushfire Mitigation Manual Network Service Alliance Agreement	Introduction & Assumptions 8.2
h1.4	Training programs for all personnel	HR Corporate – Learning, Development & Training Policy 10-1031 Contract Service Agreement	
h2	Preventative Programs		

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r5	Prescribed particulars for bushfire mitigation plans [BM Regulations, r5]	SP AusNet Reference Document	Section
h2.1	Management of clearance space and hazard space	Doc. BFM 21-79 Bushfire Mitigation Manual	7.2
h2.1.1	Pruning and clearing	Doc. BFM 21-79 Bushfire Mitigation Manual	7.2
h2.1.2	Other engineering solutions	Doc. BFM 21-79 Bushfire Mitigation Manual	7.2
h2.1.3	New technologies	Doc. BFM 21-79 Bushfire Mitigation Manual	7.6
h2.2	Asset cyclic replacement/modification programs	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3
h2.3	Remedial maintenance programs	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3
h2.4	Liaison & co-ordination with other organisations	Doc. BFM 21-79 Bushfire Mitigation Manual	10.5
h2.4.1	Fuel reduction burn offs	Proc. BFM 21-86 Communication Guidelines for prescribed burning near electrical assets	
h2.4.2	Clearance of track easements & access		
h2.5	Communication program to asset owners	Doc. BFM 21-79 Bushfire Mitigation Manual Proc. BFM 21-62 Bushfire Mitigation Calendar of Important Events	7.5
h3	Monitoring of asset condition and vegetation		
h3.1	Pre summer inspection program	Doc. BFM 21-79 Bushfire Mitigation Manual	7.2
h3.2	Pre summer audit program	Doc. BFM 21-79 Bushfire Mitigation Manual	9.5
h3.3	On-going inspection program	Doc. BFM 21-79 Bushfire Mitigation Manual	7.2
h3.4	On-going audit program	Doc. BFM 21-79 Bushfire Mitigation Manual	9.5
h3.5	Maintenance of technology and information systems (including industry practices, standards and operational instructions)	Doc. BFM 21-79 Bushfire Mitigation Manual Proc. BFM 21-72 BFM Report Data Input	9.4
(i)	A list of all the strategies referred to in paragraph (h) to be undertaken and the date by which the works are to be completed in readiness for the following summer season		
i1	BM Plan by 1 July	Proc. BFM 21-62 Bushfire Mitigation Calendar of Important Events	
i2	VM Plan by 28 February	Proc. BFM 21-62 Bushfire Mitigation Calendar of Important Events	
i3	Agreed bushfire index reported to ESV by 1 September	Proc. BFM 21-62 Bushfire Mitigation Calendar of Important Events	
i4	Communication Program dates	Proc. BFM 21-62 Bushfire Mitigation Calendar of Important Events	
i5	Inspection program dates	Doc. BFM 21-79 Bushfire Mitigation Manual	8.4.3
i6	Rectification work dates	Doc. BFM 21-79 Bushfire Mitigation Manual	8.4.3
i7	Internal audit dates	Doc. BFM 21-79 Bushfire Mitigation Manual	9.5
(j)	The operation and maintenance plans for the electricity supplier's electrical assets – during any day which has been declared to be a day of total fire ban under the CFA Authority Act 1958; (ii) During a fire danger period		
j1	List of actions in event of total fire ban & fire danger periods	Doc. BFM 21-79 Bushfire Mitigation Manual BFM Strategy Plan 2009/2010	7.4 and 10.2 Total Fire Ban Day

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r5	Prescribed particulars for bushfire mitigation plans [BM Regulations, r5]	SP AusNet Reference Document	Section
j1.1	Communication/ Liaison Actions	BFM Strategy Plan 2009/2010	Total Fire Ban Day
j1.2	Audit program	Vegetation Management Plan 2009/2010 Doc. BFM 21-79 Bushfire Mitigation Manual	Appendix 3 9
j1.3	Asset maintenance & replacement	Proc. BFM 21-80 Permits Required for Days of Total Fire Ban	
j1.4	Emergency cutting		
j1.5	Access to assets	Proc. BFM 21-77 CFA Restrictions for the Declared Fire Danger Period Proc. BFM 21-82 Maintenance and Construction Activities on Total Fire Ban Days	
j1.6	Disconnection actions	BFM Strategy Plan 2009/2010	Total Fire Ban Day
(k)	The investigations, analysis and methodology to be adopted by the electricity supplier for the prevention of fire ignition from its electrical assets		
k1	Operational procedures and instructions for inspection, testing and assessment of network assets	Doc. BFM 21-79 Bushfire Mitigation Manual Doc. 30-4111 Line Inspection Manual	7
k2	Operational procedures and instructions for inspection and assessment of line clearance (refer approved Electric Line Clearance Management Plan)	Doc. BFM 21-79 Bushfire Mitigation Manual Vegetation Management Plan 2009/2010	7
k3	Detailed procedures and standards for analysis & investigation of past fire starts	Doc. BFM 21-79 Bushfire Mitigation Manual	4 & 9.2
k3.1	Investigation of all fire starts		
k3.2	Analysis of all fire starts		
k3.3	Comparison to CFA fire reports		8.3
k4	Supporting information/tracking systems		
k5	Corrective/improvement processes and procedures (including risk assessment)		
(l)	Details of processes and procedures for enhancing public awareness of: the responsibilities of owners of private electric lines in relation to mitigation of bushfire danger; and the obligation of the electricity supplier to inspect private overhead electric lines within its distribution area	Doc. BFM 21-79 Bushfire Mitigation Manual SP AusNet Brochure "Private Powerlines - Your Responsibilities"	7.4.5 and 7.5
l1	advice of asset owners & electricity supplier responsibility		
l2	advice of inspection standards	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3.5
l3	advice of inspection frequency	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3.5
l4	advice of actions in event of non-compliance	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3.5
l5	period in which notice of inspection to be given	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3.5
l6	form of notice to be given prior to inspection	Doc. BFM 21-79 Bushfire Mitigation Manual	7.3.5

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r5	Prescribed particulars for bushfire mitigation plans [BM Regulations, r5]	SP AusNet Reference Document	Section
(m)	A description of the measures to assess the performance of the electricity supplier under the plan		
m1	Bushfire index reporting and frequency agreed with ESV	Proc. BFM 21-62 Bushfire Mitigation Calendar of Important Events	
m2	Recording and reporting of fire starts	Doc. BFM 21-79 Bushfire Mitigation Manual	9.2
m3	Recording and reporting of asset failures	Doc. BFM 21-79 Bushfire Mitigation Manual	9.3
m4	Recording and reporting of plan progress (including internal mgt reporting) for:	BFM Strategy Plan 2009/2010	* Q4 Database * Reporting
m4.1	The status of achievement of inspection/monitoring programs for ensuring electric line clearance?		
m4.2	The status of achievement of asset inspection/monitoring programs?		
m4.3	The status of vegetation clearing and pruning programs?		
m4.4	The status of achievement of cyclic, asset replacement/modification programs?		
m4.5	The status of remedial works programs (rectification works where problems have been identified from inspections or reports)?		
m5	Reporting to include following periods		
m5.1	Pre declaration date		
m5.2	During fire season		
m5.3	Total fire ban days		
(n)	The policy of the electricity supplier in relation to the assistance to be provided to fire agencies in the investigation of fires near the suppliers electrical assets	Doc. BFM 21-79 Bushfire Mitigation Manual BFM 21-78 Guidelines for Fire Fighting Authorities Electrical Hazards	10.5
n1	access to assets		
n2	co-ordination of resources		
n3	appointed contact persons		
n4	information exchange		

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9 Attachments

Bushfire Mitigation Strategy – 2009/2010

BFM 21-79	Bushfire Mitigation Manual
BFM 21-62	Bushfire Mitigation Calendar of Important Events
BFM 21-63	Bushfire Mitigation Strategy Plan
BFM 21-64	Operational Contingency Procedures Plan
BFM 21-67	Bushfire Index Calculation Method
BFM 21-68	Distribution System Bushfire Performance Indicator Calculation Method
BFM 21-69	Fire Hazard Mapping
BFM 21-70	Reporting Procedures
BFM 21-71	Investigation of Significant Fires
BFM 21-72	BFM Report Data Input
BFM 21-73	Vegetation Management
BFM 21-74	Temporary Support of Poles
BFM 21-75	Procedures for Defective Private Electric Lines
BFM 21-76	Guidelines for Requiring the Undergrounding of Private Electric Lines
BFM 21-77	CFA Restrictions for the Declared Fire Danger Period (General Requirements and Vehicles)
BFM 21-78	Guidelines for Fire Fighting Authorities Electrical Hazards
BFM 21-80	Permits Required for Days of Total Fire Ban
BFM 21-81	Notice of Completion of Bushfire Mitigation Obligations
BFM 21-82	Maintenance and Construction Activities on Total Fire Ban Days
BFM 21-83	Operations Procedures when a Fire Occurs
BFM 21-84	Auditing of Vegetation Management Companies
BFM 21-85	Auditing of Network for Fire Safety
BFM 21-86	Communication Guidelines for prescribed burning near electrical assets

10 Appendix 1

Sample AMFM Spatial display of the HBRA & LBRA fire zones and Electricity Assets for the SP AusNet Distribution area.

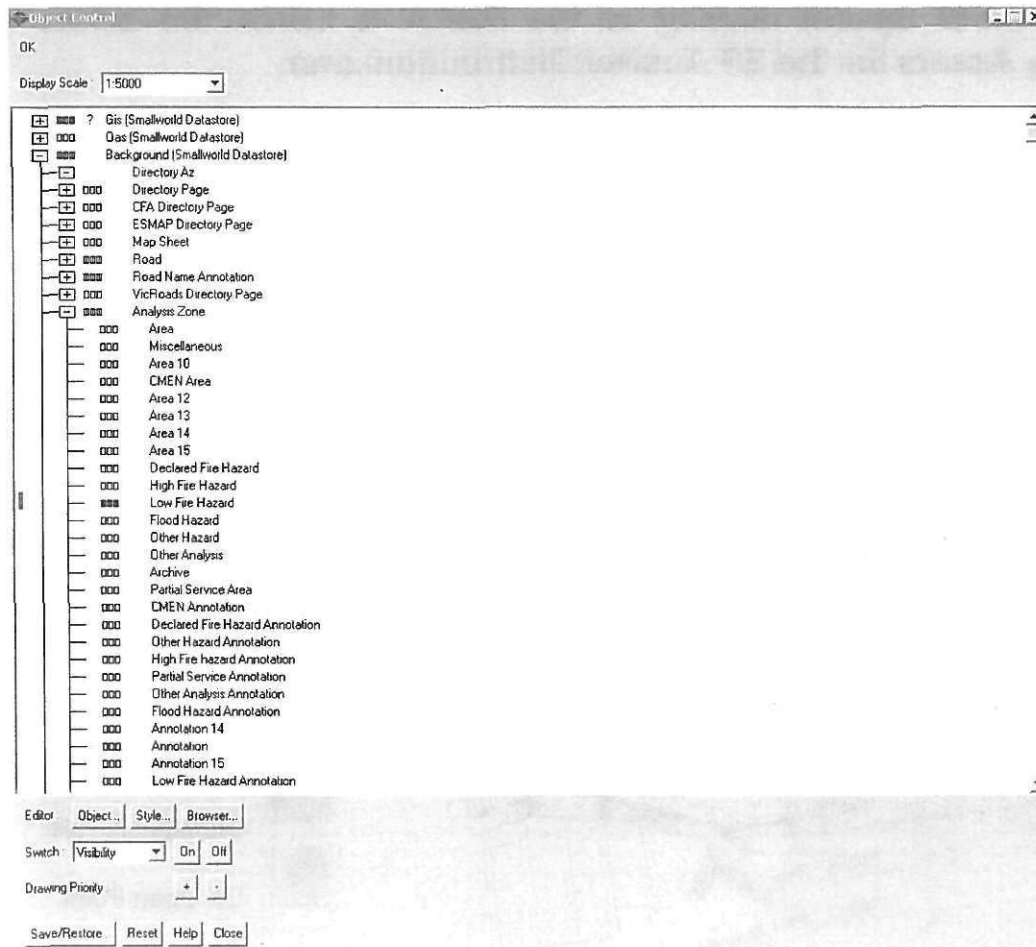
The AMFM information related to electrical assets will be made available to the public on request at our Freshwater Place office at 2 Southbank Boulevard, Southbank (8.30 am to 5.00 pm Monday to Friday) preferably with 24 hour prior notice.



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AMFM – ACCESS

Upon accessing AMFM you need to ensure that you have the Fire zone layers are active in the AMFM Base application. To display the fire areas the object control layers are to be configured as per the following AMFM screen shot. Please note that only the LBRA area is shaded, and all other areas are classified HBRA.




AMFM Object Control Panel Configurations to display Fire Areas

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11 Appendix 2

<p>NOTICE OF INSPECTION</p> <p>To conform to the Electricity Safety Act 1998 and the Electricity Safety (Bushfire Mitigation) Regulations 2003, the occupier must be given notice that the POELs on their property will be inspected.</p> <p>The prescribed period within which notice to the occupier of the land is to be given before the inspection of a private electric line is carried out is the period that is set out in 45 days before the inspection and not less than 21 days before the inspection.</p> <p>STANDARD NOTICE</p> <p>The Standard notice to be sent to each customer with a POEL prior to the cyclic inspection is shown opposite. The name of the responsible person, telephone number and date of inspection are inserted on the standard notice.</p> <p>DEFECTIVE PRIVATE ELECTRIC LINES</p> <p>The Network has a set of procedures Nos from 30-2175 to 30-2175F, "procedures for Defective Private Electric Lines" and 30-2176 "Guidelines for requiring the underpinning of Private Electric Lines". These procedures provide details of the process that must be followed to repair a defective line.</p> <p>The Procedure 30-2175 A to F: Sets a time limit for notifying the customer of any defects and Sets a time limit to effect repairs and Allows an extension of time limit if a defective pole is made safe.</p> <p>The Procedure 30-2176: Contains details for disconnection (and reconnection) of defective lines on days of Total Fire Ban.</p>	<p>NOTICE OF INSPECTION</p> <p>To the Occupier,</p> <p>In accordance with section 83B of the Electricity Safety Act 1998, please be advised that between the <i>(insert date)</i> & <i>(insert date)</i> our asset inspector will inspect all private electric lines above the surface of land on the property you occupy, except for those parts of the line that are installed after the point at which they are connected to a building or other structure (not including a pole).</p> <p>The inspection may reveal that defects exist and maintenance is required on a private electric line on the property that you occupy. If this is the case, we will give the owner written notice of the maintenance work required to be carried out.</p> <p>Please contact <i>(insert name of responsible person or business)</i> who undertakes the asset inspection on our behalf on telephone <i>(insert number)</i> if you have any queries.</p> <p>Signed _____ <i>(insert name of electricity supplier)</i></p>	<table border="1" style="width: 100%;"> <tr> <td style="width: 15%;">ELECTION</td> <td style="width: 15%;">REVISED TO NEW NETWORK STANDARDS</td> <td style="width: 15%;">DATE BY</td> <td style="width: 15%;">DATE BY</td> <td style="width: 15%;">APPROVED BY</td> <td style="width: 15%;">DATE</td> </tr> <tr> <td>A 1 30-00</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="text-align: center;">PRIVATE POLE INSPECTION PROCEDURES-NOTICE OF INSPECTION AND RECTIFICATION</p> <p style="text-align: center;"></p> <p style="text-align: center;">EX9/7020/232 A</p> <p style="text-align: right;"><small>AUTOCALL</small></p>	ELECTION	REVISED TO NEW NETWORK STANDARDS	DATE BY	DATE BY	APPROVED BY	DATE	A 1 30-00					
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Distribution Network

Bushfire Mitigation Strategy Plan 2009-2010

ISSUE/AMENDMENT STATUS

Issue Number	Date	Description	Author	Approved by
1	15/6/2006	Document updated to reflect 2006-07 season requirements.	R Negrelli	P Adams
2	6/6/2006	Document updated to reflect 2007-08 season requirements.	R Negrelli	P Adams
3	9/6/2008	Document updated to reflect 2008-09 season requirements.	R Negrelli	P Adams
4	26/11/2008	Document updated to include statement in Sec 3.4 that in general terms during the declared fire season the network is operated as normal	R Negrelli	John Azaris
5	30/6/09	Document updated to reflect 2009-10 season requirements.	R Negrelli	C Popple

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Bushfire Mitigation Strategy Plan 2009-2010

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1 BUSHFIRE MITIGATION STRATEGY

1.1 MANAGEMENT STATEMENT OF COMMITMENT

The achievement of this Bushfire Mitigation Plan is a high priority of the Management Team. Our aim is to minimise the risk exposure for SP AusNet, its customers and the general public through the adherence of Bushfire Mitigation policies and standards.

This cannot be achieved without the total commitment of all SP AusNet personnel and contractors.

The Management team are committed to achieving the goals and objectives as set out in this plan.

1.2 INTRODUCTION

This strategy has been produced with the aim of achieving a Zero Bushfire Mitigation Index in each Shire throughout the declared fire season.

The SP AusNet Distribution Network area is targeted to have a Zero Bushfire Mitigation Index from the 1st November 2009 or as required in specific Shires. This date can be achieved based on the known and projected workloads against the availability of our resources.

This plan is part of the overall SP AusNet Distribution Bushfire Mitigation Plan and is to be used by line managers, contractors and personnel in daily operations.

1.3 ASSUMPTIONS BEHIND STRATEGY

Assumptions made at this stage to underpin our strategy are:

- Resources have been coordinated to deliver to agreed timeframes to meet the Bushfire Declaration Date.
- The plan is based on the earliest declaration date of the bushfire season of the 1st November 2009. (This plan will respond if declared earlier).
- There will be ongoing consultation with the CFA to confirm specific fire season declaration date for each Shire, and should these be moved further forward or back, the work will be reprogrammed to achieve a zero Index by declaration date for each respective Shire.
- The Q4 (Asset Management Database) and VMS (Vegetation Management System) systems along with their reporting facilities will provide the appropriate tools to manage all Bushfire Mitigation works as a lead up to and through the fire season.

1.4 ROLES & RESPONSIBILITIES

General Manager Networks Strategy & Development has overall accountability for Bushfire Mitigation Obligations. Network Strategy & Planning Manager and Environmental Manager are responsible for developing and implementing policies and strategies to satisfy Bushfire Mitigation Obligations. The Director Asset Engineering is responsible for the implementation of the policies and strategies. Through a team comprises of a Works Planning and Performance Monitoring Manager a Maintenance Planning Lead Consultant, and two Asset Co-ordinators each functionally responsible for Bushfire Mitigation works as shown below.

Eastern Division: Leongatha, Bairnsdale, Traralgon, Beaconsfield

Includes high fire risk areas such as mountainous remote areas of East Gippsland to the pastoral plains of Central/West Gippsland as well as the high fire risk areas of Gembrook and Upper Beaconsfield.

Asset Performance Coordinator Ray Samios Phone 03 9237 4534

Northern Division: Seymour, Benalla, Wodonga, Lilydale, Sth Morang

Includes forest locations and flat dry farming localities west of the Hume Fwy, which includes the high fire risk areas of Flowerdale & Narbethong as well as high fire risk areas of the Dandenong ranges, Healesville, Emerald, Warburton, Warrandyte, Eltham and St. Andrews

Asset Performance Coordinator Brian Hubble Phone 03 57602551

Asset Inspection and Vegetation Management is undertaken by Business Manager Utility Services through an Asset Inspection Manager and two Vegetation & Easement Area Managers

Vegetation activities are managed centrally from the Lilydale Office.

Vegetation Managers Karl Jesser (Rural) Phone 03 5760 2530
David Crook (Central) Phone 03 9237 4403

Field Works are undertaken by Manager Field Services through three Regional Managers.

1.5 TOPOGRAPHY

SP AusNet's Distribution Network consists of the following two Divisions:

- The Northern Division covers north-eastern Victoria with topography ranging from mountainous areas through to pastoral irrigated plains down to open flats including mountainous alpine resorts and forest localities in the east to flat, dry farming localities to the west of the Hume Freeway. The hilly, heavily treed terrain of the Great Dividing Range to the north and east poses the greatest fire threat. Also includes high fire risk areas of the Dandenong ranges, Healesville, Warburton, Emerald, Warrandyte, Eltham, and St. Andrews. This region is especially hazardous due to a combination of poor access roads, dry terrain and heavy timber/scrub cover and high population density. History indicates that bushfires have burnt through many of these areas over the years inflicting heavy losses.
- The Eastern Division topography ranges from mountainous areas through pastoral irrigated plains down to seaside frontage. The high annual rainfall in West Gippsland results in rapid vegetation regrowth which requires a major focus on this activity. Salt corrosion along the seaside frontages also has a detrimental effect on the life span of electrical assets. Also Includes urban fringe high fire risk areas of Gembrook and Upper Beaconsfield

The Network Assets are managed from two centres, Lilydale and Benalla

Dandenong Ranges

The Dandenong Ranges is an area of particular significance due to its tourism value and natural and exotic vegetation. The State Government had previously classified this area where special arrangements were made to vary the normal application of the Tree Clearing Code of Practice.

These special arrangements in reference to the Tree Clearing Code were:

Code clearances are to allow for one-year regrowth in lieu of three years.

Limbs may be allowed to overhang bare conductors provided minimum code clearances are maintained and the tree is in good health, has sound limbs and is not a species prone to shedding limbs.

The Dandenong Ranges is a high fire risk area and requires a high level of attention and management to ensure a fire safe environment is maintained. It is obviously an environmental significant area and there are many active environmental groups, which necessitates careful negotiation prior to any major works and tree clearing activities.

1.6 PERFORMANCE DURING 2008/2009 FIRE SEASON

SP AusNet achieved a bushfire safe situation with no maintenance items reported as being outstanding during the declared fire season period.

There were a total of 72 fire starts during this season (see details below) of which 36 were associated with SP AusNet assets and 36 were initiated by aspects of the environment external to our assets, eg. Lightning, trees, birds, & vehicles. The Fires Index, number of fires associated with SP AusNet assets as a proportion of wildfires attended by the CFA in our Region, was 1.3%. This is above the target limit of 1.1%.

Fires by Probable Cause	Number of Fires
Conductor	14
Insulator	7
Transformer Failure	1
Surge Diverters	1
Cross Arm Failures	1
Fuse	6
Services	6
Trees	15
Birds & animals	7
Vehicles	7
Others	7

Our existing Bushfire Mitigation policies and programs continue to address the likely causes of fire ignition. Programs are being implemented on:

- EDO replacement strategy
- hazardous trees removal
- prevention of bird and animal contact on complex structures
- crossarm replacement
- pole top rebuild
- conductor replacement

2 OBJECTIVES AND STRATEGIES

2.1 LINE INSPECTION

Objective: To effectively plan and resource the Asset Inspection activities of the Business, ensuring that a regular Inspection cycle is continually achieved throughout the year. Poles shall be inspected within the required inspection cycle timeframes.

Fire Hazard Area

Line inspection is a continuous cycle throughout the year, programmed to ensure best access to worksites, and the achievement of test cycle dates in accordance with the Business Rules.

Training

Asset inspection is carried out by specialist contract labour. Regular refresher training is carried out to ensure a high standard of workmanship is maintained. On site training/audit of pole testing techniques has been carried out by a Contract Company and the SP AusNet auditor.

Audits

Individual Asset Inspectors are audited regularly in accordance with SP AusNet procedure Document 30-2701. A service provider checks input of Q4 data each time it is uploaded.

Action by Asset Inspectors for Urgent Defects

All urgent defect work is to be treated as a fault, with the Asset Inspector notifying the Asset Performance Coordinator immediately highlighting the location and item to be replaced or repaired. The Asset Inspector documents item on a priority maintenance sheet, which is submitted to the Asset Performance Coordinator on a weekly basis.

During the Declared Bushfire Season, the following defective items will be classified as Urgent Defects:
PT30 attachments.

Unserviceable poles.

Defective Surge diverter installations.

PT1 and PT30 trees

Urgent POELs

PT30 conductors.

During the declared bushfire season, should the above equipment be found defective in the fire hazard areas, the Asset Inspector shall respond as detailed below:

The Asset Inspector shall assess the item for its urgency and advise the Asset Performance Coordinator accordingly. The Asset Performance Coordinator shall classify the item for Q4 reporting purposes and assign it a target date **OR** make immediate arrangement to have the item fixed.

The field supervisor, or his representative, shall ensure items repaired are reclassified and returned as a completed fault for updating in Q4 by the Asset Performance Coordinator within 24 hours.

The Asset Performance Coordinator to update Q4 and retain field report for future reference.

2.2 ATTACHMENTS

Objectives: To identify defective pole top attachments/conductors and program for replacement within required timeframes.

Priority Attachments:

The following Business Rules apply for priority attachments:-

Urgent defects are treated as faults and rectification arranged immediately.

All PT30 attachments are rectified within 30 Days.

All PT90 attachments are rectified within 90 days.

All PT180 attachments are rectified within 180 days.

Priority Conductors:

Defective conductors once identified are treated in the same manner as pole top attachments, therefore being actioned in accordance with the severity of the defect.

2.3 DEFECTIVE POLE MANAGEMENT

Objectives: To identify and arrange appropriate, cost effective and timely remedial action to ensure the security and the bushfire preparedness of the distribution system.

SP AusNet policy is to replace all unserviceable poles not suitable for staking or converting to a major structure, (eg. the construction of a substation on a limited life pole). This is common across both fire and non-fire areas.

Staking

The term "Staking" is used for Pole reinforcement with steel stakes. All unserviceable poles suitable for staking will be staked in accordance with Pole Staking procedure as detailed in the Line Inspection Manual.

Temporary Supporting

All poles not suitable for staking and classified unserviceable, for greater than 90 days, will be temporarily supported until conditions allow access.

Any pole that is temporary supported will be replaced within 180 days of the inspection date.

Retest Policy

All limited life poles will be inspected within 912 days of their inspection/retest date. Those assessed as being unserviceable or having urgent pole top defects will be replaced or staked as appropriate.

Chemical Treatment

Poles found with early signs of termite infestation and rated as serviceable are chemically treated with Dursban and returned to service. These poles are marked in the field and recorded as code 05 in Q4 as being chemically treated. After poles have been treated a PT180 work order is created in Q4, requesting re-inspection in 180 days, for an inspector to check the pole for successful termite treatment.

Poles with limited life or unserviceable evaluation are individually assessed and viewed critically before being considered for chemical treatment.

2.4 SURGE DIVERTER REPLACEMENT

Objectives: To identify and arrange appropriate, cost effective and timely surge diverter replacement to ensure the security and the bushfire preparedness of the distribution system.

Unacceptable Surge Diverters

Any unacceptable surge diverter identified will be actioned prior to the fire season declaration date or if found during the fire season will be actioned within the required priority timeframe.

2.5 BIRD COVERS

Objectives: To identify and arrange the installation of bird covers to ensure the security and the bushfire preparedness of the distribution system.

All bird covers reported as missing on 5 shed insulator 22kV concrete pole structures will be installed by the declaration date.

2.6 SWER ISOLATING SUBSTATIONS

Objectives: To ensure that all SWER isolating substation earth systems have not deteriorated and are capable of carrying the system load.

Earth Testing

SWER isolation substations are tested in accordance with Electricity Safety Management Scheme (ESMS) procedure 30-2664 Electrical Earth Testing Management Plan.

Defective Earthing

Depending on the severity of the defect, it is given a priority and actioned accordingly. Where indications are that an earth system requires replacement a full SWER earth grid is installed and the old earth grid is used for additional benefit.

Accountability for above Objectives and Strategies

Responsibility	Function Ownership
Works Planning & Performance Monitoring Manager	Maintenance Planning Lead Consultant
Accountability	Auditor
General Manager Networks Strategy & Development	Director Asset Engineering

2.7 PRIVATE OVERHEAD ELECTRIC LINES (POELs)

Objectives: To ensure that all Private Overhead Electric Line owners are aware of the condition of their assets and that these assets are fire safe prior to and during the fire season.

Inspection

The Asset Inspectors examine all POELs as part of the normal inspection cycle in accordance with current Business Policies. When identified as defective, they are actioned in accordance with procedure BFM 21-75. It is important to ensure that POELs are fire and electrically safe. If immediate disconnection of supply is necessary to achieve this, then it must be done.

Any private overhead line identified with 30% or more of the line defective is required to be replaced with an underground service. The customer may negotiate for a high voltage extension or request an exemption from ESV. Refer to procedure BFM 21-76 for details.

Monitoring

Defective POELs are referenced by a Q4 number and placed on a defective POEL register, which is monitored at regular intervals for progress. The defect notice and any follow up letters are kept in a 42-day holding file.

Urgent Defective POELs

All POELs with urgent defects are to be disconnected on Total Fire Ban (TFB) days. Note that in this context urgent defects means defects which are not considered fire safe on TFB days. This necessitates the need to issue customers with POELs with urgent defects a Disconnection Warning Notice, via certified mail, outlining costs and conditions that will apply for disconnection during days of Total Fire Ban.

Customers, where urgent defects are found on their POEL during the fire season are given every assistance to ensure temporary repairs are carried out; however it is important to ensure that POELs are fire and electricity safe.

Accountability

Responsibility	Function Ownership
Works Planning & Performance Monitoring Manager	Maintenance Planning Lead Consultant
Accountability	Auditor
General Manager Networks Strategy & Development	Director Asset Engineering

2.8 TREE CLEARING

Objectives: To ensure that code clearance is maintained during the fire season.

Management

Vegetation management is undertaken by a specialist vegetation management group. Vegetation management activities are performed in accordance with SP AusNet's Vegetation Management Plan. The vegetation management group manages the activities of all tree-clearing contractors within the franchise area of SP AusNet.

Pre Summer Inspection

The pre summer inspection program will be undertaken before the end of September each year. The focus for inspection will be on those feeders that have not been cut for the longest period, working towards the feeders most recently addressed.

All critical tree works identified (PT1, PT30 & 56M's) are recorded within SP AusNet's Vegetation Management System (Website) and collated weekly.

Areas declared under the Electricity Safety Act 1998 are the responsibility of the respective municipality to clear trees on the road reserves.

Audits will be conducted by SP AusNet across all the regions prior to declaration.

Pre Summer Clearing

All identified trees within the clearance space will be actioned prior to the declaration date or the 15 December. This has the highest priority for tree clearing parties until completion of the program.

Notification, Consultation and Negotiations

The process to be employed to notify, and where appropriate consult and negotiate with persons affected by tree clearing activities is outlined in SP AusNet's Vegetation Management Plan and procedures.

Accountability

Responsibility	Function Ownership
Business Manager Utility Services	Vegetation and Easement Area Managers
Accountability	Auditor
General Manager Networks Strategy & Development	Work Planning and Performance Monitoring Manager

3 SUPPORT POLICIES

3.1 MANAGEMENT CO-ORDINATION

Liaison with Other Authorities

SP AusNet representatives will maintain contact with and attend as required the Regional CFA Committee meetings

Public Awareness

Public awareness is achieved through a comprehensive media campaign that includes TV, press, mobile billboards and the provision of information pamphlets and brochures. Public awareness is also provided through SP AusNet's participation in associated events with the CFA, such as support of the Community Fire Guard program and their pre-summer information pamphlet. This is controlled centrally through

Corporate Communications department working closely with the Networks Strategy & Development Group and the Environmental Manager.

3.2 REPORTING

Objective: To ensure an effective reporting structure is established for the communication of SP AusNet's Bushfire preparedness at any stage leading up to and through the fire period.

Methods of data collection to be used:

Asset Management Database - Q4 (for all maintenance and condition of assets information).

Vegetation Management System for the collation of all tree-clearing requirements.

The Work Planning & Performance Monitoring Manager shall ensure that the databases are current at all times. At the end of each month, a Bushfire Mitigation report is generated by the Work Planning & Performance Monitoring Manager and provided to the Bushfire Mitigation Management Committee (BMMC).

During the lead up and through the fire season a Bushfire Mitigation Co-ordination meeting will be held at least fortnightly, with the following being in attendance:

Asset Performance Coordinator

Works Manager /Planner

Delivery Manager

These will be held in each Area.

Any action items from these Co-ordination meetings will be forwarded to all members of the Co-ordination meeting, with a copy to the Work Planning & Performance Monitoring Manager and the Area Manager. During the fire season an updated bushfire mitigation summary report is prepared and submitted to the Manager Field Services, the Maintenance Planning Lead Consultant and the Environmental Manager.

3.3 Q4 DATABASE

Objective: To maintain a quality, current and secure asset management database for the SP AusNet Network.

Data Entry Procedures

The line inspection is issued in switching zones and at the completion of each zone an upload occurs to the Q4 database. A check is then carried out on the validity of the data once uploading is complete.

There can be a delay of between 7-21 days from the inspection of the pole to the update of Q4. During the fire season (from the declaration date), to address this delay, any urgent attachments or unserviceable poles are phoned through to the Asset Inspection Manager / Representative to follow up action. (See previous process under Line Inspection).

To ensure the data base accuracy, completed works by contractors are processed within 5 business days of completion. Exception reports are generated after each upload to identify any keying or data errors.

Failure Codes

All standard failure codes are documented and consistently applied across SP AusNet.

Audits

The database is audited against the field data collected at least on a quarterly basis. This is performed by.

Asset Inspection Service Provider

Work Planning & Performance monitoring group - NSD

Contract Auditor

3.4 FIRE SEASON ACTION PLAN

Prior to fire restrictions period

Region Managers	As part of the last WGM prior to the declaration date, or at the beginning of November, employees and contractors are to be made aware of their responsibilities on Days of Total Fire Ban.
Manager Network Operations	Issue POELs with Urgent defects to field crews for disconnection on TFB days
Asset Inspection Manager	Defective private electric lines to be disconnected on Days of Total Fire Ban are to be identified and recorded on a database and forwarded to NOC.
Region Managers/Unit Managers	All vehicles and plant to be equipped and audited to ensure they are fire safe. Document BFM10-02A to confirm work undertaken shall be completed and available for inspection on site. This includes all vehicles and plant used by contractors working under the Manager's control.
Region Managers	The CFA or local trainers are to be requested to carry out training/information sessions to all field personnel on actions to be taken when caught in a life threatening fire situation.
Work Planning & Performance Monitoring Manager	If a TFB day occurs prior to declaration date priority maintenance items outstanding shall be managed so that they are fire safe.

In general terms during the declared fire season the network is operated as normal and apart from the following there are no operation or maintenance activities on the network that are specific to the declared fire danger period.

- Procedure BFM 21-77 specifies fire fighting equipment required on vehicles travelling off-road during the declared fire season.
- Section 2.1 outlines process on how to deal with urgent defect work identified by Asset Inspectors during the declared fire season.

Total Fire Ban Days

Network Operations Centre (NOC) Responsibility

Urgent Defective Private Lines

The NOC will arrange the disconnection of any outstanding urgent defective Private Overhead Electric Lines (POELs). This will include:

- Arranging Field Crews to disconnect any urgent defective POELs;
- Contacting owners of urgent defective POELs to advise them of the disconnection; and
- Arranging Field Crews to reconnect any disconnected POELs when TFB has ended.

The Asset Inspection Manager has the responsibility to ensure that the NOC has up to date information on all urgent defective POELs required to be disconnected on TFB days.

Fires

The Availability Officer is to be advised immediately of any fires attended by fault crews, regardless of how they were started. (Following the procedure as laid out in the Operations Procedures when A Fire Occurs- Document No. BFM 21-83.)

Sustained unplanned interruptions to supply:

In addition to procedure OP-G11-3 "Feeder Patrols & Supply Restoration on High Voltage Lines", if any feeder or HV line protection device operates and supply is interrupted (other than successful re-closes) and the fault is not known:

The feeder or line must be patrolled prior to attempting restoration.

If the suppression of an Automatic Circuit Recloser or Circuit Breaker was for the sole purpose of working on the line, then only one attempt to reclose may be made. This is dependent upon the conditions of the day and should not be attempted under extreme conditions of wind and temperature.

Area Operations Officer Responsibility

The Area Operations Officers will notify the NOC of any planned interruptions that have been cancelled, and those that have Regional Manager's approval to proceed.

The NOC in turn will:

- Advise the Faults and Emergencies Call Centre and the Customer Services Centre
- Update Power-on to reflect the cancellation
- Liaise with Senior Networks Strategy & Development representatives as to media releases of cancelled interruptions, where appropriate

This information will be available to the Faults Team Leader no later than 15 minutes prior to the planned interruption time.

Auto Reclose Suppression

Manager Network Operations shall ensure auto reclose is suppressed on designated feeders supplying HBRA areas on Total Fire Ban Days, refer to table below. If weather conditions abate Manager Network Operations may restore auto reclose suppression to normal. This shall not be carried out until the Fire

Danger Index (FDI) falls to and will remain below 30 in the location of the feeder. The FDI may be obtained by contacting the local CFA or through the Bureau of Meteorology. The zone substations that have Neutral Earth Resistors (NERs) no longer require the feeder CBs to be auto reclose suppressed on days of TFB. This is also extended to include those feeders with ACRs that also have NER protection. Where NERs are out of service on TFB days consideration must be given to suppressing auto reclose on those feeders in hazardous fire risk areas or other means of reducing fault levels.

DAYS OF TOTAL FIRE BAN FEEDER SUPPRESSIONS (phase to Earth fault level >3.5 kA)		
Zone S/S	Feeder	Auto Reclose Suppressed
MT. DANDENONG	MDG1	YES
KINGLAKE	KLK1,2,3	YES
FOSTER	FTR12,21,22,23	YES
WONTHAGGI	WGI 22,23, 31,33,34	YES
BRIGHT	BRT 1,2	YES
SEYMOUR	SMR 1,2,3,4,5,8	YES

POEL Disconnections

POELs with urgent defects shall, where practical, be disconnected for the full period of the TFB. However, if the TFB commences at midnight and weather conditions during the night are not severe, then it shall be permissible to disconnect the line first thing in the morning, generally prior to 8.00 a.m. or before weather conditions become severe.

Reconnection shall not be undertaken until after the termination of the TFB.

If the TFB concludes at midnight, then reconnection shall be done as soon as practical on the following morning. Should the customer request reconnection after hours and they are willing to pay the after hours reconnection charges, then they should be reconnected as soon as practical after the termination of the TFB.

Accountability

Responsibility	Function Ownership
Manager Network Operations	Networks Operations Manager Distribution
Accountability	Auditor
General Manager Integrated Network Services	General Manager Operations and Services

3.5 ASSOCIATED PROCEDURES

GUIDELINES FOR MAINTENANCE AND CONSTRUCTION ACTIVITIES ON TFB DAYS

For details of maintenance and construction activities, which may be undertaken on Total Fire Ban days, refer to procedure BFM 21-82.

PERMITS FOR WORK ON DAYS OF TOTAL FIRE BAN

If welding, cutting, soldering or grinding activities are to be undertaken on days of TFB, a current copy of the appropriate permit must be on site, refer to procedure BFM 21-80.

REPORTING PROCEDURES

For details of reports relevant to bushfire mitigation and procedures for the preparation of the reports, collation and analysis of the data refer to procedure BFM 21-70.

INVESTIGATION OF SIGNIFICANT FIRES

For details of process for the investigation of significant fires involving personal injuries and/or significant property damage, refer to procedure BFM 21-71.

PROCEDURES WHEN A FIRE OCCURS

For details of actions to be undertaken by SP AusNet personnel attending fires, refer to procedure BFM 21-83.

CFA REQUIREMENTS - DECLARED FIRE DANGER PERIOD

Details of requirements that must be observed by all personnel in fire declared areas including vehicle and equipment requirements refer to procedure BFM 21-77.

3.6 EMERGENCY CONTACTS

SP AusNet Contact Numbers

SP AusNet Fault and Emergencies Call Centre	131 799
SP AusNet Network Operations Centre (Silent No.)	03 9229 3701

CFA Contact Numbers

CFA Region 8	03 9767 1800
CFA Region 9	03 5623 1180
CFA Region 10	03 5149 1000
CFA Region 11	03 5152 3048
CFA Region 12	03 5799 1517
CFA Region 13	03 87391300
CFA Region 22	03 5833 2400
CFA Region 23	03 5721 4122
CFA Region 24	02 6056 3022

Department of Sustainability and Environment (DSE)

DSE State Duty Officer	1300 13 4444 (24 hours)
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Police Contact Numbers

Police Emergency	000
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3.7 RISK MANAGEMENT

All SP AusNet Bushfire Mitigation Strategies have been developed in order to mitigate the risk to as low as reasonably practical. Limitations in achieving these strategies are:

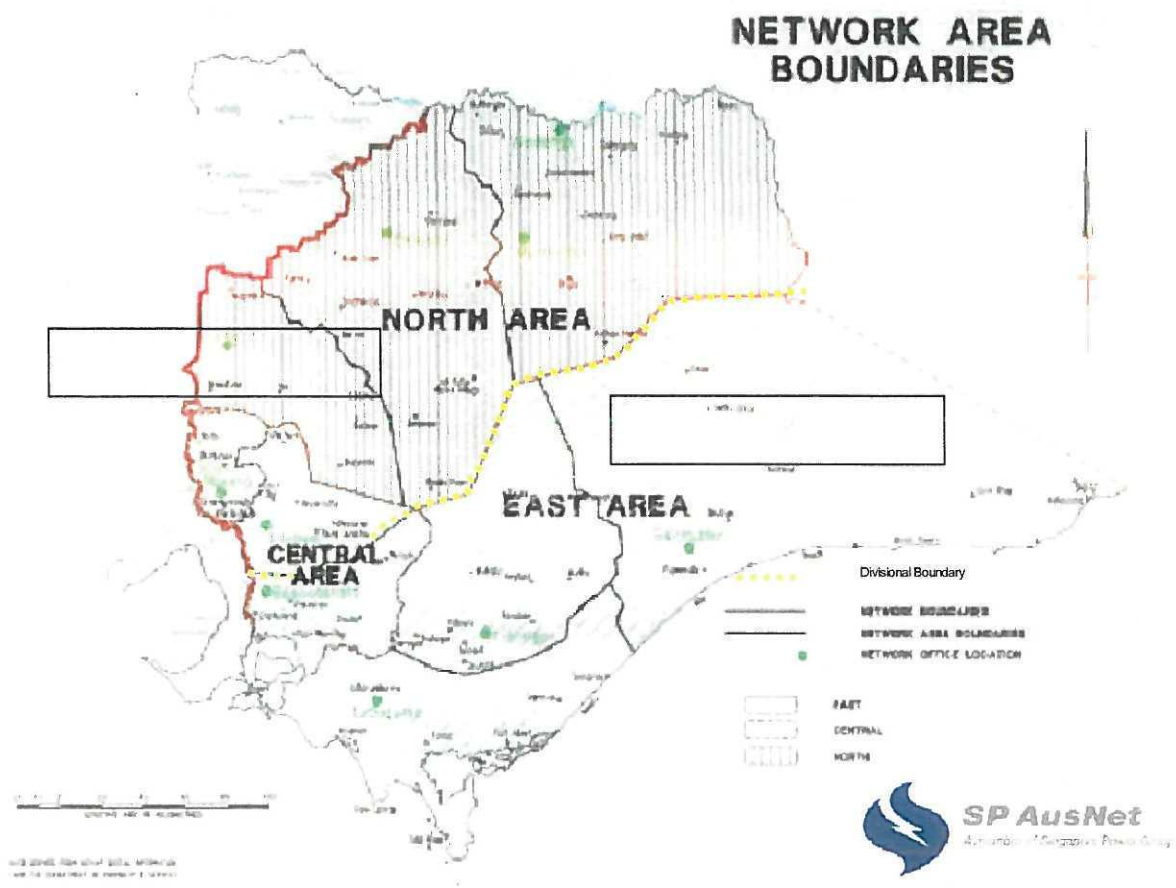
- There is a requirement to deliver to a floating target date that is tied to the weather conditions and judgment exercised by the CFA and Municipal Fire Prevention Committees.
- Access to worksites is not available all year round which may create a peak workload leading up to the declaration date.
- The uncontrollability of the weather and our inability to accurately predict the effects that this may have on our program.
- Restricted access to assets for maintenance in grasslands due to exhaust ignition fire hazard.

4 BUSHFIRE ACCOUNTABILITIES

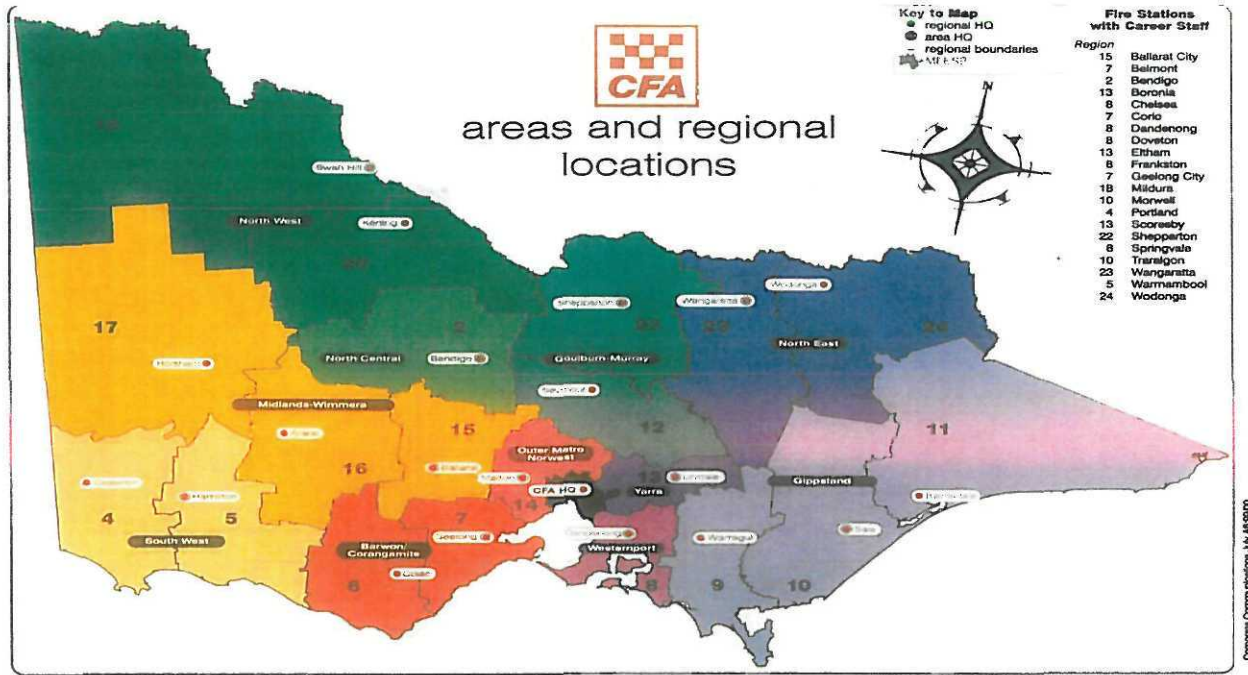
General Manager Networks Strategy & Development	
SP AusNet Obligations	Zero Region Bushfire Mitigation Index by the fire season declaration dates in each municipality and maintained throughout the period.
	Fires associated with SP AusNet assets as % of total CFA wildfires < 1.0%

5 APPENDICES

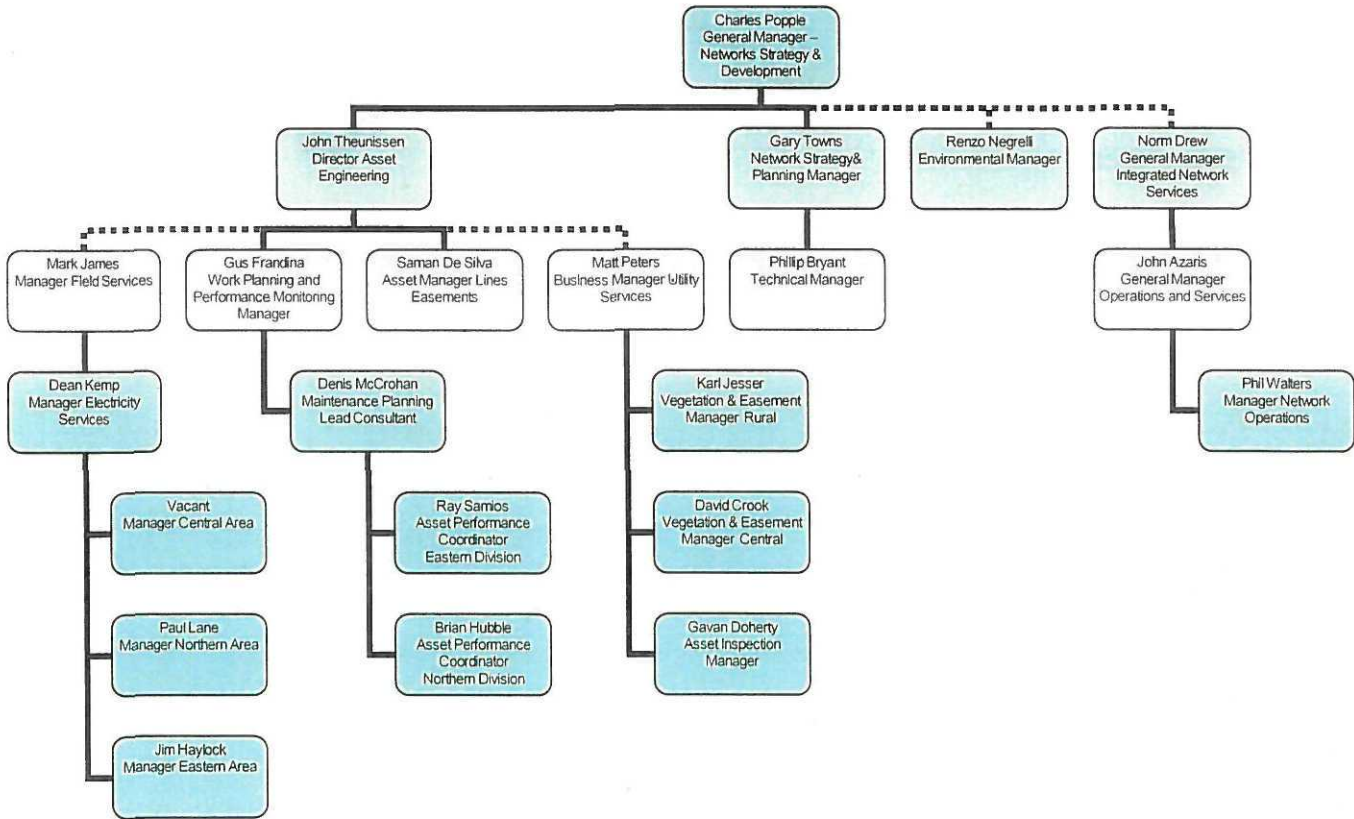
5.1 Appendix A: SP AusNet Network Boundaries



5.2 Appendix B: CFA Regions Boundaries



5.3 Appendix C: SP AusNet Functional Structure



Bushfire Mitigation

Bushfire Mitigation Manual – Distribution Network

Document number:	BFM 21-79
Issue number:	17
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30-06-09
File Name	BFM 21-79.doc

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1 INTRODUCTION

1.1 SCOPE OF MANUAL

The requirements of this Manual apply to all *hazardous bushfire risk areas* where a fire ignited by SP AusNet's distribution network assets could become a wildfire and threaten public safety and property. A *hazardous bushfire risk area* is defined in the Electricity Safety (Electric Line Clearance) Regulations 2005.

The Manual forms part of SP AusNet's Environmental Management System.

1.2 OBJECTIVE OF THE MANUAL

The Bushfire Mitigation Manual describes and documents requirements for bushfire mitigation management within SP AusNet.

The objectives of the Bushfire Mitigation Manual are:

- to be the primary tool for the implementation of SP AusNet's bushfire mitigation programs
- to compile in one place all the essential information for the implementation of SP AusNet's bushfire mitigation programs in a format that can be readily understood by personnel at all levels
- to be an information resource on bushfire mitigation issues, relevant legislation and policies for the control of associated operational activities
- to provide a basis for assigning responsibilities for bushfire mitigation to SP AusNet's personnel and service providers
- to provide a consistent approach to bushfire mitigation management which will ensure that changes to personnel and organisation structure do not detract from the standard of bushfire mitigation performance
- to minimise and control incidents with the potential to start a bushfire; and
- to help demonstrate due diligence on the part of SP AusNet in preventing incidents which may cause the ignition of fire and threaten public safety.

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1.3 CONTENT OF THE MANUAL

This Manual sets out the strategies and bushfire mitigation programs adopted by SP AusNet to minimise the risk of fire ignition.

It designates management responsibilities and the mechanisms for measuring, monitoring, reporting and validating the effectiveness of the programs.

It forms an information source outlining:

- the history of bush and grass fires in Victoria, the causes of fire ignition and the solutions devised to combat the causes; and
- legislation, regulation and mandatory codes obligatory for operators of distribution powerlines in relation to the ignition of fires.

The Manual also links up the requirements of other manuals and instructions pertinent to bushfire mitigation.

1.4 QUALITY ASSURANCE AND DOCUMENT CONTROL

The Bushfire Mitigation Manual is a controlled document in electronic format under SP AusNet's Quality System. All or part of the Manual may be produced in hard copy, but any such copies are uncontrolled. Responsibility for maintenance and revision of the Manual lies with the Environmental Manager.

The Manual may require revision under the following circumstances:

- changes in legislative or related controls relating to the environment
- changes in accepted bushfire mitigation practices or procedures; and
- changes in scope of operations and activities carried out by SP AusNet.

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2 BACKGROUND AND HISTORY OF FIRES IN VICTORIA

2.1 ENVIRONMENTAL CONDITIONS

The ignition and spread of devastating fires like those of February 1983 and 2009 are the culmination of abnormal pre fire season conditions and extreme conditions on the day including the coincidence of very high winds and high temperatures with low relative humidity.

The coincidence of these factors is infrequent, but when they do occur, create conditions of extreme risk.

Victoria has suffered devastation from 3 major outbreaks of fire in the past 30 years and the environmental conditions preceding these fires were similar:

(a) Environment 1977

Prior to 1976, the State had been subjected to drought and the summer of 1976/77 was dry with high temperatures. This followed a spring in which there had been heavy vegetation growth resulting from average rainfall following the drought.

The month of January 1977 was very hot and dry with strong north winds.

(b) Environment 1983

During 1982/83, one of the worst droughts to affect South-eastern Australia for 100 years, persisted for nine months. As a consequence bushland and forest areas around the State were tinder dry.

The drought situation was severely aggravated by prolonged high summer temperatures and, in a four week period prior to the 16 February 1983 (Ash Wednesday) fires, Victoria experienced temperatures over 35 degrees Celsius on eight occasions. Early in February the temperature exceeded 40 degrees Celsius on three occasions and the temperature in Melbourne and its environs on Ash Wednesday reached 43 degrees Celsius.

The extreme temperatures experienced on the 16 February 1983 were fanned by high winds. A 37-knot north-easterly early in the day shifted to a 48-knot south westerly in the evening.

The meteorological conditions in South Australia and Victoria on the 16 February 1983 were amongst the worst possible for the excessive spread of bushfires because:

- The drought had left trees, vegetation and surface fuels exceptionally dry, thus creating a fire potential
- Squally, hot, dry, northerly winds raised temperatures to over 40 degrees Celsius and reduced relative humidity to less than 15%
- A cold front accompanied by a squally, south-westerly wind change rapidly moved across South Australia and Victoria with a forward speed that varied between 55 and 80 km per hour; and
- The sparseness of rain and storms associated with the front meant that fires were then directed into new areas of unburnt fuel, without the (usual) extinguishing effect of rain.

The removal of only one of the above factors would probably have greatly reduced the effects of the fires.

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Environment 2009

During 2008/09, drought conditions in South-eastern Australia had persisted for a number of years. As a consequence bushland and forest areas around the State were tinder dry.

The drought situation was severely aggravated by prolonged high summer temperatures and in the period prior to the 7 February 2009 (Black Saturday) fires, Victoria experienced temperatures over 40 degrees Celsius on numerous occasions. February's heatwave broke temperature records across south-eastern Australia and February 7 saw Melbourne endure its hottest day ever, with a 46.4 degree maximum and Victoria's record temperatures peaking at 48.8°C with humidity levels as low as 6%. The extreme temperatures experienced on the 7 February 2009 were fanned by high winds. A hot northerly wind in excess of 100 kilometres per hour hit the state easterly early in the day and then shifted to a south westerly in the evening.

The meteorological conditions in Victoria on the 7 February 2009 were unprecedented and significantly worse than those experienced on Black Saturday in 1939 and Ash Wednesday in 1983.

2.2 HISTORY OF FIRES

The electrical system employed by SP AusNet to distribute electricity is designed, constructed and operated to standards similar to that used in most countries throughout the world. The geographical environment in South East Australia is however unique and at times conducive to the ignition and spread of fire.

On 12 February 1977 there were 68 fires reported in Victoria, 16 of which were major. Nine of these were attributed to assets of the former State Electricity Commission of Victoria (SEC) but five of the nine also involved other individuals or organisations.

As a result of these fires, the State Government established an inquiry headed by Sir Esler Barber QC. The Barber Inquiry issued a report, making a number of recommendations relating to the SEC. The report was a benchmark in fire mitigation activities throughout Australia and identified relevant factors requiring attention.

On Wednesday 16 February 1983 parts of South Australia and Victoria experienced major bush (forest) and grass fires, causing damage to the countryside, property and livestock. A total of 70 people died. Of a total of 180 fires in Victoria on that day 29 were alleged to involve the former SEC.

Following these catastrophic fires amendment was made to the SEC Act 1958 which provided for a Code of Practice for Tree Clearance, the establishment of a Tree Clearance Consultative Committee and regulations for the enactment of the Code and notices.

A revised form of a voluntary code, developed by the SEC in consultation with local government, received legislative support in Part VI of the State Electricity Commission Act 1958 in January 1984. Part VI of the Act also made it clear who was responsible for keeping trees clear of powerlines and empowered the SEC where the responsible person defaulted. These requirements have subsequently been legislated in the Electricity safety Act 1998.

On 7 February 2009 Victoria experienced major bush (forest) and grass fires, causing extensive damage to the countryside, property and livestock. A total of 173 people are confirmed to have died in the fires with around 500 injured. As many as 400 individual fires were recorded on 7 February.

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3 RISK MANAGEMENT

SP AusNet's risk management strategy consists of:

- Rigorously managed programs for:
 - Inspection of assets
 - Vegetation management
 - Asset maintenance
 - Pole replacement and reinforcement
 - Management of private electric lines
 - Public awareness
- Targeted insulated cable and fault energy management programs
- Annual performance targets
- Measurement, monitoring, reporting and auditing of program achievement and performance including actioning non conformances arising from these programs
- Clear lines of responsibility and accountability; and
- Analysis of asset performance and targeted development and technology programs.

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4 ASPECTS OF BUSHFIRE IGNITION

4.1 MECHANISMS OF FIRE IGNITION AND THEIR CAUSES

The causes of fire ignition and the factors influencing the associated risk are discussed below. Knowledge of the causes, incidence and environment associated with serious fires enables programs of inspection, prevention and awareness to be established and targets/rules to be set that reflect a proper focus on the causes of fire ignition judged to be the greatest risk to the public and the business.

The majority of fires result from the following fire ignition mechanisms:

1. Electrical discharge to objects coming into contact with a powerline
2. Hot metal particles being liberated by energy dissipated when conductors clash together;
and
3. The discharge of combustion products resulting from malfunction or failure of line equipment.

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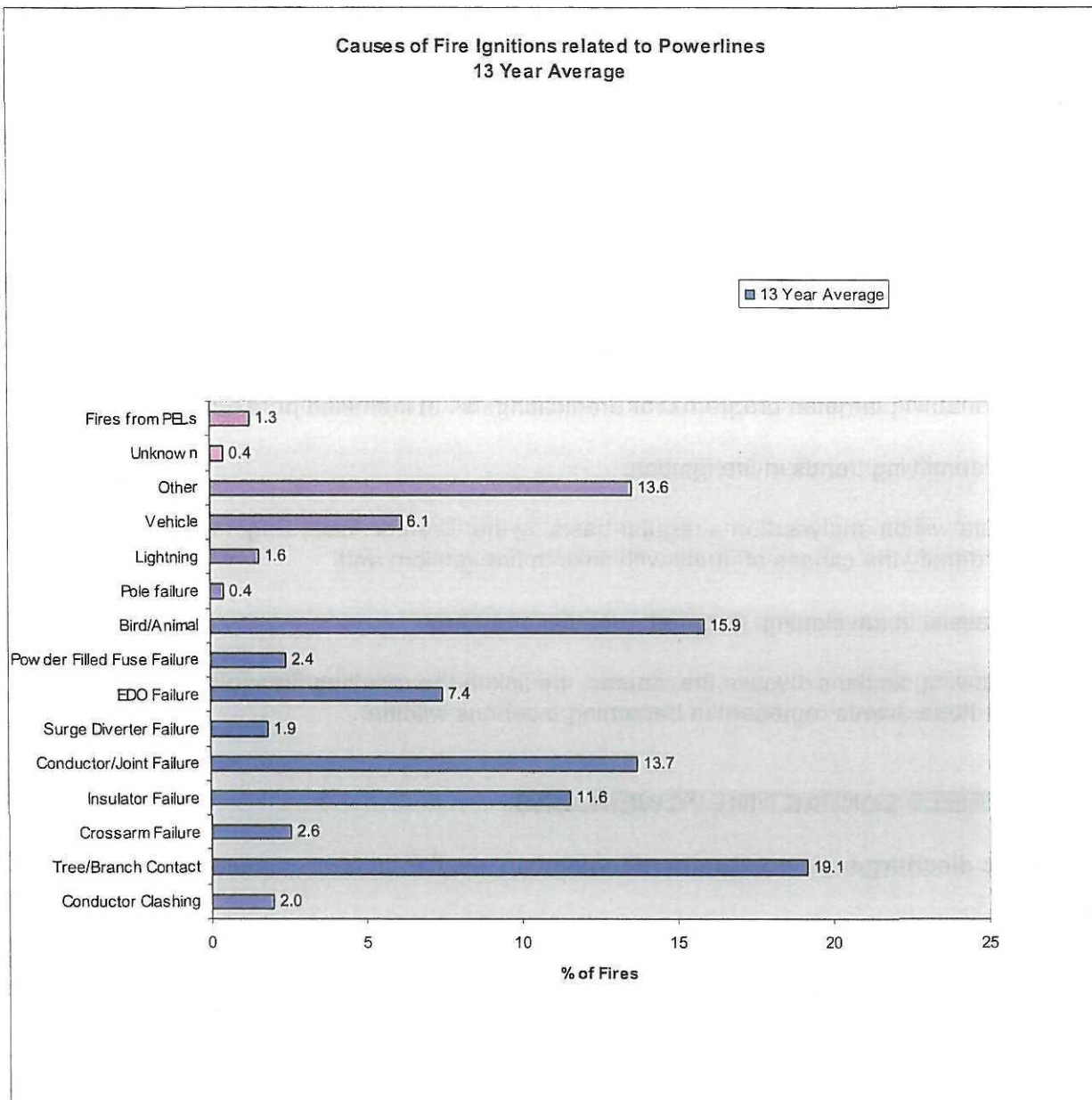


Figure 1

The likelihood of ignition is influenced by the amount of fault energy available from the electricity network.

For ignition to occur there needs to be an initiating cause and an analysis of fire starts related to powerlines for the period 96/97 to 08/09 has identified these causes (see figure 1).

Many causes, as will be seen later, can be the initiating source of more than one of the fire ignition mechanisms described above. The relationship between causes and serious wildfires is, however, also influenced by environmental factors such as those occurring on days of total fire ban. Later discussion of the causes will take this into account when considering the risk each cause represents.

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The prevalent causes will vary with time as programs are put in place to address the significant causes. Fire ignition data needs to be analysed on a regular basis to identify initiating causes, changes in the pattern of incidence and the effectiveness of preventative programs.

Every incidence involving one of the causes of fire ignition shown above will not result in an actual ignition and this will only occur occasionally, however, more often it will result in a supply interruption.

Analysis of the causes and incidence of faults associated with fire ignition provides a valuable tool for;

- assessing the prevalence of incidents capable of causing a fire ignition
- assessing the risk in particular locations
- enabling targeted programs for eradicating risk at identified problem locations; and
- identifying trends in fire ignition.

Fault data will be analysed on a regular basis by the Director Asset Engineering to:

- identify the causes of faults with links to fire ignition; and
- assist in developing targeted remedial programs.

The following sections discuss the causes, the link to the resulting fire ignition mechanism and the risk these events represent in becoming a serious wildfire.

4.2 TREES CONTACTING POWERLINES

Electric discharge and **conductor clashing** can result from trees contacting overhead lines where: -

- Hot timber embers resulting from the **electric discharge** can ignite dry ground fuel
- Limbs in contact with a bare conductor may burn because of **electric discharge** and in falling may ignite dry ground fuel
- The displacement of trees in strong winds or falling limbs cause **conductors to clash together** and this may ignite dry ground fuel
- Falling trees or branches bring conductor/s to the ground. The resultant **electric discharge** to the ground may ignite dry ground fuel; or
- protective devices fail to detect a limb in contact with a conductor and resultant arcing causes the conductor to fail and contact the ground. The resultant **electric discharge** to the ground may ignite dry ground fuel.

The incidence of fire ignition caused by trees has been reduced as a result of the requirements of the Electric Line Clearance Code but remains significant (approx. 19%) of all fire starts. This risk increases significantly under the environmental conditions prevailing on days of Total Fire Ban (TFB).

Tree contact is considered as the **major fire risk** to SP AusNet.

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4.3 CONDUCTORS

4.3.1 General

Electric discharge and **conductor clashing** can result from:

- incorrect sag of conductors combined with wind; and
- mechanical failure of conductors or their fittings.

4.3.2 Sag of Conductors

Conductors are designed and installed with sufficient clearance between them to allow for sag and sway under operational and environmental conditions that can reasonably be expected to prevail.

This performance may not however, be maintained over time. Incorrect and uneven sag of conductors can occur because of insufficient pole footing strength and mechanical turning couples caused by:

- dissimilar conductor sizes or materials; or
- unbalanced conductor configurations on cross arms.

Different conductor sizes and materials further exacerbate the problem because:

- the change in sag with changes in operational and environmental conditions will be different for different conductor sizes and materials; and
- the sway in the wind of the conductors will be different for different conductor sizes and materials.

In such situations wind can cause **conductors to clash together** and this can ignite dry ground fuel.

The incidence of conductor clashing has progressively reduced as a result of the:

- program to fit LV spreaders to bare conductor spans in bushfire areas (this program is effectively complete)
- using substations and underground services rather than low voltage mains; and
- introduction of Aerial Bundled Cable (ABC).

Conductor clashing now represents approximately 2% of fire starts however historical data suggests that this rate will double under conditions prevailing on days of TFB. It should also be noted that the conversion rate of faults involving conductor clashing to fire ignition is much higher than other causes of ignition.

Conductor clashing is considered a **high order fire risk** to SP AusNet.

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4.3.3 Conductor Failure

Mechanical failure of conductors, conductor ties and conductor joints can result from:

- Wear
- Corrosion
- Vibration
- Overheating (local discharge)
- High fault current

which are affected by the proximity to the sea or water (eg. dam or lake), altitude, terrain, direction of the line relative to prevailing winds, stringing tension and contact by other objects or agencies.

The mechanical failure of conductors or their fittings generally cause the conductor to come to ground. The resultant **electric discharge to the ground** may ignite dry ground fuel.

The incident of this cause of fire ignition is significant (approx. 14%) and does not appear to be greatly influenced by the conditions prevailing on days of TFB.

Conductor failure is considered a **medium order fire risk** to SP AusNet.

4.3.4 Spreaders

SP AusNet's policy, since October 2002, is for the fitting of spreaders to all open wire low voltage spans in hazardous bushfire risk areas. Previous policy permitted selective application based on individual span design.

Under normal environmental conditions spreaders are expected to retain their structural integrity for at least 20 years. Accordingly vigilance is necessary to pick any early indications of deterioration and failure mode.

Little or no damage has been detected to the conductor caused by either the stainless steel clips or the rods and no special actions are recommended. Where replacement is necessary the new spreaders must be located no closer than 100 mm from the original position.

In some exposed coastal areas severe conductor damage has occurred where the conductor contacts the stainless steel clip or the spreader rod. In the worst case this has led to the total separation of the wires of the aluminium conductor within 5 years. The damage has been most prevalent on smaller ASCR conductors but the severity can vary considerably from span to span and has been detected on 19/ 3.25 AAC.

No significant deterioration has been observed with copper conductors.

Periodic reviews should be undertaken and if serious corrosion is detected consideration needs to be given to permanent solutions such as ABC.

4.4 BIRDS AND ANIMALS

Bird induced **electric discharge** (flashover) occurs when a bird bridges an insulator and contacts a conductor. The resultant flashover can impart enough energy to cause the carcass to burn and ignite dry ground fuel.

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Flashovers can also occur when an animal such as a possum bridges an insulator, with the same result as the bird induced flashover. Possums are nocturnal however, and the risk of ignition of a fire is considerably reduced due to lower air temperatures, lower wind speeds and the increased moisture content of combustible materials when possums are active.

The introduction of concrete poles and steel cross arms has contributed to an increased incidence of bird/animal induced flashovers because of the conductive nature of concrete and steel.

Current construction standards require longer insulators (stretched insulators) which overcome most problems, but significant numbers of the shorter insulators are in service. Problems in these structures can be addressed by installing bird covers, or replacing with larger insulators.

Bird/animal flashovers are one of the most significant causes of fire ignition (approx. 16%) however, the incidence is significantly less on days of TFB (less than 5%) when the risk of the spread of fire is high. The prevailing weather conditions on days of TFB are believed to make powerlines unattractive to birds.

Bird/animal flashovers are considered a **medium order fire risk** to SP AusNet.

4.5 POLES AND CROSSARMS

4.5.1 Pole and Crossarm Failures

Poles and cross arms failures can be a cause of fire as a pole or cross arm failure will generally bring conductors together (**conductor clashing**) or to the ground causing **electric discharge**.

SP AusNet has approximately 215,000 wooden poles in service, which represents 70% of the Business's total pole population.

Deterioration in wooden poles can occur as a result of decay (internal/external) and/or termite attack. Because of this, poles are subject to a rigorous inspection and testing program (refer Line Inspection Manual). Infrequent failures, however, do still occur and investigation of these has identified the following as the contributing causes -

- incorrect labelling of timber species by suppliers
- inadequate controls over the frequency of inspections
- failure to correctly interpret the evidence of a pole test
- inadequacies of previous inspection methods
- failure to change or make safe a pole following detection; and
- rapid onset of termite infestation between cycles.

In recent years actions taken across the Electricity Industry in tackling the above matters has seen the frequency of pole failures decrease significantly.

Pole failures are considered a **low level fire risk**.

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Deterioration of wooden cross arms can occur as a result of decay and/or termite attack. Whilst cross arms are subject to a cyclic inspection program failures do still occur and the following have been identified as contributing causes:

- inadequate controls over the frequency of inspection
- inadequacies of inspection methods
- failure to correctly interpret the degree of deterioration by visual inspection from the ground. This is particularly so if decay is at the top of the crossarm.
- failure to change a crossarm following detection; and
- rapid onset of termite infestation or decay between inspection cycles.

Whilst the frequency of crossarm failures is still significant this has been reduced by the introduction of steel cross arms.

Crossarm failures are considered a **medium level fire risk**.

4.5.2 Pole and Crossarm Fires

Pollutants such as salts or dust accumulate on the surface of insulators and tracking (**electrical discharge**) can occur across the surface of older pin type HV insulators to wooden structures when environmental conditions are conducive. This can result in the crossarm or pole burning and leading to the **clashing of conductors** and/or conductors falling to the ground where the resultant **electric discharge** may ignite dry ground fuel.

All insulators are designed to be “self cleaning” by the action of rain, but in very light rain or heavy fog conditions pollutants are not always removed and can combine with the moisture to enable surface leakage currents to flow in older pin type insulators.

Pole and crossarm fires usually occur at irregularities in the structure such as bolts and insulator pins where the density of leakage currents is higher. Since the late seventies poles and cross arms have been fitted with gang nails to achieve better dispersion of leakage currents into the timber.

While statistically pole and crossarm fires due to Insulator Failures are significant (approx. 12% of fire ignitions) they have not been the cause of serious bushfires. This is because the atmospheric moisture (usually heavy fog or light rain) required to initiate the fire are not conducive to the spread of fire. Serious bushfires normally occur under extremely low atmospheric humidity and very dry vegetation conditions.

Risk is also related to local environmental factors governing the presence of pollutants and must be assessed at a local level.

Pole and crossarm fires are, in most locations, considered a **low level fire risk**.

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4.6 HV FUSES

4.6.1 General

The discharge of hot particles can result from the malfunction of HV fuses.

Fuses are an integral component of a distribution network protection system. The choice of a fuse, its operational characteristics, range and rating must be carefully chosen to:

- coordinate with other devices protecting the system; and
- operate within its design capabilities

in order to maximise public safety, protect assets and minimise the number and extent of unnecessary interruptions to supply.

The selection and application of fuses must be in accordance with the guidelines set out in document BFM 21-65.

Fuses are used to detect and quickly isolate low magnitude fault currents limiting the energy dissipated in electrical discharges and with the clashing of conductors.

Notwithstanding their many operational benefits fuses can malfunction or fail **discharging particles** which are hot enough to ignite dry ground fuels.

The characteristics of all the fuses used on the SP AusNet network in fire risk areas are outlined below.

4.6.2 HV Clamp-On Fuses

Clamp-on fuses are an expulsion type fuse, and all identified installations have been removed from the SP AusNet network.

4.6.3 HV Expulsion Drop Out (EDO) Fuses

The operating range and cost of EDO fuses make them attractive for application at low fault energies.

The operating action of this fuse relies on the expulsion of ionised gases to extinguish the arc and in early models the discharged residues were capable of igniting fires. This required fire chokes to be fitted to trap expelled particles.

A concerted and cooperative effort involving the SEC, Sydney University, Energy Australia, the Electricity Supply Association of Australia, Standards Australia and manufacturers of expulsion type fuses resulted in an Australian Standard for fuse links with "world first" fire performance requirements and also led to other improvements such as:

- fuse tubes being changed from paper bakelite to fibreglass
- a single vented design which has replaced the double vented design; and
- cast components instead of pressed metal.

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Since 1977 all EDO units have been fitted with fire chokes. Early model EDO fuse fire chokes created an increased likelihood of bird flashover induced ignition, particularly on concrete poles. A re-designed, smaller fire choke was introduced in 1987 together with an insulating top contact cover to reduce the possibility of bird flashovers on concrete pole installations in areas of significant bird populations.

Since 1990 significant improvements have been made in the performance of EDO fuse links. A new spark emission test has been incorporated in the relevant Australian Standard and an objective test developed to improve the reliability of the "drop out" action.

A program to accelerate the replacement of "in service" fuse links with products tested to AS 1033.1 has been implemented.

Current policy is to no longer install EDOs and to replace all unserviceable EDOs with Tamer or Boric Acid fuses.

4.6.4 HV Powder Filled Fuses (PF)

Powder Filled Fuses have a lattice style fuse link encapsulated in a silica-based powder. When the fuse "blows", disturbance of the powder and the consequent separation of the combustion products, extinguish the arc. All combustion by-products are contained within the fuse housing and fire chokes are not necessary.

The limited operating range of early model PF Fuses has caused some instances where, under overload or low fault current conditions, there has been insufficient disturbance of the powder to stop tracking over the residues of the fusion of the element. This eventually overheats the porcelain fuse barrel, which can shatter due to thermal stress (Roman Candle effect). The hot particles created can cause ignition of dry ground fuel.

A "full range" 22 kV Powder Filled Fuse has been developed to overcome this problem and no fires have been recorded as caused by the malfunction of a post 1990 "full range" Powder Filled Fuse to date.

4.6.5 HV Boric Acid Fuses

HV Boric Acid Fuses have a spring-loaded arcing rod which is actuated by the fusion of a link and driven "clear" through an arc-quenching medium (boric acid). This action also forces an actuating pin through a top end seal and causes the fuse carrier to "drop out" of the top contact of the fuse fitting. Minimal combustion by-products are expelled and testing to AS 3033.1 has validated that fire chokes are not necessary.

Early model Boric Acid Fuses were susceptible to "Roman Candle" effect. Under low-level faults the striker pin did not always have sufficient energy to cause the fuse carrier to drop out (hang up). This may lead to overheating.

The later version of Boric Acid Fuses has not shown a tendency to "hang up" and no fires have been recorded as initiated by a post 1989 Boric Acid Fuse.

All identified installations of the early version Boric Acid Fuse have been replaced.

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4.6.6 Risk

SP AusNet has established a failure reporting and analysis process which will increase the emphasis on identifying high risk HV fuse types by design features, brand and service history.

(a) EDO Fuses

The incidence of fire ignition caused by EDO fuses has been low in recent years and can be attributed to:

- advances in technology
- replacement programs; and
- lower service duty requirements because of improved tree clearing standards.

A re-designed, smaller fire choke was introduced in 1987 together with an insulating top contact cover to reduce the possibility of bird flashovers on concrete pole installations.

While not statistically evident, fire ignitions caused by EDOs would be expected to be higher on days of TFB because of increased number of operations resulting from the environmental conditions.

EDOs are currently considered a medium fire risk.

(b) Powder Filled Fuses

There is currently no evidence to suggest there will be any deterioration of performance with service life for Powder Filled Fuses.

The incidence of fire ignition caused by Powder Filled Fuses has been low in recent years and will further improve with the increased application of the full range version.

Powder Filled Fuses are currently considered a low fire risk.

(c) Boric Acid Fuses

There is currently no evidence suggesting deterioration of Boric Acid Fuse performance with service life.

The incidence of fire ignition caused by Boric Acid Fuses has been low since the replacement of the Series 1 version.

Boric Acid Fuses are currently considered a low fire risk.

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4.7 EARTHING

A single wire earth return (SWER) system returns load currents through the general earth mass via the local earthing system at (SWER) isolating substations. A high resistance between this local earthing system and the general earth mass can generate sufficient heat to ignite grass fires.

Earthing systems can deteriorate over a period of time due to one or more of the following causes:

- Corrosion of buried components
- The drying out and cracking open of the surrounding soil; and
- Mechanical damage by third parties affecting the continuity, extent and consequently the effectiveness of the earthing system.

Improved inspection and testing routines have significantly reduced the incidence of this type of fire.

SWER earthing systems are currently considered a **low fire risk**.

4.8 SURGE DIVERTERS

The discharge of particles hot enough to ignite dry ground fuel can result from the malfunction or failure of surge diverters.

A surge diverter is a device designed to protect electrical apparatus from transient over voltages, such as lightning, by providing a path to earth for the impulse current.

Current policy is that surge diverters will be installed on the plant set out in the "Distribution Surge Diverter Application Strategy".

In the early 1980s, it became evident that under certain circumstances some classes of surge diverters could shatter **releasing hot fragments**.

The SEC and its suppliers carried out extensive research to identify the causes of surge diverter failure which result in fire ignition and subsequently surge diverters were developed with explosion relief and an earth lead disconnect device which automatically disconnects the surge diverter if power frequency currents flow.

A change over program was initiated in the late 1980s to remove or disconnect surge diverters that did not have these features.

Subsequently some instances of porcelain failure were still detected, meaning some risk still existed that fire could be initiated by hot fragments. It was also found that some types of earth lead disconnect devices could expel hot particles.

In 1983, surge diverter specifications were tightened to ensure earth lead disconnect devices did not expel hot particles to the ground.

SP AusNet now purchases polymeric bodied surge diverters for this application, following trials and testing to AS 1033.1, which has confirmed that selected types and brands offer better fire performance.

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Asset Performance Manager has established a failure reporting and analysis process which will increase the emphasis on identifying high risk surge diverter types by design features, brand and service history.

The incidence of fire ignition caused by surge diverters has been low in recent years (approx. 2% of fire starts) and can be attributed to:

- advances in technology; and
- replacement programs.

The risk of ignition does not appear to be influenced by the environmental conditions on days of TFB.

Surge diverters are considered a **low order fire risk**, which will be maintained or improved by the introduction of polymeric housings.

4.9 PRIVATE ELECTRIC LINES (PELS)

The Barber Inquiry of 1977, identified poorly maintained overhead private electric lines as a high risk to fire safety.

The Electricity Safety Act 1998 clearly assigns the duty of maintaining these lines to the occupier or owner of the land. It also assigns a duty to SP AusNet to assist these people in determining the works necessary for the maintenance of the lines.

Section 85 of the Electricity Safety Act 1998 empowers SP AusNet, with the agreement of the ESV, to require any new or substantially reconstructed private electric line in fire risk areas to be placed underground.

Regulation 403 of the Electricity Safety (Installations) Regulations requires that any private electric line to be constructed or substantially reconstructed **must** be placed underground except that private overhead electric lines may be constructed or substantially reconstructed in low bushfire risk areas.

Exemptions to the above requirement can only be granted by Energy Safe Victoria in accordance with Regulation 416 of the Electricity Safety (Installations) Regulations.

The incidence of reported fire ignition caused by private electric lines has been exceptionally low in recent years however, reporting is not necessarily very reliable in these circumstances. Nevertheless improvements can be attributed to:

- current management programs
- the progressive underground replacement; and
- increased public awareness.

The risk will be greater on days of TFB because of environmental factors. Private Electric Lines with known serious defects will be disconnected on days of TFB.

Private Electric Lines are considered a **medium to high fire risk** because of the lower level of control exercised by SP AusNet.

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4.10 EXTERNAL AGENCIES

Fires involving SP AusNet assets are also initiated by incidents beyond its control.

The external agencies involved include:

- wind blown debris, eg. tree branches (if outside the defined clearances areas), building and roofing activities
- damage by vandals
- third party vehicles striking poles, conductors and other assets; and
- airborne craft, eg. light aircraft, hang gliders.

Specific remedial programs are not practical in these cases but diligence is necessary at a local level in identifying hazards.

Similarly, SP AusNet cannot directly control the risks associated with birds, animals and lightning. Local knowledge of the conditions which prevail, may necessitate additional measures which must be set out in the Bushfire Mitigation Strategy Plan.

4.11 FAULT ENERGY

A correlation which links the potential fault energy at a site with the likelihood of ignition, has been proven by a statistical survey. In simplified terms, the amount of energy available, is determined by the impedance of the line to the fault, and the clearance time of the relevant protective device.

Sections of feeder protected only by the zone substation circuit breaker will carry the greatest risk as line impedance is minimal and the protection must give other protection further down the line time to operate first. This section of line is also generally subject to auto reclose because of the number of customers affected as a result of its isolation.

Faults to ground are by far the most common and their magnitude can be reduced with Neutral Earth Resistors connected to the start point of the station transformers. A number of SP AusNet zone substations supplying areas of high fire risk have been fitted with neutral resistors and the necessary protection system upgrade to assist in the management of the risk.

Fault energy can also be reduced by the second station transformer being put on "stand by" and feeder auto reclose being suppressed. These measures may not be technically possible in all situations because this will impact on the reliability of the network and may interrupt essential services. Such measures can only be considered at times of extreme fire risk.

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4.12 SIGNIFICANT ASPECTS

The preceding discussion has identified 'how fire ignition has previously occurred' and the 'factors influencing the risk of fire ignition'. Thus the primary factors used to identify the risk of a fire ignition at a particular location can be summarised as:

- incidence rates of historic causes
- incidence rates of historic causes on days of Total Fire Ban
- environmental conditions (dry, wet, exposed, protected, windy)
- available ground fuel (density of vegetation); and
- prospective fault energy (available fault current, fault clearing time).

Significant improvements have been made in quantifying incident rates, the probability of fire ignition and the consequences of ignition. Substantial progress has also been made in the mitigation of historic causes and prospective fault energies.

However, the wide variation in environmental conditions and available ground fuel, which are beyond the control of SP AusNet, means that there are not always precise answers and a degree of judgement is involved in weighing the influencing factors and assessing risks.

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5 LEGISLATION, REGULATIONS AND CODES OF PRACTICE

5.1 GENERAL

Two pieces of legislation and associated regulations have particular relevance to bushfire mitigation activities. These are the Electricity Safety Act 1998 and the Electricity Industry Act 1993.

They prescribe regulations and codes, assign responsibilities, empower distribution companies and impose penalties for non-compliance with enforceable requirements related to the minimisation of the risk of fire ignition.

Reference should be made to the Legal and Other Requirements set out in Procedure BFM 21-52 with regard to how SP AusNet identifies and accesses the legal and other requirements which are directly applicable to its operations.

The following is provided as a summary and interprets parts of legislation and regulations. The legislation and regulations should be directly referred to for matters of decision and legal advice sought as necessary.

5.2 THE ELECTRICITY SAFETY ACT 1998

Part 8 - Electric Line Clearance

Division 1 – General

Section 83A of the Act requires electricity suppliers to prepare and submit to the ESV annual plans (before 1 July) of their proposals for mitigation of bushfire dangers in relation to their electric lines.

Section 83B of the Act sets out electricity suppliers obligations in relation to the inspection of private electric lines.

Division 2 - Responsibility for maintenance line

Section 84 of the Act makes Distribution Companies, Transmission Companies and others, responsible for:

“keeping vegetation clear of electric lines.”

In summary:

The occupiers of land are responsible for the maintenance of private electric lines both overhead and underground and for:

- keeping vegetation growing on their land clear of any Private Electric Line on their land, pursuant to **Section 84 (1)** of the Act;
- keeping vegetation growing on their land clear of any Service Line crossing the land with the purpose of providing electricity to an installation on their land, pursuant to **Section 84 (1) (a)** of the Act.
- keeping vegetation growing from their land clear of any Private Electric Line on adjoining land, pursuant to **Section 84 (2) (b)** of the Act;

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Local Government or any other body responsible for the management of public land is responsible for keeping vegetation clear of electric lines (other than transmission lines) on public land in Declared Areas, pursuant to **Section 84 (4)** of the Act.

Any Person other than a Distribution Company, who owns or operates an electric line (this includes Transmission Companies) is responsible for keeping vegetation clear of their electric lines, pursuant to **Section 84 (5)** of the Act.

The Roads Corporation is responsible in rural areas for keeping vegetation clear of electric lines (other than a private electric line or transmission line) on any road plantation where the road is declared to be a road by the Minister administering the Transport Act under Schedule 5 to the Transport Act 1983 (other than a main road), pursuant to **Section 84 (6)** of the Act.

The Relevant Distribution Company, is responsible for keeping vegetation clear of electric lines in all circumstances other than those described above pursuant to **Section 84, (7)** of the Act. This includes:

- all public land in rural areas;
- all public land in Urban areas which are not Declared Areas;
- powerline easements;
- all places where vegetation growing on private land may grow into the powerlines on public land or powerline easements

Section 85 of the Act gives Distribution Companies and Transmission Companies the power to:

- enter onto land for the purpose of inspecting electric lines, pursuant to **Section 85, (a)** of the Act;
- require, with the agreement of the ESV, that new or substantially reconstructed electric lines be placed underground pursuant to **Section 85, (b)** of the Act; and
- enter on to land to fulfil their responsibilities under the **Section 84, (5) and 84 (7)** [ie. keeping trees clear of electric lines] subject to the production of an approved certificate, pursuant to **Section 85, (c)** of the Act;

Section 86 of the Act gives Distribution Companies the power to serve notice in writing on other responsible persons which requires them to carry out their responsibilities under the Act to maintain clearance. Where they fail to do so the Distribution Company subject to conditions may carry out the necessary works and recover costs.

Section 87 of the Act requires that there be an Electric Line Clearance Consultative Committee and **Section 88** sets out the functions of the committee.

Section 89 of the Act sets out procedures for varying or amending the Code of Practice.

Part 13 Regulations

Section 149 establishes general regulating making powers.

Section 151 of the Act, in part, requires regulation for the ***Code of Practice for Electric Line Clearance*** to set out the:

- duties of responsible persons;
- standards and practices to be observed;
- management procedures; and

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includes the minimum clearances to be maintained between electric lines and vegetation.

Much of the Code is enforceable and subject to penalty for non compliance.

Management plans relating to compliance with the Code must be prepared and submitted to the ESV for approval.

5.3 ELECTRICITY INDUSTRY ACT 1993

In part under **Section 47 (1) (d)** of the Act an Electricity Corporation may enter onto any public or private land or roads and may construct, repair, alter or remove any such structure or equipment or any works under its control.

Under **Section 47 (1) (e)** of the Act an Electricity Corporation may do all other things necessary or convenient for constructing, maintaining, altering or using any works or undertakings of the electricity corporation.

These parts of the Act are relevant for access and carrying out bushfire mitigation programs required for the maintenance and upkeep of network assets.

5.4 ELECTRICITY SAFETY (NETWORK ASSETS) REGULATIONS

These regulations are made under the regulation making powers in the Electricity Safety Act 1998.

Part 4, Section 14 (ii) (d) of the) Regulations under the heading **Design, construction, operation and maintenance** states in part that:

***“ the Network Operator must ensure that -
the assets of the network do not cause fire.”***

Part 2, Section 10 (1) under the heading **Audit** states:

“ A Network Operator must have a plan which incorporates a requirement to test, inspect and maintain the Network Operator’s assets to ensure that the requirements of these regulations are met.”

5.5 ELECTRICITY SAFETY (INSTALLATIONS) REGULATIONS

Regulation 403 (1) states “ A private electric line to be constructed or to be substantially reconstructed must be placed underground except that overhead private overhead electric lines may be constructed or substantially reconstructed in a low bushfire risk area”.

Exemptions to the above requirement can only be granted by Energy Safe Victoria in accordance with Regulation 416.

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5.6 ELECTRICITY SAFETY (BUSHFIRE MITIGATION) REGULATIONS

The objective of these Regulations is to make provision for the preparation of bushfire mitigation plans and the inspection of private overhead electric lines by electricity suppliers.

5.7 ELECTRICITY SAFETY (ELECTRIC LINE CLEARANCE) REGULATIONS

The objectives of these Regulations are to –

- (a) prescribe the Code of Practice for Electric Line Clearance that provides for -
 - (i) standards and practices to be adopted and observed in tree pruning or clearing in the vicinity of electric lines and the keeping of the whole or any part of a tree clear of electric lines;
 - (ii) management procedures to minimise danger of electric lines causing fire or electrocution;
 - (iii) other matters for or with respect to the maintenance of electric lines;
- (b) prescribe the penalty provisions of the Code;
- (c) provide for management plans relating to compliance with the Code;
- (d) other matters authorised under the Act relating to electric line clearance.

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6 ORGANISATIONAL STRUCTURE AND RESPONSIBILITY

6.1 GENERAL

Bushfire Mitigation is an integral part of SP AusNet's Environmental Management Strategy and the **Bushfire Mitigation Management Committee** is the key group within the Environmental Management Organisational Structure that provides the policy base and the functional link to the related line activities.

Essentially the role of the Committee is to establish policy and standards, recommend targets and R&D programs and monitor performance and expenditure.

The detail of the role of this committee, its composition, responsibilities and functional operation is set out in the Environmental Manual, Document EMS 10-01

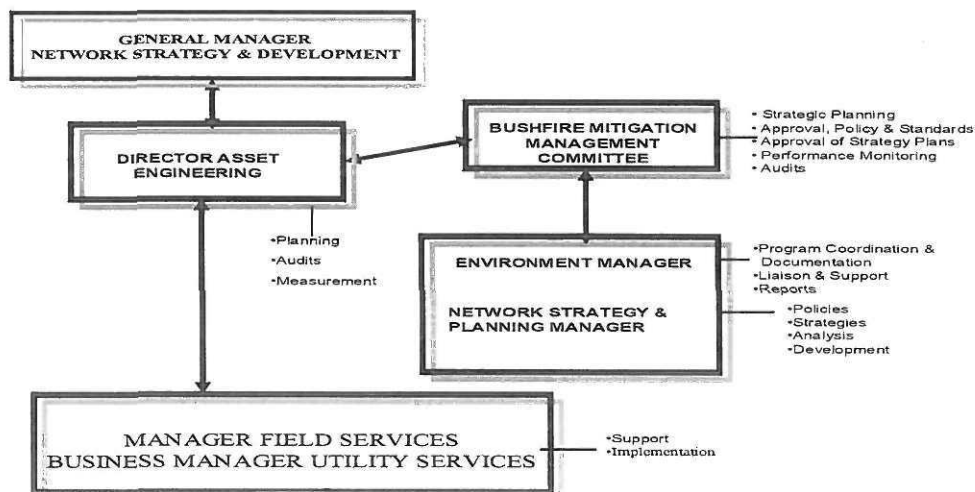


FIGURE 2

The organisational structure and responsibilities for bushfire mitigation outside the committee structure is shown in Figure 2 above.

- accountability is held by General Manager Network Strategy and Development, consistent with the normal line management accountabilities; and
- delegation of specific responsibilities to line managers within SP AusNet

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A checklist of annual requirements for bushfire mitigation activities is provided in document BFM 21-62 outlining activities, target dates and responsibilities/accountabilities

6.2 GENERAL MANAGER NETWORK STRATEGY & DEVELOPMENT

The GM Network Strategy and Development carries the line responsibility and is personally accountable to the Managing Director for bushfire preparedness to the standards prescribed and rules referred to in the Bushfire Mitigation Manual.

6.3 ENVIRONMENTAL MANAGER

The **Environmental Manager's** role is essentially one of assistance, program overview, coordination and overseeing the implementation of the Bushfire Mitigation Program. The role and responsibilities of this post are detailed in the Environmental Manual, document EMS 10-01.

The Environmental Manager co-ordinates the preparation of the Bushfire Mitigation Plans for the business which reflect unique requirements of the area and measures to be taken to manage the risk. The Plan is submitted to the Regulator, Energy Safe Victoria on an annual basis for approval.

6.4 DIRECTOR ASSET ENGINEERING

The Director Asset Engineering carries the line responsibility and is personally accountable to the General Manager Network Strategy and Development for bushfire preparedness to the standards prescribed and rules referred to in this Manual. He is directly responsible for the timely development and implementation of strategies and programs to achieve and maintain bushfire preparedness and includes:

- planning, resource budgeting and programming.
- development of plans and strategies to achieve bushfire preparedness and achievements of targets set out in the Business Rules.
- inspection of distribution assets and the disposition of any non-complying elements.
- implementation and development of Bushfire Mitigation Programs, as necessary, in accordance with the requirements of this Manual.
- monitoring and reporting in accordance with the requirements of this Manual; and
- in conjunction with the **Environmental Manager** establishment of a failure reporting and analysis process so as to identify areas/causes of fire ignitions that need to be investigated and alleviate; and development of solutions to alleviate the causes of fire ignition
- liaison with local fire fighting and other relevant authorities.

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6.5 NETWORK STRATEGY AND PLANNING MANAGER

The **Network Strategy and Planning Manager** is responsible for the:

- development of fire prevention programs and the recommendation of policy and implementation strategies to the Bushfire Mitigation Management Committee
- selection and development of application practices for fire safe plant and equipment
- analysis and selection of technology to minimise the risk of fire ignition.

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7 IMPLEMENTATION AND OPERATIONS

7.1 GENERAL

This is comprised of:

- periodic inspection of the distribution assets to identify the works necessary to maintain fire safety
- operational programs to remove or manage the identified risks; and
- monitoring and reporting regimes to measure the state of preparedness for the declared bushfire season and the effectiveness of programs.

7.2 INSPECTION

The purpose of inspection programs is to assess the condition of distribution network assets, record test results and observations and log results for further evaluation and action. Inspection programs have been designed for the surveillance of identified causes of fire ignition.

The following inspections must be undertaken.

7.2.1 Periodic Asset Inspection Program

Every pole of the distribution network in fire hazard areas must be inspected and tested as part of the cyclic program detailed in the Business Rules. This includes Private Electric Lines from the point of supply to the first electrical installation connected to the line. A visual inspection of attached hardware, conductors and vegetation clearances must also be done at that time. The line inspection must be carried out in accordance with the procedures set out in the Line Inspection Manual, the required information recorded on the Line Inspection Report and the results imputed to the Asset Database (Q4).

Personnel carrying out asset inspections and tests must have satisfactorily completed the necessary competency based training and their performance must be audited. Refer to the Line Inspection Manual and Contracting Guidelines.

Information must be entered into the Portable Data Entry (PDE) device or the Line Inspection Report compiled as required in the Line Inspection Manual.

For pole attachments and conductors requiring attention the asset inspector must allocate a priority category **designating the urgency of attention required** as set out below:

PT30 - requires remedial action within 30 days.

For URGENT items requiring immediate action and for PT30 items during the fire declaration period, the Asset Inspector shall notify the Asset Performance Coordinator or other nominated persons immediately by radio or phone following detection. Code PT1 trees found during the declaration period must be restored to Code compliance within 24 hours.

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PT180 - Requires further assessment or remedial action, within a period of 180 days

The definitions for the assessment of PT30 and PT180 remedial tasks are as follows:

PT30 - means any deterioration, imminent failure, failure or partial failure of pole attachments, line hardware or conductors which are judged to be a significant risk to public safety, property and the security of the distribution network by an asset inspector.

The Asset Performance Coordinator is responsible for the disposition and the timeliness of remedial action in accordance with the requirements of the Business Rules.

PT180 - means any deterioration, failure or partial failure of pole attachments, line hardware or conductors which are judged as being a risk to public safety, property and the security of the distribution network by the asset inspector and requiring remedial action within a period of 180 days.

The Asset Performance Coordinator may make a further assessment of the priority assigned and is responsible for the disposition and the timeliness of remedial action in accordance with the requirements of the Business Rules.

The Works Planning & Performance Monitoring Manager is responsible for ensuring that the Asset Inspection Program is carried out in accordance with the relevant documents mentioned above.

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7.2.2 Pre Summer Inspection Program

All conductor spans of the distribution network in fire hazardous areas that have vegetation must be inspected prior to the start of the fire season (normally during the period June to October) to identify any trees infringing the clearance space and any other obvious line defects which may be a cause of the ignition of fire. Inspections may be carried at other times depending on location and prevailing weather conditions.

The inspection will be carried out by the method determined as the most appropriate in the circumstances. This may be by aerial inspection, ground patrol or line inspection or any combination thereof.

With aerial inspection the Works Planning & Performance Monitoring Manager must be satisfied that:

- this inspection method will achieve sufficient detail in the circumstances which will prevail
- that the inspection can be done safely; and
- that the inspection will not unduly disturb local residents and farming activities.

7.3 FIRE PREVENTION PROGRAMS

7.3.1 General

The purpose of Fire Prevention Programs is to carry out works necessary to maintain distribution network assets in a fire safe condition. These works will be in the form of routine programs such as vegetation and pole management and works, as and when required, for items reported as requiring attention; eg. PT30 and PT180 remedial actions.

The programs set out below are based on achieving compliance with the requirements of the Business Rules. Not all programs may be applicable to all areas and it is the responsibility of the Works Planning & Performance Monitoring Manager to determine the need and planning for program implementation.

7.3.2 Vegetation Pruning and Clearing

Vegetation contacting powerlines can cause the ignition of fire (refer Section 4.2).

The clearance space prescribed in the Electric Line Clearance Code must be maintained clear of vegetation. In carrying out the work necessary to achieve this, the duties assigned to the responsible person in the Code of Practice must also be observed.

This includes:

- Notification of affected persons
- Consultation with affected persons where the status quo will change
- Negotiation of access arrangements, the application of chemicals, disposal of debris and the replacement of trees and shrubs
- Recognition of "Important Vegetation" (as described in the Code)
- Quality of pruning and clearing work; and

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- Assisting others in the selection of suitable species for planting near powerlines and on matters relating to the safety of pruning and clearing near powerlines.

The definition of an "Affected Person" is given in the Code.

The procedures employed by SP AusNet in meeting the requirements of the Powerline Clearance Code are set out in document BFM 21-73. The process to be employed to ensure pruning is undertaken in a responsible manner is outlined in the Vegetation Management Plan.

In HBRA areas recurrent **pruning and clearing cycles** will normally be **3 years** in rural areas and **12 to 18 months** in urban areas. In LBRA areas the pruning and clearing cycle shall be a maximum of 2 years

To prevent vegetation encroaching the clearance space during this period additional pruning and clearing will be required (Regrowth Space) and diseased and unstable vegetation in the area beyond this which is a hazard to the line (Hazard Space) must be removed or other remedial action taken.

The Electric Line Clearance Code clearly makes it SP AusNet's duty to determine the extent of the Regrowth and Hazard Space. Guidance for determining these are provided in the Vegetation Management Plan and expert advice should be sought where necessary as this matter is community sensitive and the methodology used must have a sound basis.

Establishing the appropriate regrowth space will enable pruning and clearing to be limited to the routine cycle but as this is not an exact science and dependent on climatic conditions during the cycle, pre summer clearing may be necessary at some locations outside the normal cycle.

Alternative methods to clearing and pruning to maintain clearance may be appropriate in some circumstances and these must be assessed as part of the planning process. Alternative methods shall be used where the benefits outweigh those of conventional practices.

The Business Manager Utility Services is responsible for the implementation of programs, which will ensure that the Business Rules relating to vegetation clearances are achieved.

7.3.3 Timber Pole Program

Pole Failure

Pole failure can cause fire ignition (refer Section 4.5).

Pole failure is caused by deterioration of the wood as a result of decay (internal/external) and/or termite attack.

Inspection programs will designate poles as either:

- serviceable
- limited life; or
- unserviceable.

"Unserviceable Poles" must be replaced, staked (where suitable) or have approved repair action taken, as required by document BFM 21-74, within the period set out by the Business Rules; refer section 8.4.3.

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“Limited Life Poles” must be retested; replaced, staked (where suitable) or have approved repair action taken, as required by document BFM 21-74 and, within the period set out by the Business Rules; refer section 8.4.3.

The Works Planning & Performance Monitoring Manager is responsible for the implementation of pole replacement and pole staking programs to meet the requirements of the Business Rules.

Crossarm and Pole Fires

Pole and crossarm fires caused by electrical tracking over HV insulators and loose hardware, under conducive environmental conditions, can lead to subsequent fire ignition.

Insulator washing programs should be implemented in areas subject to the build up of salt, dust and other pollutants during extended periods of dry weather.

The Works Planning & Performance Monitoring Manager is responsible for determining the need for insulator washing and where appropriate, the implementation of a washing program.

All new and replacement HV crossarms in bushfire areas must be in accordance with the requirements of the Network “Crossarm Strategy”.

7.3.4 Line Hardware and Fittings

Conductors

(a) Priority Tasks

Inspection programs will designate any conductors and their fittings requiring attention either as a PT30 or PT180 task.

The Works Planning & Performance Monitoring Manager must take action on priority items to remove the hazard within the period specified by the Business Rules.

(b) LV Spreaders

The Overhead Line Manual identifies spans, which require LV spreaders in fire risk areas. The program for these works is complete. Any conductor spans detected, which do not comply with the preceding, must be corrected as a PT30 task.

(c) Aerial Bundled Cables (ABC)

ABC, both high and low voltage, can significantly reduce fire risk and offers further benefits in reduced recurrent clearing costs and the conservation of important vegetation. Significant investments have already been made on a priority basis in the Dandenong Ranges and other sensitive fire risk areas.

There is no formal program for the retrofitting of ABC cables. Submissions may be made on a risk management and business case basis demonstrating a cost/benefit justification.

It is SP AusNet policy that ABC is the standard for all new aerial LV construction.

Fuses

(a) Priority Tasks

Inspection programs will designate fuse fittings requiring attention either as a PT30, or PT180 task.

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The Works Planning & Performance Monitoring Manager must take action on priority items to remove the hazard within the period specified by the Business Rules.

During any planned or emergency work which provides access to fuse units an inspection of items identified in Section 2 of the Strategic Maintenance Manual must be carried out and remedial action taken or observations recorded in Q4, as necessary.

The Works Planning & Performance Monitoring Manager must ensure that maintenance inspections of fuse units are included in work instructions when necessary.

(b) Clamp-On Fuses

The program to replace all clamp-on fuses is complete. Any clamp-on fuse detected must be replaced as a PT30 task.

(c) Expulsion Drop Out (EDO) Fuses

Inspection programs will designate EDO fuses requiring attention either as a PT30, or PT180 task.

Unserviceable EDO fuses must be replaced with Tamer or Boric Acid fuses.

EDO fuses controlling lines with a prospective fault current 2 kA or greater must be replaced with a Boric Acid or Powder Filled Fuse.

During any planned work which provides access to fuse units, all fuse links must be upgraded to units designated as acceptable in Section 2 of the Strategic Maintenance Manual Volume 2.

The Works Planning & Performance Monitoring Manager must ensure work instructions include these works.

(d) Powder Filled Fuses

Powder Filled Fuses purchased since 1990 have "full range" capabilities.

Earlier models do not have this capability and must be replaced as the opportunity arises as part of routine maintenance or other programmed works.

The Works Planning & Performance Monitoring Manager must ensure work instructions include these works.

(e) Boric Acid Fuses

Series 2 Boric Acid Fuses (introduced in 1990) are the current standard and the program to replace the Series 1 version is complete. Any Series 1 Boric Acid Fuse detected must be replaced as a PT30 task. Refer to the Strategic Maintenance Manual.

Surge Diverters**(a) Priority Tasks**

The program to replace brown coloured, porcelain body diverters is complete. Any further installations detected must be replaced as a PT30 task.

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(b) Unacceptable Surge Diverters

The surge diverters designated as unsuitable in the Line Inspection Manual will be recorded in Q4 and must be actioned in accordance with the requirements of the Business Rules.

The Works Planning & Performance Monitoring Manager must ensure that the replacement of unsuitable surge diverters is included in work instructions when necessary.

(c) Cooper AZLP Polymeric Bodied Surge Diverters

Field and laboratory tests indicate that this diverter is an unacceptable risk. All installations must be replaced or disconnected as a PT30 task.

(d) Maintenance

During any planned work which provides access to surge diverters an inspection must be carried out of items identified for the relevant diverter in Section 3 of the Strategic Maintenance Manual and remedial action taken or observations recorded in Q4, as necessary.

The Works Planning & Performance Monitoring Manager must ensure that maintenance inspections of surge diverters are included in work instructions when appropriate.

Bird Covers

(a) 22 kV

Bird Covers must be fitted to all concrete pole mounted steel crossarms with 5 shed post insulators in fire risk areas.

(b) 66 kV

Bird Covers must be fitted to concrete pole mounted steel crossarms without stretch insulators as set out in the 66 kV Bird Cover Strategy (1996).

The Works Planning & Performance Monitoring Manager must ensure that birdcovers are fitted where required and where applicable within the period specified by the Business Rules.

SWER Earthing

The earthing system of SWER isolating substations must be inspected/tested in accordance with ESMS procedure 30-2664 *Electrical Earth Testing Management Plan* and remedial action taken where necessary.

All tests must be undertaken in accordance with the methods prescribed in the Earthing Design Manual and recorded values must achieve those prescribed in Earthing Design Manual.

Remedial works to meet the prescribed values must be carried out in accordance with procedures set out in the Earthing Design Manual.

7.3.5 Maintenance of Private Overhead Electric Lines

Private Electric Lines from the point of supply to the first electrical installation connected to the line shall be inspected in accordance with the procedures and standards set out in the Line Inspection Manual. Every POEL in the distribution network must be inspected and tested as part of the cyclic program detailed in the Business Rules. POEL owners shall be notified prior to the inspection in accordance with the requirements of the Electricity Safety (Bushfire Mitigation)

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Regulations 2003. A maintenance notice shall be issued to owners with defective PELs as set out in document BFM 21-75.

The Works Planning & Performance Monitoring Manager must put in place a program to ensure that POELs with defects are made safe and to monitor progress. The program must follow guidelines set out in document BFM 21-75 and provide for contingency planning.

Private Overhead Electric Lines with urgent defects must be disconnected on days of TFB, refer document BFM 21-75.

7.3.6 Neutral Earth Resistors (NER)

NERs have been fitted to Zone Substations where the assessed risk of fire ignition was high and reduced fault energy levels have mitigated that risk.

A program to install NERs at other Zone Substations has been developed on a risk basis.

7.4 PROGRAMS ON DAYS OF TFB

7.4.1 General

The following are contingency programs for days of TFB. The Manager Network Operations must outline procedures for these programs in the Bushfire Mitigation Strategy Plan.

7.4.2 Suppression of Auto Reclose

In general a 3.5kA phase to ground fault level is the point at which an NER is installed or the feeder is suppressed on Days of Total Fire Ban. Refer to BFM Strategy Plan for details of Feeders where auto reclose must be suppressed

In special circumstances the Manager Network Operations may decide not to suppress auto reclose on a designated feeder as the benefit of this action outweighs the impact of reduced reliability and the possible loss of supply to services supporting fire fighting and emergency services. Prior to implementing this, the Manager Network Operations must document the reasons for this decision and advise Director Asset Engineer.

7.4.3 Transformer Arrangements in Zone Substations

The Manager Network Operations must determine whether this action is technically practical and whether the prospective benefits outweigh other consequential risks such as reliability and quality of supply.

7.4.4 Communication Channels with the CFA

The Manager Network Operations must, in the Bushfire Mitigation Strategy Plan, have procedures for establishing communication links between the SP AusNet duty officer and CFA Region Officer on days of TFB.

7.4.5 Private Overhead Electric Lines

The Electricity Operations Manager must, in the Bushfire Mitigation Strategy Plan, have procedures for making Private Electric Lines with outstanding defects safe on days of TFB.

7.4.6 Maintenance and Construction Activities

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Maintenance and construction activities that may be undertaken on days of TFB are detailed in document BFM 21-82.

7.5 PUBLIC AWARENESS PROGRAMS

7.5.1 General

It is essential that the community be aware of the potential fire hazards that can arise from the poor maintenance of Private Electric Lines and the selection of inappropriate vegetation species for planting near powerlines.

To address this a comprehensive communication program focusing on the following issues will be maintained:

- The potential of the Distribution Network to be a cause of fire ignition
- Trees and powerlines do not mix; and
- Reminders to Private Electric Line owners of their responsibilities.

Advertising campaigns will be undertaken utilising a combination of the following media:-

- Visually descriptive television awareness campaigns
- Newspaper advertisements in various newspapers
- Articles and advertisements in various journals and magazines
- Radio commercials communicating fire awareness messages; and
- Other mediums as the opportunity arises.

Free brochures and information pamphlets regarding how the community can assist in reducing the risk of fire will be made available at all SP AusNet offices.

The Public Relations & Communications Manager in conjunction with the Environmental Manager is responsible for:

- Review of the effectiveness of public awareness programs
- Making recommendations to the Bushfire Mitigation Management Committee on the public awareness program; and
- Coordinate the public awareness program

7.5.2 Private Electric Line Brochure

To remind customers of their responsibilities and the importance of their bushfire mitigation activities, reminders must be distributed annually to the occupiers of land with overhead Private Electric Lines. It is the responsibility of the Environmental Manager to ensure reminders are issued.

Wherever a "Defect Notice" is issued to a customer with an overhead Private Electric Line, the brochure outlining responsibilities must also be issued to the occupier of the land.

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7.5.3 Community Fireguard

SP AusNet supports the Country Fire Authority for the COMMUNITY FIREGUARD program.

COMMUNITY FIREGUARD is a CFA program similar to Neighbourhood watch, where communities take on a greater responsibility for the safety of their local area and property.

The program offers SP AusNet an opportunity to communicate essential bushfire mitigation programs to local communities, delivering an increased level of understanding of initiatives such as:

- **Vegetation Management Strategies**
 - Planting of appropriate species
 - Removal of unsuitable tree issues
 - Awareness of tree clearing safety matters
 - Alternatives to tree clearing.
- **Improved Performance Requirements for Private Electric Lines**
 - Contribution of PELs on Ash Wednesday
 - Line inspection program and benefits
 - Rectification of faulty lines and tree clearing.
- **Improved Liaison with the Community**
 - Improvement of communications between community groups and SP AusNet
 - Discussion regarding the security of particular lines, etc.

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7.6 DEVELOPMENT PROGRAMS

The Director Asset Engineering has the responsibility for the:

- Development of programs to remove or manage the causes of fire ignition
- Development of programs that will reduce the risk of ignition through improved network performance
- Investigation and development of new technology which will improve network fire performance; and
- Development of the business case, policy and implementation strategies for new technologies.

The Director Asset Engineering reports prospective programs under investigation regularly to the Bushfire Mitigation Management Committee.

The Director Asset Engineering will recommend new programs for the mitigation of bushfire risk to the Bushfire Mitigation Management Committee who will approve changes to policy in accordance with document EMS 10-01. The Director Asset Engineering is responsible for development and communication of policy and the implementation strategies for new programs approved by the Bushfire Mitigation Management Committee.

The Director Asset Engineering is responsible for the establishment and maintenance of records resulting from:

- Pole Fire Reports
- Pole and Crossarms Failure Reports
- Plant and Equipment Failure Reports; and
- Pole Flashover Reports.

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8 PERFORMANCE MEASURES AND TARGETS

8.1 GENERAL

SP AusNet has the following Key Performance Indicators:

- Bushfire Mitigation Index; and
- Distribution System Bushfire Performance Indicator.

SP AusNet also operates to a set of Business Rules which set response targets for corrective actions to nonconforming elements of the network.

8.2 BUSHFIRE MITIGATION INDEX

The Bushfire Mitigation Index is a seasonal performance indicator, which monitors the achievement of the Business Rule targets. It is expressed as a percentage of outstanding (outside required response time) bushfire maintenance work relative to the total bushfire maintenance work, based on a weighted compilation of items covered by the Business Rules. It is reported monthly, as shown in the figure below, or on an area and business basis to record progress against seasonal targets to assist in the planning and management of the task. It also acts as a forward indicator of the business's ability to meet requirements for the start of the fire season.

Figure 3 shows the target variation of the Bushfire Mitigation Index over a 12-month period. During the fire declaration period (1st December to 30th April typically) the Index target is zero. Outside of this period the Director Asset Engineering must set targets to ensure that their works programming and resources are such that the zero Index target is met.

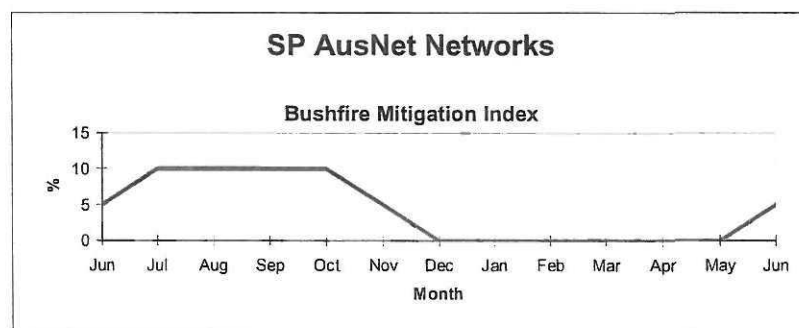


Figure 3

The Index will be updated and circulated on a monthly basis. The method of data capture, circulation list and the weightings and calculation method used are set out in document BFM 21-67. The Works Planning and Performance Monitoring Manager is responsible for the preparation and circulation of the Index.

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8.3 DISTRIBUTION SYSTEM BUSHFIRE PERFORMANCE INDICATOR

The Distribution System Bushfire Performance Indicator measures fire ignitions associated with SP AusNet's assets or activities as a percentage of wildfires attended by the CFA in SP AusNet's distribution area, as shown below. This is to normalise yearly performance by SP AusNet against the variable background of environmental conditions by using the number of CFA wildfires as the control measure of environment risk.

This comparison of yearly performance without the distortion of climate and other factors is to be used as a tool for determining the validity of programs and their implementation.

Figure 4 below shows the variation of the index since 1994

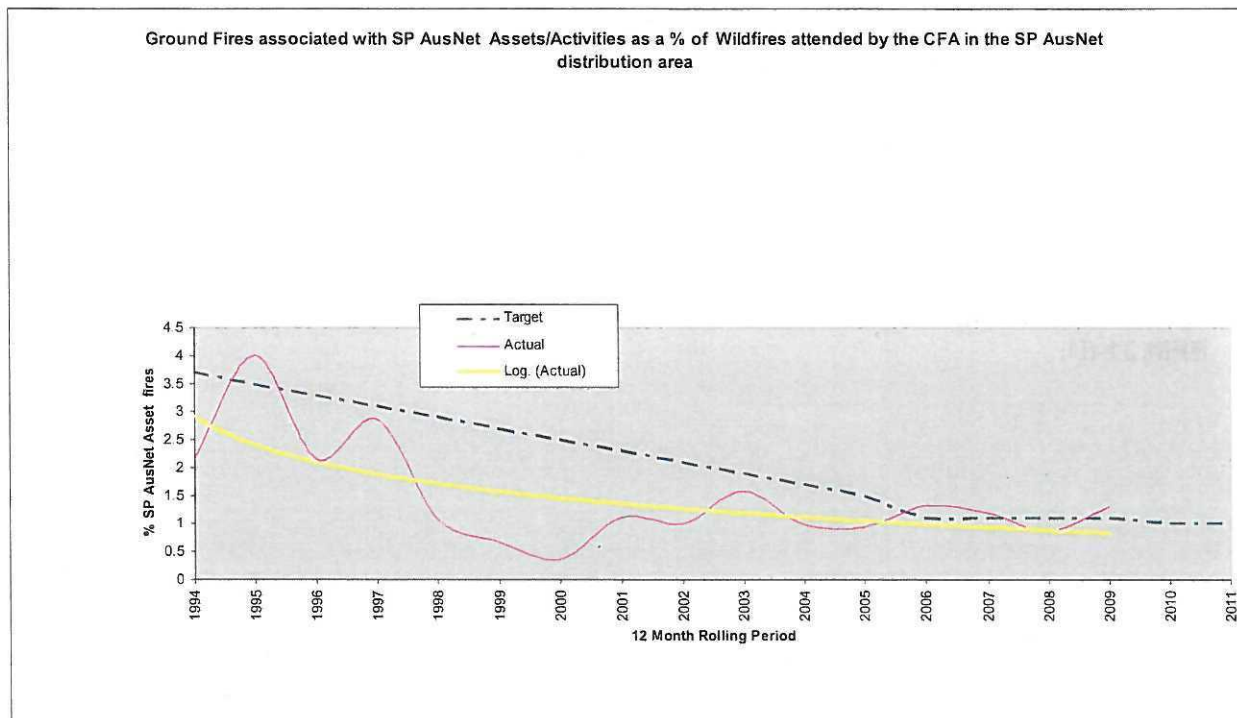


Figure 4

The Index will be updated and circulated monthly. The method of data capture, circulation list, CFA categories counted and the calculation method used are set out in document BFM 21-68.

The Environmental Manager is responsible for the preparation and circulation of the Index.

8.4 BUSINESS RULES AND TARGET DATES

8.4.1 General

The bushfire mitigation Business Rules set out inspection, testing, and remedial works, which must be undertaken as part of the bushfire mitigation program and time in which they must be completed.

These tasks are based on the knowledge of causes of bushfire and are supported by operational programs set out in this manual.

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The Business Rules have been developed over the last ten years from the experiences observed. Compliance with these rules forms the basis of SP AusNet's Fire Insurance submission. Consequently adherence and commitment to the achievement of the targets set in the Business Rules below during the fire declaration period are essential for the well being of the business and the fire security of Victoria.

Compliance to the Business Rules timeframes is only mandatory in HBRA areas during the fire declaration period. Outside of the fire declaration period and in LBRA areas the timeframes stipulated in the Business Rules should be use as a guide for work planning purposes.

The Bushfire Mitigation Management Committee is responsible for the review and approval of any changes to the Business Rules.

The Director Asset Engineering is responsible for the achievement of the requirements of the Business Rules and progress will be monitored and reported as set out in Section 9 - Reporting and Audits.

8.4.2 Notice of Completion of Bushfire Mitigation Obligations

The Director Asset Engineering must, prior to the commencement of the declaration of the fire season, forward to the Environmental Manager a signed document to the effect that all the bushfire mitigation obligations are complete. Measurement is by compliance with the requirements of the Business Rules. The compliance documentation is set out in document BFM 21-81.

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8.4.3 Bushfire Mitigation Business Rules

The following are the Business Rules for which Manager Program Delivery will be accountable.

Inspection Item	Time Period
<u>Line Inspection</u>	
All poles inspected (cyclic)	Timber - 5 years and 3 months maximum Concrete – 10 years and 3 months maximum
Pole Population	
All US poles actioned	within 90 days
All LL poles actioned	within 912 days
<u>Line Hardware, etc.</u>	
All PT30 Attachments (includes: X Arms, LV Spreaders and Clamp-on Fuses, etc) All PT30 Conductors All Unacceptable SDs	rectified within 30 days
All PT180 Attachments All PT180 Conductors	rectified within 180 days
All 22 kV Bird Covers All Priority 66 kV Bird Covers	fitted within 90 days
<u>Private Electric Lines</u>	
All Overhead PELs	inspected 37 months maximum ^{Note 1}
<u>Vegetation Management</u>	
Pre Summer Tree Inspection,	Annually by Start of Fire Season
All recorded Code PT1 & PT30 Trees actioned by	HBRA areas - Earlier of Start of Fire Season or 15 December. During the Fire Season Code PT1 and PT30 trees must be restored to Code compliance within 24 hours and 30 days respectively LBRA areas – 2 years maximum
All recorded 56M trees	Arboreal assessment by 1 November each year
<u>Private Electric Lines</u>	
All Urgent Defective POELs fire safe	Days of TFB

SP AusNet BUSINESS RULES

Note 1 - Applicable post 1 November 2010 after the transition period from a 5 year cycle to a 37 months cycle is completed.

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8.4.4 Step Changes to Business Rules and Target Dates

The Business Rules and Target Dates generally reflect the practices established within the Industry to attain an acceptable level of risk.

The following process shall be undertaken before any step changes to the Business Rules and Target Dates are implemented.

A detailed evaluation of the proposed change shall be undertaken to determine the benefits and predicted risk profile of the change. A sensitivity analysis of the risk profile shall be included in the evaluation. Consultation with the ESV and Insurers shall be undertaken as part of the evaluation process.

The evaluation shall be reviewed and endorsed by the Director Asset Engineering and a recommendation submitted to the Bushfire Mitigation Management Committee (BMMC) for approval.

The recommendation to the BMMC shall detail the monitoring, reporting and control systems that will be implemented to measure and validate the efficacy of the change.

If approved by the BMMC the BFM Manual and Procedures shall be amended to reflect the approved change.

8.4.5 Declaration of the Fire Restriction Period and Target dates

The declaration of the Fire Danger Period (commonly referred to as the "fire season") puts in place restrictions and conditions relating to the lighting of fires and use of equipment, which are issued and enforced by the CFA. For a copy of a summary of these conditions refer to document BFM 21-79.

At any time the lighting of a fire in a State Forest, National Park or protected public land requires the written authority of a Forest Officer of the Department of Sustainability and Environment (DSE). Each year DSE will declare "Prohibited Periods". During these periods it will be necessary to have the written authority of a Forest Officer of DSE to light a fire within 1.5 km of a State Forest, National Park or protected public land.

The declaration of the "Fire Season" in a municipality is an important calendar event in relation to the achievement of the requirements of the Business Rules and requires permits for carrying out particular activities, refer document BFM 21-80.

Local Council fire prevention committees in consultation with the CFA will establish the commencement date for the fire restriction period for each municipal area. SP AusNet should maintain liaison with CFA and Municipal committees within its distribution area, which will enable the region to be fully informed on the status declarations in their regions. The Environmental Manager is notified directly by the CFA when declarations are to be put in place and he will communicate this to the relevant personnel. The declarations will also be notified in newspapers, and the CFA website.

The declaration of a Prohibited Period by DSE will generally be around the same period as the Fire Danger Period but actual dates will need to be confirmed. DSE will be represented on the Municipal Fire Committee's.

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The Director Asset Engineering must nominate in the Bushfire Mitigation Strategy Plan, a date or dates, which will be used for planning purposes as the declaration of the fire season.

The Director Asset Engineering must ensure that all relevant personnel are advised of the declaration of Fire Danger Periods and Prohibited Periods.

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9 REPORTING AND AUDITING

9.1 GENERAL

To monitor progress, compliance and the effectiveness of programs, a reporting regime will apply and auditing of processes must be undertaken.

The following sets out the:

- reports which must be compiled and responsibility for the report; and
- audits - who will be involved, what will be audited and responsibility for the audit.

9.2 FIRE REPORTS

9.2.1 Reporting of Fires

All fires allegedly caused by SP AusNet's assets must be investigated and a Fire Report Completed. This is done through the Issues Management System (IMS)

IMS automatically notifies Environmental Manager by email, of all fire starts and nominates the person responsible for investigating the incident and compilation of the report. The nominated officer is responsible for ensuring the completion, compilation and accuracy of the reports.

Fires contained on SP AusNet poles or attached assets must be investigated and a Pole Fire Report completed.

Details of the reports are in document BFM 21-70.

Document BFM 21-83 sets out procedures applicable to all personnel who may attend or be involved in a fire situation.

9.2.2 Significant Fires

If the fire is classed as significant - i.e. involving:

- injury or death; or
- significant damage to stock or property (this includes trees/pasture),

The Claims Manager, will liaise with the appropriate legal adviser to determine whether a detailed investigation and report is required. If so, such a report is prepared and submitted to the legal adviser.

Detail of the procedures is set out in documents BFM 21-70 and BFM 21-71.

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9.3 PLANT/POLE FAILURE AND FLASHOVER REPORTS

The failure or malfunction of plant and poles is a cause of fire ignition as are flashovers caused by birds and the like.

Consequently, the following reports must be completed by Availability Officers:

- Plant & Equipment Failure Report
- Pole & Crossarm Failure Report and
- Pole Flashover Report.

Details of the reporting proformas are in document BFM 21-70.

The reports record the circumstances associated with the failure or flashover regardless of whether there has been fire ignition. This information is collated and analysed by the Network Asset Engineering Group as an ongoing assessment of plant performance and fire safety.

The Availability Officers are responsible for ensuring the completion, compilation and accuracy of the reports.

9.4 BUSHFIRE MITIGATION REPORTS

The Bushfire Mitigation report will be generated out of the information contained in the Asset Database (Q4) system. Refer to document BFM 21-72 for detail of the report generation procedures.

This report is generated by the Works Planning and Performance Monitoring Manager monthly, or more frequently as required, to review the status of bushfire mitigation activities with regard to the Business Rules. It provides a summary of work required, work done, and work outstanding each month, for each of the matters identified as requiring attention.

The Works Planning and Performance Monitoring Manager is responsible for ensuring the completion, compilation and accuracy of the data required to generate the report.

The Works Planning and Performance Monitoring Manager is responsible for the circulation of a monthly summary report to the Environmental Manager, the Bushfire Mitigation Management Committee and to other managers.

In the fire season the Works Planning and Performance Monitoring Manager must also submit to the Environmental Manager and the Director Asset Engineering a list of any outstanding items weekly (by the Monday each week).

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9.5 AUDIT PROGRAMS

The following audits of the Distribution Network shall be undertaken, in accordance with the requirements detailed in document BFM 21-85, to ensure that it is fire safe at declaration date and that it is maintained fire safe during the fire season.

9.5.1 Audits Prior to Fire Season

The Director Asset Engineering shall ensure that sufficient internal audits to validate the completion of all bushfire mitigation obligations (as detailed in Section 5.2 of document BFM 21-81) are conducted, prior to the commencement of the fire season, each year in each Maintenance Area.

9.5.2 Senior Management Reviews

Reviews by Senior Managers shall be held annually to validate the efficiency of SP AusNet's management processes, program compliance and program relevance.

A review into all facets of the implementation of the bushfire mitigation program shall be undertaken at each Maintenance Area prior to the commencement of the Fire Season (nominally early December) each year.

9.5.3 Audits during the Fire Season

The Director Asset Engineering shall ensure that audits of SP AusNet's Network are performed during the fire season each year. This process shall commence at the start of the fire season (nominally early December) and continue throughout the period of the fire season (nominally end of April). The following areas shall be audited:

9.5.4 Audit by SP AusNet Internal Auditor

SP AusNet Internal Audit Group undertakes audits of the BFM system.

9.5.5 Auditing of Vegetation Management

The Director Asset Engineering shall conduct audits of the Vegetation Management Group as detailed in document BFM 21-84. Auditing shall consist of:

- Annual System Audit to review the vegetation management group's internal process of management.
- Quarterly Performance Audit to review the operational performance of the Vegetation Management Group.

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10 PLANNING & COORDINATION

10.1 BUSHFIRE MITIGATION STRATEGY PLAN

The Environmental Manager in conjunction with the Director Asset Engineering will conduct a review of the Bushfire Mitigation Strategies each year and coordinate the preparation of the strategy plan.

Document BFM 21-63 sets out the minimum requirements for the strategy plan.

10.2 OPERATIONAL PLAN (DAYS OF TOTAL FIRE BAN)

The Manager Network Operations must keep and maintain a record of the fire ban districts falling within area boundaries.

The Bushfire Mitigation Strategy Plan must have (refer Section 10.1 and document BFM 21-63) approved procedures for days of total fire ban including:

- Normal and late notification of days of total fire ban
- Exemption permits (refer Section 10.5.7)
- Manning of office communications
- Resource mobilisation; and
- CFA liaison.

10.3 OPERATIONAL CONTINGENCY PLAN

If required, an Operational Contingency Plan must be prepared to identify those lines on which fire prevention work is incomplete and for which disconnection may be appropriate on days of Total Fire Ban.

The Bushfire Mitigation Management Committee is responsible for the consolidation of the plan from status reports provided by the Electricity Operations Manager.

Disconnection of the electricity supply to an area on days of Total Fire Ban has serious implications for the community in terms of disruption to communications, water supply pumps and general fire-fighting services, and must only be considered as a last resort action when the local weather conditions become extreme.

Manager Network Operations has the responsibility for determining when prevailing conditions warrant action and for recommending that listed lines be disconnected. This action can only be taken with the approval of one of the following managers:

- Managing Director
- General Manager Network Strategy & Development

Detailed procedures for the operational contingency plan are set out in document BFM 21-64 covering the preparation of the plan, preparatory actions and the disconnection of the supply. These include the following as circumstances demand:

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- Maintenance of a log of the system status
- Work priorities to give preference for supply to designated essential services
- Notification of customers who will be affected in the event of the plan being invoked and advice of why this is necessary
- Advance warning to essential services wherever possible when impending weather conditions suggest possible disconnection
- Patrolling of lines with outstanding works on days of Total Fire Ban where the:
 - line supplies essential services
 - high fire hazard locations have been identified
- Liaison with CFA regional officers; and
- Post disconnection - a rapid patrol of the affected lines to enable supply to be restored.

Notes.

- 1. Defective private electric lines that are to be disconnected are not required to be included in the Operational Contingency Plan.**
- 2. This procedure is not applicable to disconnection of supply during actual bushfire fighting operations or system emergencies which are dealt with by local management as and when necessary.**

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10.4 EMERGENCY MANAGEMENT PLAN (EMP)

Compliant with Section 34 of the Distribution Code, SP AusNet is committed, with other Distribution Businesses, to a mutual aid program in the event of a major disaster, which would include a bushfire.

A committee comprised of senior managers from the distribution companies oversee this process and an emergency response plan has been formulated. It includes a set of standard procedures, the nomination of key personnel, communication arrangements, other support agencies and contractor lists.

In the event of a major incident and the implementation of the plan the committee would establish strategies as necessary for the:

- coordination of the response and electricity supply recovery
- media releases
- dealings with government; and
- any other matters considered appropriate.

The role of SP AusNet will be one of support to the combating agencies such as SES, CFA, MFB and Victorian Police in matters relating to electricity supply.

If a disaster is declared by a Fire/Disaster Coordinator, and roadblocks erected, SP AusNet operational personnel authorised to switch the network must not enter into the restricted area. All operations must be performed external to the restricted area.

Arrangements may be agreed to between the Fire/Disaster Coordinator and the Manager Network Operations to enable operations within the restricted area. This agreement must hold the safety of personnel paramount and personnel involved must be consulted and their agreement to the arrangements confirmed before entry is undertaken.

10.5 COORDINATION WITH EXTERNAL AUTHORITIES

10.5.1 General

SP AusNet should be represented on Regional Fire Prevention Committees within its precincts and establish strong working relationships and communication links with Municipal Fire Prevention Committees, ESV, CFA, Department of Sustainability and Environment, Local Government and other relevant authorities.

SP AusNet will provide assistance to Emergency Response Authorities in developing guidelines, that set out the electrical hazards which may be encountered in carrying out their duties (refer to document BFM 21-78) and in conducting any investigation of fires near SP AusNet's electricity assets.

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10.5.2 Municipal Fire Management Committees

Each Municipality outside the Metropolitan Fire District has a Municipal Fire Prevention Committee. These committees include representatives from:

- each urban or rural brigade operating within the area
- each group of brigades operating within the area; and
- the municipal council.

Where the municipality is adjacent to any part of a forest or crown land reserve, a representative of the Department of Sustainability and Environment (DSE) will also be a member.

The functions of the Municipal Fire Prevention Committee are to:

- plan the burning or clearing of firebreaks
- advise other authorities of fire hazards and remedial actions required; and
- recommend on the granting or otherwise of permits for burning off.

Regional SP AusNet staff will maintain contact with committees in their area of operation

10.5.3 Regional Strategic Fire Management Planning Committees

Eight Regional Strategic Fire Management Planning Committees will bring together agencies and organisations to strategically plan on a regional basis and provide support to Municipal Fire Management Committees which will plan at the municipal level and include local issues.

There is provision for utility representatives to sit on these committees.

As these committees are formed SP AusNet will provide representation as requested.

10.5.4 Bureau of Meteorology

The Bureau of Meteorology provides a monthly report containing relevant data relating to the likely severity of a fire season and satellite photographic maps of Victoria. The grassland curing maps show the extent to which moisture is present at ground level and hence give a very useful indication of the potential fire risk over the fire season.

This information can assist the assessment of potential risk and prediction of the declaration of the fire season.

The Environmental Manager is responsible for the liaison with the Bureau of Meteorology and the dissemination of information to the Bushfire Mitigation Management Committee members.

10.5.5 Fire Hazard Mapping

The concept of fire hazard mapping was commenced in 1981 by the Country Fire Authority (CFA) to enable local councils to better plan new development in rural areas and to plan their overall fire protection programs.

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In 2004, the CFA in collaboration with the Metropolitan Fire and Emergency Services Board (MFESB), concluded the assignment of fire hazard ratings to areas of land for the purposes of the Electricity Safety Act 1998. Applying a consistent risk treatment approach, low and high fire hazard ratings were assigned to the Country Area of Victoria (CAV) and portions of the Metropolitan Fire District (MFD). *Fire Protected Areas for which the Department of Sustainability and Environment (DSE) is the Fire Control Authority were not assigned fire hazard ratings as part of this process.* As at December 2004, 62 Victorian Local Government Areas (LGAs) had been assigned ratings.

The fire hazard ratings of areas have been superimposed in AM/FM on base plans that show the road network and electricity distribution lines. These composite drawings can be used to:

- assign priority to the inspection of overhead lines
- assign priority to the repair/replacement/tree cutting works that may follow the inspection; and
- prioritise capital works, such as aerial bundled cables.

The CFA will review fire hazard ratings on a regular basis (generally 4 years) and produce updated maps. The Networks GIS will be updated accordingly. Access to the maps will also be available on the CFA web site.

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10.5.6 Permits

Annually, work permits must be secured from the following agencies prior to any naked flame equipment being permitted to operate during the declared fire restriction period in the majority of SP AusNet's region:

- Department of Sustainability and Environment
- Country Fire Authority; and
- Melbourne Metropolitan Fire Brigade

The Environmental Manager is responsible for the liaison with these authorities and obtaining the necessary permits.

Permits are usually granted by these agencies upon request and copies are posted on the Intranet. Refer to document BFM 21-80.

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11 INSURANCE

SP AusNet must at all times have appropriate insurance to cover the risk of loss associated with fire ignition.

The Assistant Treasurer will prepare an insurance submission with the assistance of Network Services Group.

The insurance cover provided by the insurer is based on the understanding that SP AusNet's bushfire mitigation policies and programs set out in the Bushfire Mitigation Manual will be adhered to and carried out. Consequently non-compliance with the requirements of the Manuals may be a breach of our insurance agreement.

Any changes by necessity to prescribed practices must be referred to the Environmental Manager and submitted to the Bushfire Mitigation Management Committee and the Insurer for endorsement.

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12 RELATED MANUALS AND DOCUMENTS

To avoid the duplication of requirements and ambiguity in application, this manual utilises wherever possible established policy and procedures. The following sets out other manuals and documents referred to by this Manual and whose applications meet the objectives of this Manual.

Manual – Document Name	Responsibility
Line Inspection Manual	SP AusNet
Service and Installation Rules	VESI
Strategic Maintenance Manual	VESI
Bushfire Mitigation Plan Guidelines	ESV
Electricity Safety Act 1998	ESV
Electricity Safety (Electric Line Clearance) Regulations 2005	ESV
Electricity Safety (Bushfire Mitigation) Regulations 2003	ESV
Your Guide to Planting Near Powerlines	SP AusNet
Private Powerlines brochure	SP AusNet

13 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
14	6/1/2006	Document placed into new template. No change made to text.
15	6/6/2007	Revised to reflect changes to organisational structure
16	26/5/2008	General update
17	30/06/2009	General update

Bushfire Mitigation

Bushfire Mitigation Calendar of Important Events

Document number:	BFM 21-62
Issue number:	12
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/06/2009
File Name	BFM 21-62.doc

Bushfire Mitigation Calendar of Important Events

1 PURPOSE

To establish a calendar of events listing the key bushfire mitigation activities, targets and responsibilities.

This procedure applies to all SP AusNet personnel with responsibilities for the planning, programming and reporting of activities prescribed in the Bushfire Mitigation Manual and the achievement of the requirements of the Business Rules.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

BMMC - Bushfire Mitigation Management Committee

4 PROCEDURE

The Environmental Manager will review the Bushfire Mitigation Annual Program of Activities on an "as required" basis.

The Bushfire Mitigation Management Committee will approve any changes to the Bushfire Mitigation Annual Program of Activities.

5 APPENDICES

Appendix A - Bushfire Mitigation Annual Program of Activities

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
9	5/06/2006	Document reviewed and updated to reflect current business practice.
10	1/06/2007	Document reviewed and updated to reflect current organisational structure
11	5/06/2008	Document updated to reflect changes to titles
12	30/06/2009	Document reviewed and updated to reflect current organisational structure

Bushfire Mitigation Calendar of Important Events

Appendix A - Bushfire Mitigation Annual Program of Activities

<i>Date</i>	<i>Responsible Person</i>	<i>Task</i>
Fortnightly (fire season)	Work Planning & Performance Monitoring Manager	Prepare list of outstanding critical maintenance items. Forward list to Director Asset Engineering and Environmental Manager.
Monthly	Environmental Manager	Prepare summary of Fire Reports. Issue to Bushfire Mitigation Management Committee (BMMC).
	Work Planning & Performance Monitoring Manager	Prepare Bushfire Mitigation Report. Issue summarised report to BMMC.
	Work Planning & Performance Monitoring Manager	Provide BMMC with Bushfire Mitigation Status Report.
	BMMC	Review Bushfire Mitigation Reports, initiate action as required.
	Director Asset Engineering/Environmental Manager/ Manager Field Services	Resolve queries & initiate action on matters requiring attention from summarised Bushfire Mitigation Report.
	General Manager Network Strategy & Development	Include summary of Bushfire Mitigation Report in Business Report.
	Environmental Manager	Arrange meeting of BMMC.
January	Environmental Manager and Business Manager Utility Services	Prepare SP AusNet Vegetation Management Plan.
February	BMMC	Approve SP AusNet's Vegetation Management Plan.
	Environmental Manager	Submit Vegetation Management Plan to the ESV for approval by 28 February.
June	Assistant Treasurer	Finalise Fire & General Liability Insurance Renewal Underwriting Submission.
June	Environmental Manager and Director Asset Engineering	Draft Bushfire Mitigation Strategy Plan and submit to BMMC for endorsement.
July	Environmental Manager	Submit Bushfire Mitigation Plan to ESV for approval by 1 July
August		
	Environmental Manager and Manager Public Relations & Communications	Decide on advertising for summer period.

continued...

Bushfire Mitigation Calendar of Important Events

<i>Date</i>	<i>Responsible Person</i>	<i>Task</i>
September	Environmental Manager	Commence monthly BFM reporting to ESV until end of the fire season (BFM Index)
October		
	Environmental Manager	Issue letter and information brochures to Overhead Private Electric Line customers
	Environmental Manager	Request permits to work on days of Total Fire Ban from:- <ul style="list-style-type: none"> ■ Metropolitan Fire Brigade (MFB) ■ Country Fire Authority (CFA) ■ Department of Sustainability and Environment (DSE)
	Environmental Manager	Coordinate senior management review visit programs.
November/ December	Environmental Manager	Post on the Intranet copies of permits to work on days of Total Fire Ban.
December	MD, General Managers and Senior Managers	Perform Senior Management Reviews.
1 December	Director Asset Engineering	Target date for submission of Operational Contingency Plan (if required)
	Director Asset Engineering	Nominal target date for all bushfire mitigation work to be complete. Date will vary across the State depending on weather and prevailing conditions. Actual date is the start of the CFA "Declaration of Fire Danger Period".
15 December	Environmental Manager	If required consolidate Operational Contingency Plan and submit to General Manager Network Strategy and Development for approval. When finalised forward to Manager Field Services (by 15 December).
	Director Asset Engineering	Vegetation works to achieve clearance space in all HBRA areas complete.
	Director Asset Engineering	Submit to Environmental Manager notice of completion of bushfire mitigation obligations.

Bushfire Mitigation

Bushfire Mitigation Strategy Plan

Document number:	BFM 21-63
Issue number:	9
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/06/2009
File Name	BFM 21-63.doc

Bushfire Mitigation Strategy Plan

1 PURPOSE

The purpose of this procedure is to set out the essential requirements for a Bushfire Mitigation Strategy Plan and processes for its approval and implementation.

Outlines strategies to be employed for:

- achieving Business Rules requirements
- identifying and managing bushfire risks peculiar to the region.

This procedure applies to all SP AusNet and Contract personnel with responsibilities for the planning, programming and reporting of activities relating to Bushfire Mitigation and the achievement of the requirements of the Business Rules.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

Nil

4 PROCEDURE

The Environmental Manager in conjunction with the Director Asset Engineering will annually prepare a Bushfire Mitigation Strategy Plan for the fire season.

The Bushfire Mitigation Strategy Plan must contain an introduction and strategies for the following.

Introduction:

The introduction must outline:

- Assumptions that underpin the strategy document
- Environmental analysis
 - external environmental constraints
 - expected start to the fire season
- Statement of risk factors considered in the development of the plan
- Internal analysis
 - resourcing
 - budgeting
 - workload capability
- Statement on performance during the previous year in
 - meeting targets
 - corrective actions taken
- Management structure, responsibilities and accountabilities
- Statement of commitment to meet Business Rule targets.

How the requirements of each of the Business Rules and Key Performance Indicator targets will be achieved, including -

- Financial targets, planning and management

Bushfire Mitigation Strategy Plan

- Training and skill development
- Inspection and auditing
- Measurement and reporting

Management of Private Electric Lines

Pre summer Inspections

Days of Total Fire Ban including -

- Notification of days of Total Fire Ban
- Disconnection of defective POELs
- Fault energy management
- Operations and communication arrangements
- Exemption permits
- Resource mobilisation
- CFA/MFB liaison
- Contingency planning

Enhancing local community awareness of

- responsibilities for POELs
- suitable and unsuitable vegetation species near powerlines
- potential dangers on days of Total Fire Ban

Liaison with Community Groups, including relationships with -

- CFA/MFB
- Local government
- Regional/municipal fire committees
- Environmental and other interest groups

Management of fire risks peculiar to specific regions.

The Plan will be submitted to the Bushfire Mitigation Management Committee for endorsement.

The Director Asset Engineering will communicate the Plan to all relevant personnel and implement the strategies.

The Environmental Manager will include a copy of the Plan with the BFM Plans submitted to Electricity Services Victoria

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
7	31/05/2005	Document placed into new template 5/6/06. No change made to text.
8	1/06/2007	Document reviewed and updated to reflect current organisational structure
9	30/06/2009	Document reviewed and updated to reflect current organisational structure

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Bushfire Mitigation

Operational Contingency Procedures Plan

Document number:	BFM 21-64
Issue number:	9
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/06/2009
File Name	BFM 21-64.doc

Operational Contingency Procedures Plan

1 PURPOSE

The purpose of this procedure is to describe the process for the preparation of the Operational Contingency Plan and the actions necessary before supply can be disconnected.

This procedure applies to the Director Asset Engineering and personnel with the duty of disconnecting supply to designated lines in the Operational Contingency Plan.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual
BFM 21-64-A - Standard Letter of Advice

3 DEFINITIONS

Operational Contingency Plan - plan detailing those lines on which fire prevention work is incomplete and for which possible disconnection may be required on days of Total Fire Ban

4 PROCEDURE

4.1 PREPARATION AND MAINTENANCE OF THE PLAN

The Director Asset Engineering will, if required, submit a written Operational Contingency Plan to the Environmental Manager by December 1 of each year.

The Environmental Manager in conjunction with the Bushfire Mitigation Committee will consolidate the Operational Contingency Plan and submit this to the General Manager Network Strategy and Development for approval and issue to the areas by December 15, of each year.

The Director Asset Engineering will advise the Environmental Manager on the progress of works on lines listed in the Operational Contingency Plan who will keep the plan updated.

Priority will be given to work on lines listed in the plan which would retain supply to essential services such as: -

- Country Fire Authority (CFA);
- Metropolitan Fire Brigade (MFB);
- Department of Sustainability & Environment (DSE);
- Department of Water Resources;
- Telstra;
- Optus;
- hospitals;
- food preservers;
- sewerage plants;
- radio transmitters; and
- life support systems.

Operational Contingency Procedures Plan

4.2 PROCESSES REQUIRED BEFORE A LINE CAN BE DISCONNECTED

The Regional Manager will write to all customers supplied by lines listed on the Operational Contingency Plan advising them of the possible need to interrupt electricity supply. Refer document BFM 21-64-A.

Wherever possible, advance warning will be given by the Regional Manager to essential services when weather conditions indicate potential disconnection action.

On days of Total Fire Ban, patrols should be arranged, where possible, to cover areas, distribution feeders or spurs which remain with work incomplete in high fire hazard locations or which include known fire hazards and provide supply to essential services. Radio reports from these patrols will be assessed as a measure of the risk on the day, in consideration of the need for disconnection.

Liaison between the CFA/MFB and regional personnel should proceed in accordance with standing arrangements set out in the bushfire mitigation strategy plan for communication and cooperative action.

4.3 APPROVAL FOR DISCONNECTION

Before any decision is actually taken to disconnect supply to an area, IN ANTICIPATION OF POSSIBLE PROBLEMS, the circumstances and details should be discussed with either the General Manager Network Strategy & Development, Director Asset Engineering or General Manager Operations and Services to obtain agreement for such action.

4.4 POST DISCONNECTION PATROL

If disconnection action has been taken, a patrol of the affected lines shall be carried out before supply is restored. Information from patrols mentioned in Item 4.2 may be used to assist in the restoration operation and, for large or inaccessible areas, the use of aircraft may also be considered.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
7	31/05/2005	Document placed into new template 5/6/06. No change made to text.
8	1/06/2007	Document reviewed and updated to reflect current organisational structure
9	30/06/2009	Document reviewed and updated to reflect current organisational structure

Standard letter of advice

ADVICE TO CUSTOMERS OF POSSIBLE DISCONNECTION (STANDARD LETTER FORMAT)

Dear Customer

I regret that it may be necessary to interrupt electricity supply to your property for several hours on days of Total Fire Ban.

It is envisaged that subject to normal weather patterns on such days that supply will be interrupted around midday for several hours.

I believe that most property owners realise that SP AusNet cannot assure continuity of supply at all times and have heeded CFA advice to have available battery operated radios to hear any fire warnings and to provide other power sources to drive water pumps for fire fighting purposes, etc. If such is not the case, then it is now even more prudent to take such action.

Unfortunately, I have no other practical options since repairs to the line involve significant work, which will take several months to complete.

I apologise for any inconvenience that may result from this action and trust that this advice will at least give you the opportunity to be better prepared to deal with such an emergency.

Yours faithfully

REGIONAL MANAGER

ENQUIRIES: Mr
Telephone.....

Bushfire Mitigation

Bushfire Index Calculation Method

Document number:	BFM 21-67
Issue number:	9
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/06/2009
File Name	BFM 21-67.doc

Bushfire Index Calculation Method

1 PURPOSE

The purpose of this procedure is to document the procedure for the calculation of the Bushfire Mitigation Index.

This forms an SP AusNet Key Performance Indicator.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

Bushfire Mitigation Index	a weighted ratio of the incidence of outstanding critical works not complying with Business Rules requirements to the projected annual incidence of the critical works, expressed as a percentage.
Critical Works	works, selected as critical measures of bushfire preparedness and for which Business Rules requirements apply
Projected Annual Incidence of Critical Work	the projected incidence of a critical work activity for the year based on the previous year's activity and any mitigating influences
Q4	an electronic maintenance management database for the recording of information regarding the location and condition of distribution network assets.

4 PROCEDURE

4.1 CALCULATION METHOD

The critical works listed in 4.3 have been selected as representative measures for assessing bushfire preparedness. They will be reviewed by the Environmental Manager on a regular basis, and recommendations for change referred to the Bushfire Mitigation Management Committee for approval.

Each critical work activity has been allocated a weighting (refer 4.3) based on the relative resource allocation required for the remedial actions associated with the activity, expressed as a percentage and totalling 100 % for all critical work activities. Weightings will be reviewed by the Environmental Manager on a regular basis, and recommendations for change referred to the Bushfire Mitigation Management Committee for approval.

The data on outstanding critical works not compliant with the requirements of the Business Rules will be captured from Q4, divided by the corresponding projected annual incidence and multiplied by the corresponding weighting of that critical work activity.

The result for each critical activity will be summed and the result will represent the Index

Bushfire Index Calculation Method

(e.g. critical work activity pole/line inspection pole --
 6 poles not inspected within the 6 months of 5 year cycle out of 100 poles inspected annually = .06
 Pole inspection contributes 10% of total therefore .06 X 10 % contribution = 0.6 %)

4.2 PROCESSES

The Director Asset Engineering will generate a consolidated Bushfire Mitigation Index monthly and circulate.

4.3 WEIGHTINGS

Critical Work Activity	Contribution to Index (100%)	Business Rule
Line/Pole Inspection	10%	Inspection within agreed cycle.
Pre summer inspection	1%	All spans in fire areas each year.
Defective Pole - Unserviceable - Limited Life	30%	Fire safe within 90 days Inspect within 912 days
Tree Clearing - Code PT1 (within 1 M) - Code PT 30 (within code)	20%	Within 30 days (during fire season within 24 hours) Within 30 days
Outstanding Maintenance on Attachments & Conductor - Priority 1 & 2	27%	Priority 1 within 30 days Priority 2 within 180 days
- Surge Diverters	6%	Unacceptable types within 30 days
- Bird Covers	6%	22kV Birdcovers within 90 days

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
8	31/5/2005	Document placed into new template 5/6/06. No change made to text.
9	30/06/2009	Document reviewed and updated to reflect current organisational structure

Bushfire Mitigation

Distribution System Bushfire Performance Indicator Calculator Method

Document number:	BFM 21-68
Issue number:	8
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	David Just
Date of approval:	31/5/2005
File Name	BFM 21-68.doc

Distribution System Bushfire Performance Indicator Calculation Method

1 PURPOSE

This procedure documents the calculation method for the Distribution Network Bushfire Performance Indicator - an SP AusNet Key Performance Indicator.

2 REFERENCES

BFM 21-70 - Reporting Procedures
BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

Relevant CFA Attended Fire Starts	all wildfires attended by the CFA within SP AusNet's distribution area.
SP AusNet Network Fire Start	a ground fire associated with SP AusNet's electricity assets or activities as reported on a fire report (refer BFM 21-70) in either a hazardous bushfire risk or low bushfire risk area.

4 PROCEDURE

4.1 DATA CAPTURE

The nominated officer must complete a Fire Incident Report via the Issues Management System (IMS) in accordance with document BFM 21-70.

Details of all fires are recorded in IMS.

The Environmental Manager shall provide a summary report of fires to the Bushfire Mitigation Management Committee monthly.

Information on wildfires attended by the CFA each month within the SP AusNet's distribution area shall be obtained from the CFA by the Environmental Manager monthly.

4.2 CALCULATION METHOD

The number of recorded SP AusNet Networks fire starts is divided by the number of CFA attended wildfire starts for the same period to produce a 12-month rolling average. The result will be the performance indicator.

4.3 PROCESSES

The Environmental Manager will update and circulate the indicator monthly.

Distribution System Bushfire Performance Indicator Calculation Method

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
8	31/05/2005	Document placed into new template 5/6/06. No change made to text.

Bushfire Mitigation

Fire Hazard Ratings

Document number:	BFM 21-69
Issue number:	8
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	David Just
Date of approval:	5/6/2006
File Name	BFM 21-69.doc

Fire Hazard Ratings

1 PURPOSE

The purpose of this procedure is to set out how Fire Hazard Ratings are determined and where they are used.

Fire Hazard Ratings are used to determine “hazardous bushfire risk areas” and “low bushfire risk areas” which are applicable to the following:

- Powerline Clearance
- Bushfire Mitigation Report
- Service and Installation Rules
- Compulsory Undergrounding of Defective Private Electric Lines

2 REFERENCES

Electric Safety (Electric Line Clearance) Regulations 2005 = “the Regulations”
 Designation of Fire Hazard Ratings for the Electricity Safety Act - CFA April 2002
 BFM 21-79 - Bushfire Mitigation Manual
 Australian and New Zealand Risk Management Standard AS/NZS 4360 : 1999 - ‘the *Standard*’

3 DEFINITIONS

Hazardous Bushfire
 Risk Area

An area that a fire control authority has assigned a fire hazard rating of “high” under section 80 of the Act; or

A rural area within the meaning of section 3 of the Act unless a fire control authority has assigned to that area a fire hazard rating of “low” under section 80 of the Act

4 PROCEDURE

Previous fire hazard maps were developed using the Barber and Morris method in the mid-1980s, and have only been updated on an as need basis since using expert “judgment” of the relevant CFA officer. As a consequence, many of the maps are no longer appropriate, given that the pace of urban development in many areas of the State has been rapid over the last 15 years.

In 2002, the Country Fire Authority (CFA) in consultation with local municipal council representatives, power distribution companies and ESV utilised “the *Standard*” to provide an overarching framework for the development of fire hazard ratings. A set of criteria and methodology was developed to enable the generation of fire hazard maps. The key criteria include:

- evidence of continuous vegetation and fuel load

Fire Hazard Ratings

- the prevailing wind directions to which the area is exposed during extreme weather conditions
- the size and density of cadastral land parcels
- the potential for firebrands to travel up to 50m
- land use type, and
- local variables

The CFA has developed maps of fire hazard boundaries refined to the nearest power pole or cadastral parcel boundaries using Geographic Information Systems (GIS). The GIS maps produced by the CFA have been placed in the Networks GIS.

The CFA will review fire hazard ratings on a regular basis (generally 4 years) and produce updated maps. The Networks GIS will be updated accordingly. Access to the maps will also be available on the CFA web site.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
8	5/6/2006	Minor changes to conform with current business practice.

Bushfire Mitigation

Reporting

Document number:	BFM 21-70
Issue number:	12
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/06/2009
File Name	BFM 21-70.doc

Reporting

1 PURPOSE

To identify reports relevant to bushfire mitigation and set out procedures for the preparation of the reports, collation and analysis of the data.

Applies to regional operational personnel and nominated SP AusNet Networks and Contract personnel.

2 REFERENCES

BFM 21-71 - Investigation of Significant Fires
BFM 21-79 - Bushfire Mitigation Manual
BFM 21-70-A - Pole Flashover Report
BFM 21-70-B - Pole Fire Report
BFM 21-70-C - Pole and Crossarm Failure Report
BFM 21-70-D - Fire Report
BFM 21-70-E - Plant Failure Report
Electrical Safety (Network Assets) Regulations 1999

3 DEFINITIONS

Fire the ignition of combustible materials on the ground including trees and other vegetation possibly caused by SP AusNet's distribution network assets.

Significant Fire a fire which causes injury or death; significant damage to stock or property which includes trees, pasture and fencing or is > 0.3ha.

Fire Report the report shown in Appendix 1 which must be filled out in the event of a fire in fire risk or non fire risk areas possibly involving SP AusNet's distribution network assets.

4 PROCEDURE

4.1 RETENTION OF HARDWARE

Any hardware involved in a fire or failure is to be retained to allow inspection by the Asset Engineering Management personnel and it must not be disposed of without the written agreement of the Director Asset Engineering.

4.2 REPORTS

When a fire allegedly caused by SP AusNet assets occurs it must be reported by:

1. **A telephone report and/or written notification to NOC who will log the Incident in the Issues Management System (IMS)**
2. **Login of an Incident directly in the Issues Management System (IMS)**

Reporting

IMS has provision for the Claims Manager to apply legal privilege to a report. Reports which are not protected by legal privilege may be used against SP AusNet in court. In reports where legal action is unlikely, a comment as to the likely cause may be included, however special care needs to be taken and speculation avoided.

Comments should be confined to facts (e.g. "the fire appeared to originate at pole 123..." implies a judgment which might not necessarily be correct but could be quite damning if produced in evidence against SP AusNet.)

As a point of warning all notes, readings, photos etc., taken prior to a request from the Claims Manager, after liaison with the Company's legal advisers, are likely to be documents discoverable in legal proceedings and required to be produced to the persons making the claim against SP AusNet or other interested parties.

The procedures for reporting fires are described in Appendix 1 "Reporting Procedures Flow File".

1. For fires causing minimal damage and where it is unlikely that there will be any media involvement the Environmental Manager will be advised by email by IMS

In the event of a **significant fire** or if **media involvement** is likely, the **Claims Manager** and the **Environmental Manager** must also be advised by **telephone** with the following information:

- * Name of the local Management contact officer
- * Are SP AusNet or Contract Personnel still on site?
- * Did the police attend the incident?

Unless otherwise directed a Fire Report should be completed and submitted for approval within 7 days. Information required to complete a fire report in IMS are substantially detailed in Form BFM 21-70-D.

Sufficient detail should be included to allow a full understanding of the incident (including weather, pole/crossarm materials, conductor materials, etc)

Other reports may also be required, refer sections 4.3 - 4.6.

4.3 POLE FIRE REPORT

When a pole fire occurs the officer involved must fill out a Pole Fire Report as required by IMS. Refer Flow Chart in Appendix 1. Information required to complete a fire report in IMS are substantially detailed in Form BFM 21-70-B.

Should the fire also damage other than SP AusNet's distribution assets, a Fire Report must also be submitted.

4.4 POLE AND CROSSARM FAILURE REPORT

When a pole failure occurs fill out form BFM 21-70-C and return to the Director Asset Engineering. Refer Flow Chart in Appendix 1.

Should a fire result from the pole failure which damages other than SP AusNet's distribution assets, a Fire Report must also be submitted.

Reporting

4.5 FLASHOVER REPORT

When a flashover occurs the region must fill out form BFM 21-70-A and return the report to the Director Asset Engineering. Refer Flow File in Appendix 1.

Should a fire result from the flashover which damages other than SP AusNet's distribution assets a Fire Report must also be submitted.

4.6 PLANT FAILURE REPORT

When a plant failure occurs, the region must fill out form BFM 21-70-E and return the report to the Director Asset Engineering. Refer Flow Chart in Appendix 1.

Should a fire result from the plant failure which damages other than SP AusNet's distribution assets a Fire Report must also be submitted.

4.7 REPORT TO ELECTRICITY SERVICES VICTORIA_(ESV)

If the incident results in serious property damage or a serious reduction in the level of public safety has occurred or is likely to occur, then all details of the incident must be reported to Electricity Services Victoria immediately in accordance with Section 9 of the Electrical Safety (Network Assets) Regulations 1999.

5 APPENDICES

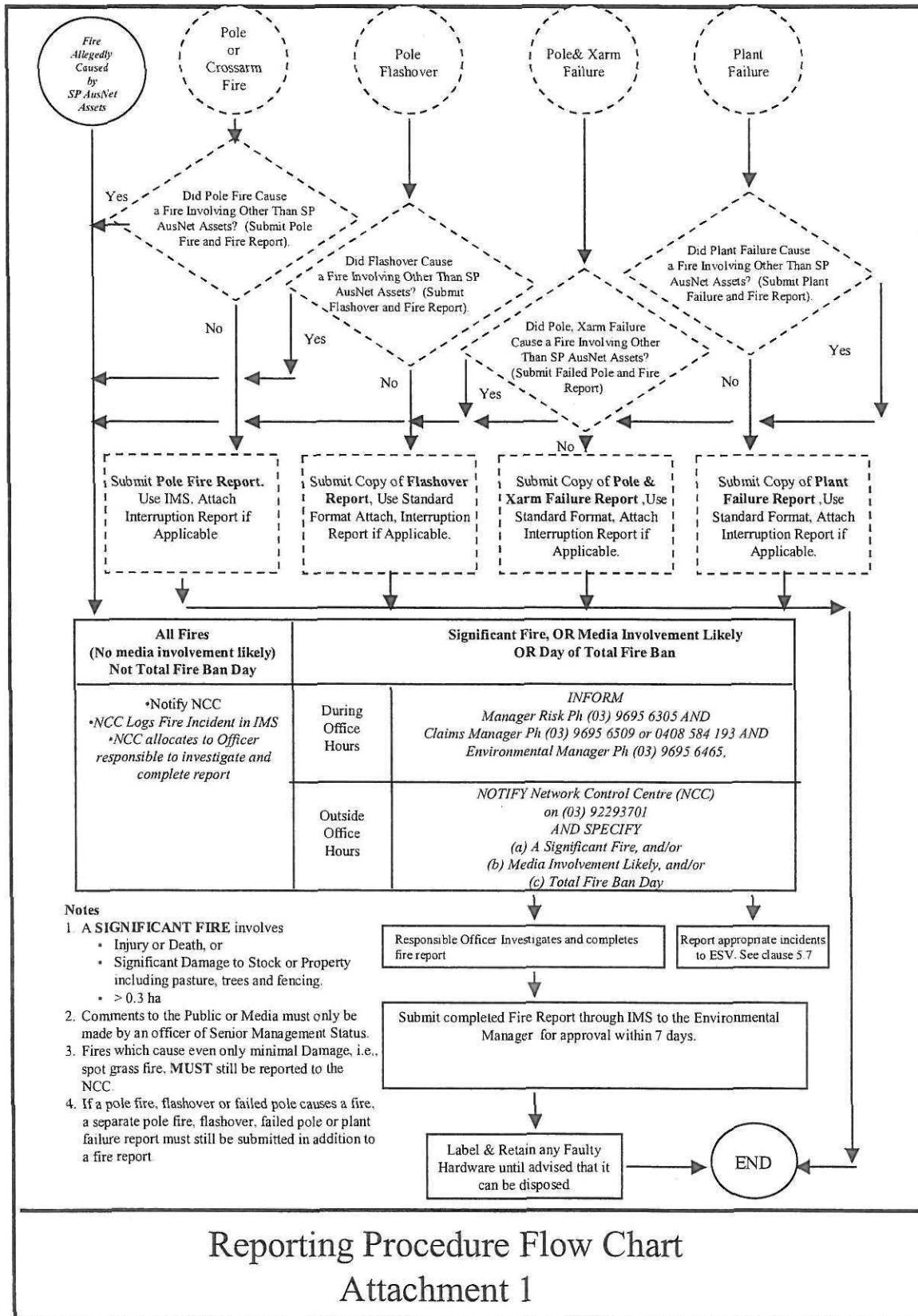
1. Reporting Procedure Flow File.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
10	30/5/2005	Document placed into new template 5/6/06. No change made to text.
11	1/06/2007	Document reviewed and updated to reflect current organisational structure
12	30/06/2009	Document reviewed and updated to reflect current organisational structure

Reporting

Appendix 1 – Reporting Procedure Flow file





POLE FLASHOVER REPORT

To: Director Asset Engineering

From:

(Sender)

(Office)

Phone:

SECTION 1 Complete all details

Date:/...../.....

DATE/TIME OF FLASHOVER			
DAY	MTH	YEAR	TIME

DID FLASHOVER CAUSE A FIRE?	
WAS FIRE STARTED ON POLE TOP AND/OR GROUND?	
FIRE REPORT COMPLETED?	

FLASHOVER LOCATION		
CAMM POLE No.	STREET:	
	MUNICIPALITY:	

SECTION 2 ☞ Place a CROSS into applicable box

VOLTAGE LEVEL THAT CAUSED FLASHOVER	
66kV	
22kV	
12.7kV (SWER)	
11kV	
LV	
OTHER*	

TYPE OF STRUCTURE	
INTERMEDIATE	
STRAIN	
SUBSTATION	
FUSE	
SWITCH	
CABLE HEAD	
TRANSFORMER	
OTHER*	

INSULATOR TYPE	
565 POST	
565 STRETCHED POST	
1250 POST	
1800 POST	
180, 480 OR 520 PIN	
DISC	
EDO/POWDER FUSE	
BUSHING	
OTHER*	

DETAILS OF AFFECTED INSULATOR	
INSULATOR MOUNTING HORIZONTAL	
VERTICAL	
NOT APPLICABLE (ie DISC)	
INSULATOR LOCATION CENTRE PHASE	
OUTER PHASE	

CIRCUIT AFFECTED	BIRD FLASHOVER	Y/N	POLE MATERIAL			CROSSARM MATERIAL			TYPE OF EARTHING	
			WOOD	CONC	STEEL	WOOD	STEEL	OTHER*	SEPARATE	COMMON
TOP	COVERS FITTED?									
SUBSIDIARY	DID THEY BURN?									

CAUSE OF FLASHOVER	
BIRD*	
ANIMAL*	
LIGHTNING	
INSULATOR FAILURE	
INSULATOR POLLUTION	
VANDALISM	
OTHER*	
UNKNOWN	

LOCATION OF FLASHOVER ON STRUCTURE	
CONDUCTOR TO INSULATOR BASE OR PIN	
CONDUCTOR TO CROSSARM	
CONDUCTOR TO POLE	
BRIDGING CONDUCTOR TO EYE BOLT OR DISC INS. CAP	
EDO FIRE CHOKE TO CROSSARM	
MOUNTING BRACKET TO FUSE CONTACT	
PHASE TO PHASE	
OTHER*	
UNKNOWN	

LV CIRCUIT	YES	NO
IF LV SUBSIDIARY EXISTS WAS IT AFFECTED?		

WEATHER AT TIME OF FLASHOVER			
DAY OF TOTAL FIRE BAN	TEMPERATURE	WIND	ATMOSPHERIC CONDITIONS
		HOT	STRONG
	MILD	MODERATE	DRY
	COOL	CALM	OTHER*

DID ANY PROTECTION OPERATE?	YES	NO

* SPECIFY DETAILS IN SECTION 3

SECTION 3

COMMENTS AND RESULTING DAMAGE

Signature:



POLE FIRE REPORT - USE IMS

INFORMATION REQUIRED IS GENERALLY AS DETAILED IN THIS FORM

TO Director Asset Engineering

DATE:/...../.....

FROM: DISTRICT
..... REGION

SECTION 1

REG	AREA	DATE/TIME OF FIRE				WAS FIRE REPORT SUBMITTED?	RELATED SIF NUMBER
		DAY	MTH	YR	TIME	IF YES STATE No	

Nearest DSM Location No	Swer	POLE FIRE LOCALITY					
		House No	Pole No	Suffix	Street/Road		
		Feeder/Spur			Town/Locality		

SECTION 2 TICK WHERE APPLICABLE

INSULATOR DETAILS						AGE OF STRUCTURE	YRS
MAKE	YR	GREASE D	REGULARLY WASHED				

VOLTAGE LEVEL THAT CAUSED POLE FIRE	TYPE OF STRUCTURE	INSULATOR TYPE
66kV	INTERMEDIATE	FOG PIN
22kV	STRAIN	SELF CLEAN PIN
12.7kV (swer)	SUBSTATION	565 POST
11kV	FUSE	565 STRETCHED POST
6.6kV	SWITCH	1250 POST
	OTHER*	1800 POST
		EDO FUSE
		DISC
		OTHER*

FIRE LOCATION	PRIMARY CAUSE OF FIRE (Tick one only)					
INSULATOR PIN	INSULATOR DAMAGED		INSULATOR POLLUTED		EQUIPMENT FAILURE	
BRACE BOLT	FAULTY	SALT	BROKEN TIE			
KING BOLT	LIGHTNING	DUST ORDINARY	OTHER*			
POLE CAP	VANDALISM	DUST ABNORMAL	BIRD & WIRE			
FUSE BRACKET	OTHER*	OTHER*				
OTHER*						

WEATHER AT TIME OF FIRE					
TEMPERATURE		WIND		ATMOSPHERIC CONDITIONS	
HOT		STRONG		FINE	RAIN
MILD		MODERATE		HUMID	DRIZZLE
COOL		CALM		FOG	THUNDERSTORM
					OTHER*

PRECEDING WEATHER	
PROLONG SEA BREEZE	
LONG DRY SPELL	
OTHER*	

BONDING METHODS (Tick all those that apply)					
BONDING PLATES OR SHUNTS FITTED		CONICAL SPRINGS FITTED		EARTH CONNECTION TO FITTINGS	
X-ARM INSULATORS		X-ARM INSULATORS		X-ARM	
BRACE BOLT		BRACE BOLT		POLE	
POLE CAP		POLE CAP		FUSE BRACKET	
KING BOLT		KING BOLT		OTHER*	
FUSE BRACKET		FUSE BRACKET		NONE FITTED	
NONE FITTED		COACHSCREW		* PLEASE SPECIFY IN COMMENTS	
		NONE FITTED			

SECTION 3 COMMENTS



POLE AND CROSSARM FAILURE REPORT

TO: **Director Asset Engineering**

PLEASE FORWARD WITHIN 2 DAYS OF EVENT

FROM:AREA
REGION
 DATE/...../.....
 SENDER
 PHONE

DEFINITION:

- WHERE A POLE HAS FALLEN, DUE TO DETERIORATION
- WHERE FREE MOVEMENT OF THE POLE IS POSSIBLE AND THE POLE IS SUPPORTED ONLY BY CONDUCTORS, STAYS, SERVICES, I.E. THE POLE BASE HAS NO RESISTANCE TO BENDING MOVEMENT

SECTION 1

REG	AREA	POLE LOCATION			
		House No	Pole Number	Suffix	Nearest DSM loc no
					swer
		Street, Road			
		Town/Locality			
		Feeder/Line/Spur			

DATE/TIME OF FAILURE			
Day	Mth	Year	Time

WAS FIRE REPORT SUBMITTED?	
IF YES STATE No	

WIND CONDITIONS	STRONG	MODERATE	LIGHT

SECTION 2

DATE OF INSPECTION			POLE STATUS				POLE DETAILS				
Day	Mth	Year	U/S	L/L	R/T	Serv.	Length	Strength	Disc Year	Species	Lis No

SECTION 3

VOLTAGE ON POLE						CONSEQUENCE		
LV	6.6/11	12.7 SWER	22	66	Other	Injury	Death	Material Damage
								Significant
								Negligible

REMARKS: (Extent of decay, termites, was last inspection hole in appropriate position? etc)

HAS BROKEN POLE BEEN SEEN BY RELEVANT LINE INSPECTOR?

YES NO

INSPECTORS SIGNATURE

.....



**FIRE REPORT - USE IMS
COMPLETE WITHIN 7 DAYS OF FIRE**

INFORMATION REQUIRED IS GENERALLY AS DETAILED IN THIS FORM

Date:

TO: ENVIRONMENTAL MANAGER
FROM:Region

Sender
Phone No

Significant fire i.e.: injury or death or damage to stock or property which includes trees, pasture and fencing, details should be immediately phoned to the Manager Risk and Claims Manager and the Environmental Manager, followed by a completed Fire Report form.

Region Phoned

Time: Date: Secretary

Time: Date: Claims Manager

Time: Date: Environmental Manager

SECTION 1

Region	Area	Date /Time of Fire		
		Date	Time	
Fire Source Locality				
House No	Pole Number	Suffix	Nearest DSM Loc No	Swter
Street / Road				
Town / locality				
Zone Substation and Feeder				

SECTION 2

Environmental	(✓)	Area	Weather at Time of Fire				Consequences of Fire		
			Day of Total	Temp °C	Wind km/h	Air Moisture %	Injury	Death	Material Damage Significant Negligible
Grass			Fire Ban						
Crop			Yes	No					
Shrub									
Forest									
Other			Fire Area		Non Fire Area				



Pole Material		
Wood	Steel	Conc

Crossarm Material		
Wood	Steel	Conc

Conductor Material			
SC	AAC	ACSR	CU

SECTION 3

ASSETS (✓) Tick		EXTERNAL FACTORS	
Conductor		FUSE	
Clashing		EDO Operation	
Tie Failure		EDO Hang-up	
Joint Failure		PFF Failure	
Conductor Failure		BA Failure	Bird <input type="checkbox"/> Animal <input type="checkbox"/>
Bridging		LV	Intermediate Structure
“D” Burn through		Surge Diverter	Complex Structure
Insulator		Earth Leads	
Mechanical Failure		End Cap	Substation Pole
Electrical Failure		Surge Diverter Failure	Lighting
Pollution		Transformer Failure	Fuse Separation
Salt		Mechanical Failure	Transformer Failure
Other.....		Electrical Failure	Pole Failure
Crossarm		Switch Failure	
Fire		Mechanical Failure	Miscellaneous
Broken X-Arm		Electrical Failure	Vehicle
Termites		Miscellaneous	Human Agency
Age Rot		Service Failure	Other (Specify)
Other.....		U/G Asset Failure	
Pole		Overload	
Pole Failure		Earthing Failure	
Pole Fire		PEL Failure	

SECTION 4 VOLTAGE and FAULT CURRENT

Voltage Level and Fault Current Attributed to Alleged Cause of Fire Ignition		
Voltage	Fault Current (Amps)	
	3P H	PH-G
LV		
6.6/11		
12.7 (SWER)		
22		
66		
other		

Conductor between Zone Sub and Fire/Fault Location : Complete only if Fault Currents Not Known	
Conductor Size and Type	Length (KM)



SECTION 5 HV Protection Operations

Zone Sub			Feeder ACR(s)			Fuses		
Feeder CB Tripped ? Y/N			ACR Tripped ? Y/N			Fuses Operated? Y/N		
CB Tripped to lockout? Y/N			ARC Tripped lockout? Y/N			No of Fuses Operated (1,2 or 3)		
Was Auto Reclose Suppressed? Y/N			Was Reclose suppressed? Y/N			FUSE TYPE	PF	
No of Trips			No of Trips			(✓)	EDO	
Feeder Protection Relay Targets (✓)	O/C	Rφ	ACR Protection Operations (✓)	O/C	Rφ	Acid Boric		
		Wφ			Wφ			
		Bφ			Bφ			
	E/F			E/F				
Other.....			ARC Location.....			Fuse Rating (A)		

SECTION 6

Comments	Property Owners

Signed /...../.....
Title

Signed /...../.....
Manager

If incidents involve the following, the information set out below must also be provided.

Private Electric Lines

- Date last inspected.....
- Was PEL defective.....
- Date defect note issued.....
- Date defects were due for repair.....
- Remedial action taken.....

Low Voltage Conductor Clashing

- Type of conductor.....
- Were spreaders fitted. If not why not.....
- What action has been taken to prevent re-occurrence.....

Trees

- Were/was trees/tree within Clearance space.....
- If yes, when were trees last cut



PLANT FAILURE REPORT

PLEASE FORWARD WITHIN 2 DAYS OF EVENT

TO Director Asset Engineering

DATE:...../...../.....

LOCATION:.....

PHONE: (.....)

INSTRUCTIONS: Complete location details and information of the particular item that failed.
Please send with this report any small damaged pieces of plant. Larger items to be retained at nearest store for 28 days

DSM LOCATION No. LIS Number FIRE
REPORT.....
NAME OF INSTALLATION.....
STREET:

LOCALITY.....

TYPE OF INSTALLATION (please circle) swer iso. s/s swer dis. s/s, swer spur,
1ph s/s, 1ph spur, 3ph s/s,
3ph spur, gas switch, other.....

DISTANCE FROM ZONE SUBSTATION (km)
SYSTEM VOLTAGE (please circle) 66 kV, 22 kV, 12.7 kV, 6.6 kV, LV

CAUSE OF FAULT OAS Fault Codes: OAS
No.....

DATE/TIME OF FAILURE/...../..... hrs

EDO DETAILS (please circle) single vent, double vent
MOUNT / MAKE TYPE No YEAR
CARRIER / MAKE TYPE No YEAR
LINK / MAKE TYPE RATING BATCH No
WHAT FAILED? (please circle) mount, carrier, link

BORIC ACID DETAILS
MOUNT / MAKE TYPE No YEAR
LINK CONTACTS / MAKE TYPE No YEAR
LINK / MAKE TYPE RATING BATCH No
WHAT FAILED ? (please circle) mount, link contacts, link

POWDER FILLED DETAILS (please circle) bolted contact, spring contact
MOUNT / MAKE TYPE No YEAR
LINK CONTACTS / MAKE TYPE No YEAR
LINK / MAKE TYPE RATING BATCH No
BARREL DIAMETER (mm)
WHAT FAILED ? (please circle) mount, link

SURGE DIVERTER DETAILS (please circle) porcelain, polymeric
BODY / MAKE TYPE No YEAR
EARTH LEAD DISCONNECT DEVICE (ELDD) (please circle) black, grey
MODE OF FAILURE? (please circle) shattered, earthlead disconnected,
vented
WHAT FAILED ? (please circle) surge diverter, ELDD, reflector
missing

COMMENTS

.....
.....
.....
.....

MAJOR PLANT ITEMS:

TRANSFORMER

TYPE

MAKE

TYPE No YEAR

WHAT FAILED ?

SWITCH

MAKE

TYPE No YEAR

TYPE

(please circle) Air break, Gas TYPE: Manual.

Remote

ATTACHMENTS

Flicker blades, Arc chute, Expulsion interrupter

INSULATORS

2 Piece, Single.

WHAT FAILED ?

UNDERGROUND PLANT

ELBOW TERMINATIONS

MAKE

(please circle) TYPE 630A, 400A, 200A

YEAR

WHAT FAILED ?

JOINTS & TERMINATIONS

TYPE

CABLE SIZE & VOLTAGE

WHAT FAILED ?

CABLE / CONDUCTOR / ABC

SIZE AND VOLTAGE

TYPE

WHAT FAILED ?

OTHER ITEMS

DETAILS

.....
.....
.....

COMMENTS

.....
.....
.....

Bushfire Mitigation and Vegetation Management

Investigation of Significant Fires

Document number:	BFM 21-71
Issue number:	13
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/06/2009
File Name	BFM 21-71.doc

Investigation of Significant Fires

1 PURPOSE

The purpose of this document is to set out procedures for the investigation of significant fires involving personal injuries and/or property damage.

It applies to relevant Senior Managers, and all SP AusNet or contract personnel who may attend or be involved with a fire.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual

BFM 21-70 - Reporting Procedures

3 DEFINITIONS

- Fire** the ignition of combustible materials on the ground including trees and other vegetation possibly caused by SP AusNet's distribution network assets
- Significant Fire** a fire which causes injury or death or significant damage to stock or property which includes fencing and trees/ pasture on private land.
- Fire Report** the report referred to in document BFM 21-70, which must be filled out in the event of a fire possibly involving SP AusNet's distribution network assets
- Solicitor's Report** The documentation prepared by the Claims Manager, at the request of the Company Solicitor which reports on the investigation of a serious fire and is covered by legal privilege.

4 PROCEDURE

4.1 INTRODUCTION

Significant fires may result in legal proceedings and consequently care must be taken to ensure that unsubstantiated and un-collaborated information is not reported through channels which are not protected by legal privilege. It is of paramount importance that the procedures set out below are followed in situations where it could be alleged that injury and/or damage resulted from fire involving SP AusNet's assets.

4.2 INITIAL ACTIONS

Regional personnel attending the incident must immediately assess whether the fire is significant as defined in the definitions above.

Where the fire is not classed as a significant fire it will be handled as set out in document BFM 21-70.

Investigation of Significant Fires

Where the incident is determined to be a significant fire the region must immediately notify, by phone, the Claims Manager and Environmental Manager, or if unavailable the Manager Risk. The Claims Manager if contacted first will advise the Manager Risk. Refer document BFM 21-71-A for phone contact numbers.

In after hours situations the region must immediately notify the Network Control Centre who will advise the Claims Manager and the Environmental Manager, or if unavailable the following in order, until a contact is made:

- Manager Risk,
- Company Solicitor
- General Manager Networks Strategy and Development

The Manager Risk depending on the seriousness of the fire will advise -

- Manager Public Affairs
- General Manager Networks Strategy and Development
- Manager Program Integrated Networks Services
- Director Health Safety Environment & Quality
- Claims Manager

The General Manager Networks Strategy and Development will advise the Managing Director before a media statement is issued.

Where the local Regional Manager has a clear understanding of the cause, immediate attendance of the Claims Manager is normally not necessary.

Regional officers attending any fire should:

- not discuss the matter with others at the site;
- confine verbal statements to the police to only those of clear fact; and
- make no comment to the media.

To the extent appropriate in the circumstances, any items of equipment/lines etc. considered pertinent to an analysis as to causation are to be maintained in a secure environment so that any subsequent argument as to the facts can be properly clarified.

Details of the names of persons having some personal knowledge of the events should be recorded and passed on to the Claims Manager.

Notes.

1. **All notes, readings taken, photos etc. obtained prior to a request from the Manager Risk after liaison with legal advisers are likely to be documents discoverable in legal proceedings. It is therefore important that information obtained at the time of the incident is reported as described below in the reporting procedures.**
2. **The Manager Risk carries the prime executive responsibility for SP AusNet in its dealings with the public as well as the responsibility for handling claims and ensuring that the conditions of our insurance policy are not breached. Consequently no discussions with the public on these matters should take place at the time of the incident.**

4.3 SUBSEQUENT ACTIONS

The Manager Risk will liaise with the SP AusNet's legal advisers to ascertain SP AusNet's legal position in relation to the incident.

Where an investigation is recommended by SP AusNet's legal advisers the Company Solicitor will consult with the Manager Risk and if an investigation is deemed necessary, formally request

Investigation of Significant Fires

the Claims Manager to carry out an investigation of the incident and to prepare a detailed written report (Solicitors Report) for submission to the Company's legal advisers.

Following submission of the report and after discussion with SP AusNet's legal advisers, the Manager Risk will advise Senior Management of the position regarding liability and an estimate of the possible costs.

The Manager Risk will then:

- advise SP AusNet's Insurance Underwriters and control the ongoing involvement with those underwriters
- take steps to ensure the security of any equipment involved in the alleged causation of the fire
- liaise with the Manager Public Affairs in respect of any public statement concerning the alleged fire; and
- refer to the Claims Manager and respond to any claims received from third parties suffering damage as a result of the alleged fire.

4.4 SITE INVESTIGATIONS

After receiving advice from the Solicitor that an investigation will be undertaken, the Claims Manager will attend the site **IMMEDIATELY** so that a preliminary report can be prepared in liaison with a nominated Network Services Group officer.

A further site inspection should take place within 48 hours of receiving the Fire Report and this should include:

- Manager Risk
- Network Strategy & Development Group officer
- The Company Solicitor and/or external legal adviser
- General Manager Networks Strategy and Development
- Director Health Safety Environment & Quality
- Director Asset Engineering and
- Claims Manager.

For the Solicitors Report, the distribution network investigatory role would be filled by Director Asset Engineering or his deputy

In nominating the officers to be involved, the General Manager Networks Strategy and Development would take into account the extent of the fire under investigation and the possible level to which any legal proceedings may escalate.

Detailed investigatory work may also be undertaken to assist the nominated network officer, and this would be provided by specialist personnel from relevant sections.

4.5 REPORTS

4.5.1 General

No reports except for the initial oral reports and routine Fire Report should be initiated until advised by the Manager Risk or Claims Manager, on his behalf.

When instructed by the Company Solicitor the Claims Manager will prepare a written Solicitors Report for submission to the Company's legal advisers. The report is solely for submission to legal advisers, in anticipation of possible litigation and is subject to "legal professional privilege".

Investigation of Significant Fires

The Claims Manager will draw on such resources as necessary from other SP AusNet operational and support groups for the investigation.

All matters considered to be in any way relevant (including technically based opinions as to causation) in determining the liability/legal position must be included. Contact should be made with the Company Solicitor if there is any doubt what matters are to be included in the detailed report.

Extensive liaison should be maintained with the Claims Manager to ensure that investigations are coordinated.

Information prepared for the Solicitors Report or the report itself must not be copied to any other officer within SP AusNet and is not be used for any other (administrative) purpose, as to do so is likely to negate the privilege and cause the Report to be subject to disclosure to other interested parties.

The Solicitors Report, if prepared for submission to legal advisers in anticipation of possible litigation, is protected by legal professional privilege.

Information prepared by operational or service units for submission to the Claims Manager for inclusion in the Solicitors Report should be headed –

This Document Is For Submission to Legal Advisers to SP AusNet for the Sole Purpose of Obtaining Legal Advice.

The ultimate report would normally be prepared over the signature of the Manager Risk, and would be directed to the relevant legal adviser in response to his recommendation.

Time is of the essence in completing the investigation. Confidentiality and the protection of legal privilege are of vital importance. If any doubt exists the Solicitor should be consulted.

4.5.2 Content

The Report should include:

- Details of alleged causation
- Summary of information from witnesses
- Extent of fire
- Details of injury or death known at that time and an estimate of the number of properties involved.
- Photographs of the SP AusNet assets believed to have been involved and, if reasonably accessible, photographs of any property damage.
- It is essential to gather information and evidence as quickly as possible after the occurrence of a fire.

Of particular importance are:

- **Photographs and video where possible (use a digital camera if possible, instant developing photographs such as Polaroids are to be used only if no other camera is available)**

Investigation of Significant Fires

- Physical evidence (e.g. damaged equipment which has not otherwise been required by, say, the Victoria Police)
- Names and addresses of witnesses
- Major items of consideration would include those which assist in identifying the probable cause of any fire and in this regard aerial photographs may be extremely valuable in recording the relationships between burnt areas, direction of fire front travel and locations of SP AusNet or privately owned assets.
- With regard to witnesses, the Claims Manager will arrange for statements to be taken.

4.5.3 Review of Report

Within 48 hours of finalising the Solicitors Report of the fire, a meeting is to be held to discuss the causation of the fire and assess SP AusNet's position with regard to liability and to liaise with SP AusNet's Insurers regarding any claims which may arise from third parties. The following people should be in attendance at that meeting:

- Manager Risk
- General Manager Operations & Services and/or Regional Manager
- The Company Solicitor and/or external legal adviser
- General Manager Networks Strategy and Development
- Director Health Safety Environment & Quality
- Manager Customer Services and
- Claims Manager.

Depending on the magnitude of the fire, the Managing Director may wish to be in attendance also. Meetings should be chaired by the Manager Risk and should consider the following:

- What additional information is required to assist in the assessment of liability?
- Decide if outside consultants be employed to advise on any particular aspect.
- Confirm that SP AusNet's brokers and insurance underwriters have been advised of the fire.
- Arrange for aerial photographs to be obtained of the total fire area as quickly as possible.
- Inquiries should be made as to whether a satellite photograph of the fire area is available.
- Decide if a team of photographers be put into the fire area to photograph all property damage, i.e. houses and other buildings.
- Decide if it is necessary for a survey to be completed of the SP AusNet's assets in the area of the alleged commencement of the fire.
- Arrange for SP AusNet's independent consultant loss adjusters to be briefed to assist in the assessment of possible quantum.
- Decide if it is necessary for a SP AusNet officer to attend any public meetings which may be called.

Investigation of Significant Fires

- Decide if it is necessary to consider the availability of appropriate staff to form a Claims Task Force to respond to possible claimants.
- Decide if an officer should be delegated to liaise with both CFA and the police with a view to obtaining all relevant information which they may have to hand and be willing to release.

Consideration should be given to the fact that underwriters or their representatives will probably wish to view the site and hold lengthy discussions with SP AusNet concerning both the alleged causation and the total quantum.

A date should be set for a follow-up meeting so that all parties can be kept abreast of developments.

Subsequent to the meeting, both the written advice to Senior Management and the written confirmation to underwriters should be completed in a manner as approved by the SP AusNet's legal adviser so that legal privilege is in no way endangered.

Director Asset Engineering shall be responsible for liaising with ESV. Regulation Manager shall be responsible for liaising with the Essential Services Commission (ESC).

5 APPENDICES

1. Fire Investigation Checklist

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
11	5/6/2006	Document updated to reflect current business practice.
12	1/6/2007	Document updated to reflect current organisational structure.
13	30/6/2009	Document updated to reflect current organisational structure.

Investigation of Significant Fires

Appendix 1**FIRE INVESTIGATION CHECKLIST**

It is most important that the investigating team go to site as soon as possible in order to ensure minimum disruption of evidence.

Information to be gained by inquiry.

- 1 Is it claimed that SP AusNet assets caused fire? If yes, who is making this claim?
- 2 Were there any witnesses to the initiation, if so can you interview them?
- 3 Interview witnesses and gain best possible description of scene.
- 4 What was wind direction at the time of initiation? Was there any subsequent change of direction before the fire was brought under control? Information regarding temperature and humidity, if available.
- 5 SP AusNet's system operating history in period leading up to fire.
- 6 Construction/Maintenance history of the assets over the preceding years.
- 7 Are there any CFA records available?
- 8 Copy of relevant SP AusNet history records (e.g. Q4, OAS data).

Things to Look for.

- 1 Location of fire origin relative to SP AusNet's assets.
- 2 Broken or failed assets including,
 - (a) Broken ties
 - (b) Broken insulators
 - (c) Broken crossarm
 - (d) Broken conductor or on ground
 - (e) Broken pole
 - (f) Failed plant and equipment
- 3 Burn or rubbing marks on trees.
- 4 Clash marks on conductors.
- 5 Other possible causes for fire (e.g. bottles, matches, recent rifle or shotgun cartridges, evidence of campfire, car tracks).

Considerations in reviewing evidence and looking/inquiring further.

- 1 Do you have a cohesive story in which visible evidence, operating history, witnesses' claims are all consistent? Do all times quoted fit into proper sequence?
- 2 Are you really sure? Double check.
- 3 If the story doesn't point to SP AusNet's assets being responsible, put yourself in the place of someone who would prefer that to be so. What evidence is there to back such thinking? No matter how contorted that logic would have to be, review the scene with that in mind.
- 4 If the evidence does point to SP AusNet as the source, look for any alternative source. Is the evidence really conclusive? Have you been led by other peoples' presentation, persuasion?

Investigation of Significant Fires

Recording of Evidence

- 1 Prepare a sketch of the scene showing all significant features and dimensional relationships between the fire origin and all SP AusNet's assets.
- 2 Take photographs and where possible video, of: -
 - General scene (all angles)
 - Any features which may be constructive in an investigation
 - Close-ups of any broken or damaged object showing maximum detail of fracture face, deformation, staining, clash or burn marks
 - Obtain any available photographs of the areas before the fire occurred.

Collection of Physical Evidence

It is preferred to locate any pieces of SP AusNet material, or other, which might have a bearing, or give any lead to the cause of a fire.

Pieces of SP AusNet material which are unable to be left in service should be collected, whereas any material which can be left in service should not be collected.

- Collection of SP AusNet Material

This must be done with great care - SP AusNet can provide the most secure storage but removal of evidence can be readily misconstrued as an attempt to hide it. Consequently, whilst endeavouring to take it into our care, it should only be done with the approval of the senior police representative, if one is present, and it would be wise to ask him/her to sign a release which describes it in detail.

- Non-Collection of SP AusNet Material

Where a piece of evidence, such as a clashed conductor, is still functional and can be left in place, then that is the option to be strongly preferred. Resist any pressure to have it "taken in custody" as it provides much more useable evidence, in most circumstances, where it was and it remains accessible to all parties. If necessary agree to some form of marking and photographic recording to identify that the same piece stays there. In the most common cause, clashed conductors, any claim that someone wishes to have the age of clash marks assessed scientifically can be treated with great scepticism and we should only agree to such work being done on a cooperative basis, and then only very promptly after the incident. We are not of the opinion that such an assessment can be made.

The reason for the above emphasis on keeping evidence available to SP AusNet is that when a potential claimant impounds evidence, it usually gets locked up in a dusty store for a year or two, during which time potential evidence such as fracture pattern becomes obscured permanently.

Bushfire Mitigation

BFM Report Data Inputs

Document number:	BFM 21-72
Issue number:	9
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	David Just
Date of approval:	26/05/2008
File Name	BFM 21-72.doc

BFM Report Data Inputs

1 PURPOSE

The purpose of this procedure is to document and describe procedures for the inputting of data into the asset database (Q4) and the compilation of the Bushfire Mitigation Report.

The procedures apply to all SP AusNet and Contractor personnel responsible for entering data into Q4 and for the compilation of reports.

2 REFERENCES

ESV 4111 -Line Inspection Manual
BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

Q4 Asset database and work management system.

4 PROCEDURE**4.1 INTRODUCTION**

This process involves data compilation/editing utilising the Asset database (Q4) as the primary database for the management of Asset maintenance and inspections to continually monitor any Bushfire Risks which may arise. The Q4 data should continually be managed by, the respective Maintenance Coordinators, Technical Officers, Schedulers and Asset Inspectors so that a uniform understanding can be sought to provide a database with consistent and uniform information.

Any requests that may enhance the database should be passed onto the Q4 System Administrator for evaluation.

The asset database was upgraded from version 30.3 to the current Version 4.3 at the end of May 2002 and the name changed from CAMM to Q4. The Bushfire Mitigation Report was also enhanced and upgraded to a new platform.

Bushfire Mitigation Report users are encouraged to have Q4 continually up to date and updates shall not exceed two weeks.

A PDE Interface program allows for the updating of Q4 data from portable data entry devices.

Tree clearing data is not contained within Q4 and is manually entered on the provision of figures from the tree management contractors.

4.2 BUSHFIRE MITIGATION REPORT

The Q4 Bushfire Mitigation Report has been designed to enable the collection of summary data from Q4 to the Bushfire Mitigation Report.

A variety of reports are available.

- Line Inspection
- Attachments/Conductors Pr 1 & 2
- Replacement Poles

BFM Report Data Inputs

- Surge Diverters
- Bird Covers
- Private Electric Line
- Tree Clearing

The Bushfire Mitigation (BFM) Report is available on demand and the instructions for the operation of the Bushfire Mitigation Report are set out in the help menu within the reporting tool.

The Bushfire Mitigation Report shall be produced at the end each month and a copy placed on the SP AusNet Intranet for future reference. This enables an overview of prior months to be taken into account for verification of workloads.

4.3 MANUAL ENTRY

A figure that must be entered manually (ie Q4 cannot count these items.)

The 'Tree Data' tab allows the editing of all data to do with tree clearing supplied by the Tree Management contractors. This includes targeted inspections

- Pre Summer Inspection

The Annual target runs for a financial year and requires input of the annual figure for each month of the year.

The actual inspections completed for each month needs to be input for each month.

- Trees

The Cyclic Spans Annual target runs for a calendar year and requires input of the annual figure at the beginning of the year.

The actual spans found and completed for each month along with the spans outstanding at the end of the month, need to be input for each month.

4.4 COMMENTS

The *Scheduled finish* should be updated with the programmed completion dates, for any items contributing to the Index (Listed below).

- Line Inspection poles o/s beyond inspection cycle.
- Attachments Priority PT30 o/s 30 days.
- Attachments Priority PT180 o/s 180 days.
- Conductors Priority PT30 o/s 30 days.
- Conductors Priority PT180 o/s 180 days
- Unserviceable poles o/s 90 days not fire safe.
- Limited Life poles o/s 912 days not fire safe.
- Installations with Surge Diverters o/s 30 days.
- Poles still requiring Bird Covers o/s greater than 90 days .
- Defective Private lines outstanding with urgent defect not fire safe.
- Vegetation Code PT1 o/s greater than 1 day.
- Vegetation Code PT30 o/s greater than 30 days.

BFM Report Data Inputs

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
8	23/06/2005	Document placed into new template 5/6/06. No change made to text.
9	26/5/2008	Changes to reflect new Priority Rating definitions

Bushfire Mitigation

Vegetation Management

Document number:	BFM 21-73
Issue number:	9
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/6/2009
File Name	BFM 21-73.doc

Vegetation Management

1 PURPOSE/SCOPE

The purpose of this procedure is to set out procedures for the management of vegetation near powerlines, and applies to all SP AusNet and contract personnel responsible for tree clearing or pruning activities.

2 REFERENCES

Electricity Safety Act 1998	Sets out the responsibilities and powers of SP AusNet with regard to keeping trees clear of powerlines.
Electricity Safety (Electric Line Clearance) Regulations 2005	Regulations and code of practice which sets out minimum clearances which must be maintained between vegetation and powerlines; and the duties of those responsible for maintaining the clearance.
ESV 4111 - Line Inspection Manual BFM 21-79 - Bushfire Mitigation Manual	

3 DEFINITIONS

BMMC	Bushfire Mitigation Management Committee
ESV	Energy Safety Victoria
REGULATIONS	Electricity Safety (Electric Line Clearance) Regulations 2005

4 PROCEDURE

The Director Asset Engineering must ensure that all areas have at all times, arrangements in place for the cyclic management of vegetation near electricity distribution assets.

Each year the Business Manager Utility Services shall prepare a draft vegetation management plan incorporating management procedures compliant with the requirements of the Regulations.

The Environmental Manager will review the Vegetation Management Plan.

The Vegetation Management Plan shall be submitted to the BMMC for endorsement.

The Environmental Manager will forward a copy of the Vegetation Management Plan to ESV for approval.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
7	05/06/2006	Minor changes to references, definitions and the procedure.
8	1/06/2007	Minor changes to reflect changes to organisational structure
9	30/6/2009	Changes to reflect current organisational structure

Bushfire Mitigation

Temporary Support of Poles

Document number:	BFM 21-74
Issue number:	5
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	David Just
Date of approval:	31/05/2005
File Name	BFM 21-74.doc

Temporary Support of Poles

1 PURPOSE/SCOPE

The purpose of this procedure is to set out approved procedures for the temporary support of poles.

The procedure applies to situations where immediate action to replace or stake an unserviceable pole is not practical.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual
 ESV 4118 - Construction Manual
 ESV 4111 - Line Inspection Manual
 ESV 4120 - Linesman's Handbook
 ESV 4103-A - Overhead Lines Vol. 1

3 DEFINITIONS

Unserviceable pole	A pole inspected and tested by an asset inspector and found to meet the criteria set out in the Line Inspection Manual, which requires the pole to be classed as requiring replacement or staking
Limited Life Pole	A pole inspected and tested by an asset inspector and found to meet the criteria set out in the Line Inspection Manual which requires the pole to be replaced, staked or reinspected annually
Fire Safe Pole	an unserviceable pole or limited life pole for which normal processes have not been implemented but where the unserviceable pole has been made safe by temporary actions and the limited life pole reinspected annually

4 PROCEDURE

4.1 FIRE SAFE POLES

- Poles can be made fire safe by being temporarily dummied, or supported by stakes stays or struts in a manner which can be demonstrated to be based on sound engineering principles. Reference should be made to the Line Inspection Manual and the Linesman's Handbook.
- In the above situation and where a pole is temporarily stayed using the method described in the Linesman's Handbook, ground pins must be secured to the pole with two double bands of 19mm "Bandit" strap and the upper portion of pole must be supported using stays. The use of ground pins around the pole as the only means of support on an unsupported structure is an unacceptable practice.

Temporary Support of Poles

- Where the replacement of a pole is incomplete, it may be made fire safe by removing all electrical attachments and ensuring that it is clear of conductors.

Temporarily supported poles must be either replaced or staked within six months of the inspection date as recorded in Q4

4.2 TEMPORARILY STAKED POLES

- Where a pole cannot be replaced for reasons of access or the like staking may be used temporarily to support a pole, which for one reason or another does not meet all the criteria for staking. This practice must be kept to an absolute minimum and 'Reinforced Pole Label' must not be attached to the pole.
- Temporarily staked unserviceable poles must be replaced within 6 months of the inspection date.

Before the decision to stake is taken, an assessment of benefits and risks must be carried out and account taken of the:

- mechanical loadings on the pole
- reasons why the pole did not meet the requirements for staking
- types of stakes used (including whether coach screws are gripping)
- seasonal conditions (including ground conditions)
- fire rating of the area
- species of pole / amount of sound wood
- soundness of pole top structure.

Temporary supported poles must be logged in Q4 and reviewed 6 monthly.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
5	31/05/2005	Document placed into new template 5/6/06. No change made to text.

Bushfire Mitigation

Procedure for Defective Private Electric Lines

Document number:	BFM 21-75
Issue number:	14
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/06/2009
File Name	BFM 21-75.doc

Procedure for Defective Private Electric Lines

1 PURPOSE

The purpose of this procedure is to set out processes for identifying, reporting, issuing of notices, following up progress and the disconnection of defective private electric lines to ensure that private electric lines are fire and electrically safe.

The procedure applies to all private electric lines from the point of supply to the first building/s or structure/s connected to the line.

2 REFERENCES

Electricity Safety (Bushfire Mitigation) Regulations 2003
 ESV 4111 - Line Inspection Manual
 Electricity Safety (Installations) Regulations 1999
 ESV 4137 - Service and Installation Rules
 BFM 21-75-A - POEL Disconnection - Fire Risk Assessment Form
 BFM 21-75-B - Notice to Customers
 BFM 21-75-C - Reminder Letter
 BFM 21-75-D - Final Notice
 BFM 21-75-E - Disconnection Warning
 BFM 21-75-F – Pro-forma for recording location of POELs with urgent defects
 BFM 21-76 - Guidelines for Requiring the Undergrounding of POELs
 BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

Defective Private Electric Line	a line which has a Private Electric Line Report with item/s recorded as requiring attention.
Private Electric Line Report	the Q4 report form or its electronic equivalent used for recording defects on private electric lines.
Urgent defects	any defects which are not considered fire safe for a day of total fire ban (TFB); e.g. infringement of vegetation clearance space, risk of pole or crossarm failure, serious conductor deterioration. Risk assessment of urgent defects prior to days of TFB can be undertaken - refer Appendix 1.
Notice	a notice (refer document BFM 21-75-B) issued to the occupier of the property requiring defects to be rectified
Q4	Asset Management Database

Procedure for Defective Private Electric Lines

4 PROCEDURE

Private Overhead Electric Lines (POELs) will be inspected in accordance with the requirements of the Line Inspection Manual at intervals prescribed by the Business Rules. Occupiers of properties with POELs shall be notified of the inspection in accordance with the requirements of the Electricity Safety (Bushfire Mitigation) Regulations 2003. Results of inspection are reported in the Line Inspection Report (LIR) if there is a defective pole or any other fault such as those listed on the Private Line Inspection Report (PLIR). Urgent defects can be recorded by either an Asset Inspector, Asset Performance Coordinator or any other person authorised to do so by the Director Asset Engineering.

Note.

Routine testing is limited to that set out in the purpose/scope, however, whilst engaged in the inspection of unmetered private lines, an Asset Inspector must test any suspect poles observed in metered lines and to record any hazardous defects on metered lines. Any defects on metered lines are to be reported on the Private Line Inspection Report for inclusion in Q4.

SP AusNet and contract personnel who during the course of their normal duties observe situations on metered private lines which they believe could be hazardous, must report these situations to the Works Planning & Performance Monitoring Manager for assessment and attention.

A Defect Notice will be issued (refer document BFM 21-75-B) following the receipt of a Private Electric Line Report. This must be accompanied with a Private Electric Line (POEL) brochure. This shall be the responsibility of the **Works Planning & Performance Monitoring Manager**.

Note.

It is important that all defects be identified and included on the notice at this time to avoid later delays and inconvenience to the customer.

Before issue of the notice consideration must be given to the guidelines for requiring POELs to be put underground.

The time advised on the Defect Notice to rectify defects will be determined by the **Works Planning & Performance Monitoring Manager**. This will be assessed in consideration of the nature of the defects and the associated fire and electrical risks.

The time allowed to effect repairs to a defective private line shall not be more than 42 days unless otherwise approved by the **Works Planning & Performance Monitoring Manager**

The objective must be to ensure that all private lines are fire and electrically safe. If immediate disconnection of supply is necessary to achieve this, then it must be done.

If, within 14 days prior to the date stipulated to effect repairs, no action is taken to rectify defects a 14 day reminder letter (refer document BFM 21-75-C) shall be issued, if safety considerations permit. If still no action is taken to rectify defects after day 7 of the 14 day reminder period a final notice (refer document BFM 21-75-D) is issued stating that referral to ESV will occur on the day following the date stipulated in the notice for the rectification of defects (generally day 43 of the rectification process).

SP AusNet shall on a regular basis refer to the ESV details of those POELs where no action has been taken to rectify defects. Referral lists and information shall be in a format approved by the ESV. SP AusNet shall meet with the ESV on a monthly basis to review status of POELs that have been referred to the ESV. The ESV shall be regularly informed by SP AusNet of any changes to the status of referred POELs

Q4 will be kept updated to record the current status of actions taken including the following as appropriate:

Procedure for Defective Private Electric Lines

- Date of issue of the Defect Notice
- Date by which action is due
- Date of referral to ESV
- Status of the POELs fire safety
- Totally Converted to UCM
- Converted to HV & Substation
- Approved/Connected Date
- Totally Discontinued Date

POELs will be disconnected where -

- During the declared fire season where the ESV has directed SP AusNet in writing to disconnect the POEL.
- The condition of POEL is dangerous and is a serious risk to fire and electrical safety; or
- On days of Total Fire Ban where a POEL has urgent defects where those defects do not meet the fire risk assessment guidelines.

Note.

While SP AusNet must be reasonable in these circumstances and considerate in the treatment of its customers, dangerous fire risks cannot be tolerated. Assessment of the degree of risk will be a matter for individual judgment based on the conditions relating at each situation.

All customers supplied by a POEL which may be disconnected must be notified in writing of the situation and the financial conditions that will apply to the disconnection and subsequent reconnection of the electricity supply. For a sample letter of advice, including charges, refer document BFM 21-75-E. Waiving of the charges is at the discretion of the **Works Planning & Performance Monitoring Manager Note**.

Disconnection (and reconnection) of defective private lines that are not fire safe on Days of TFB is a costly and time-consuming exercise. All steps must be taken to minimise the number of POELs with outstanding defects during the fire season.

Local business offices will establish a system for recording the location of POELs that may require to be disconnected and processes for their reconnection following the lifting of the total fire ban conditions or abatement of extreme conditions, as applicable.

Note.

The system may include a card system containing the information described in document BFM 21-75-F and linked to maps.

5 APPENDICES

1. Guidelines for Fire Risk Assessment of Defective POELs

Procedure for Defective Private Electric Lines

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
12	5/6/2006	Minor changes throughout document.
13	1/6/2007	Minor changes to reflect changes to organisational structure
14	30/6/2009	Minor changes to reflect changes to organisational structure

Procedure for Defective Private Electric Lines

Appendix 1**GUIDELINES FOR FIRE RISK ASSESSMENT OF DEFECTIVE POEL's**

The following criteria is to be used in determining whether a Private Electric Line with Urgent defects can be reclassified as having minimal fire risk and therefore does not warrant disconnection on days of Total Fire Ban.

A Fire risk Assessment form (BFM 21-75-A) must be completed, dated and signed by the assessor.

CRITERIA

Open Wire POELs will be disconnected if one or more of the following conditions apply:

1. Condemned private poles have less than 30mm of sound wood
2. Crossarm/s that are considered an equivalent priority 1 rating
3. Trees that are within 1 metre of contacting the line.
4. Spreaders requiring fitting on slack spans
5. Conductor damage considered an equivalent priority1 rating

Insulated aerial POELs **will** be disconnected if one or more of the following conditions apply:

1. There are multiple poles (>1) with less than 30mm of sound wood
2. A condemned pole with less than 30mm of sound wood situated in a hazardous environment e.g. long grass, dense scrub. (see notes below)
3. Conductor damage considered an equivalent priority1 rating

Environmental Considerations

This element of the formal fire risk assessment process can be applied in certain situations where there is no immediate fire risk at the POEL site and the surrounding environment within 500m of the POEL has minimal vegetation considered as low risk.

In these special cases the above POEL criteria for disconnection on TFB days can be overridden. Examples of these would be if a condemned pole was situated in a ploughed paddock or surrounded by a bitumen or gravelled surface where poles failure would not cause fire ignition.



POEL DISCONNECTION - FIRE RISK ASSESSMENT FORM

This form is to be used to determine whether a defective overhead Private Electric Line is to be disconnected on days of total fire ban. Every box to be ticked or marked NA Not Applicable

LIS NO _____

DATE _____

ADDRESS _____ ASSESSOR _____

METER NO _____

ENVIRONMENT SURROUNDING POEL

- Thick vegetation – high fire risk within 500 m
 Minimal Vegetation – low fire risk within 500m

ENVIRONMENT AT POEL

- Likely Hazardous undergrowth – grass/ shrubs
 Minimal Hazardous undergrowth – ploughed paddock / cut grass

CONDUCTORS

- Insulated Open wire
 Damaged pty1 pty2 pty3

- Spreaders required

POLES

mm of sound wood on each condemned pole _____

CROSS ARMS

- No. of deteriorated arms pty1 pty2 pty3

TREES

- Trees contacting line trees within 1m trees within 2m
 Trees overhanging line healthy limbs suspect limbs

General comments on condition of POEL

Notice to Customers

Dear Customer

SP AusNet has engaged Utility Asset Management Pty Ltd (UAM) to undertake the management of defective Private Overhead Electric Lines (POELs) on its behalf.

As a Private Electricity Line owner you are responsible for ensuring that your lines are well maintained in order that a reliable electricity supply to your property is achieved and that the possibility of electrocution or bushfire ignition is reduced.

Our inspection of your POEL has revealed that it requires attention – detailed on the attached defect notice.

Insert following clause as appropriate.

As the defects require “substantial reconstruction” (more than 30% of the wires or poles to be replaced) Regulation 403 of the Installations Regulations state that the line must be installed as an underground service or where long distances are involved, a High Voltage extension negotiated through SP AusNet may be preferred. Further advice on this can be given to you through our office.

*Exemptions to the requirements of Regulation 403 may be issued by Energy Safe Victoria (incorporating the former Office of the Chief Electrical Inspector) under Regulation 416 of the Installations Regulations. For further information on the exemption process, users are directed to contact Energy Safe Victoria for further information. Refer to attached **Regulation Exemption Information sheet***

You must contact this office within 14 days on telephone 03 9763 3088 between the business hours of 8.30AM - 5.00PM to discuss the choice of options open to you. This advice will cover the process to be followed, the timeframe in which remedial work may be completed (Normally 42 days to effect repair) and any assistance we can provide you with.

Please obtain the services of a registered electrical contractor in order that the defect/s receive prompt attention and return the attached pro forma completed by mail or fax to our office within 28 days of this letter.

Note that private lines with defects remaining after 42 days of the defect notice being issued will be referred to Energy Safe Victoria (ESV) for disconnection. On days of total fire bans regardless of the defect notification period, Private Electric Lines with urgent outstanding defects will be disconnected for the entire period of the Fire Ban. Appropriate fees will be charged for disconnection and reconnection of supply.

SERVICE TRUCK VISIT	NORMAL HOURS	AFTER HOURS
Disconnection	\$159.05	\$263.30
Reconnection	\$24.15	\$137.15

NOTE: ALL PRICES INCLUDE GST.

Should you require any further information, please contact our representative Mr. _____ on telephone 03 _____.

PRIVATE OVERHEAD ELECTRIC LINES (POELS) General Conditions for Exemptions

1. PROCESS

When the Energy Safe Victoria (ESV) receives a request from a registered electrical contractor, owner, occupier or other person for an exemption to Regulation 403 of the Electricity Safety (Installations) Regulations 1999 (see www.esv.vic.gov.au/industry/ARCGlist.htm), the request is provided to a Compliance Officer to investigate to determine whether the Director of Energy Safety should issue an exemption.

The recommendation from the Compliance Officer is made after the Compliance Officer either inspects the site or requests a report from a Licensed Electrical Inspector (LEI) to which the request is outsourced. When the Compliance Officer has all the requisite information, a recommendation is made to the Director of Energy Safety and, if acceptable, the Director of Energy Safety issues a letter providing the applicant with the exemption together with any conditions laid down by ESV.

2. ENVIRONMENT

When considering whether an exemption should be recommended to be accepted by ESV, consideration is given to types of environment including:

- Significant rock at ground level or below ground level where it is impractical and economically unsound to install an underground cable to the required depth;
- Evidence of consistent irrigation activity being in place;
- Evidence of irrigation or drainage channels or creeks and rivers being in place;
- Evidence of wet and/or swampy areas being in place;
- Evidence where the contours of the area would prohibit an economic and safe solution being implemented (e.g. steep cliff face, deep gullies, etc).

In some situations, ESV will consider the overall environment and the economic circumstances of the owner and/or occupier where the POEL is located. In these situations, and analyzing the potential risk and commitments made by the owner/occupier, ESV may recommend that the Director of Energy Safety issue an exemption to allow the owner/occupier to have the POEL placed underground at an agreed time in the future. The period of time could include 30, 60, or 90 days or for some months depending on the circumstances.

3. EXEMPTION CONDITIONS

Depending on the type of POEL, the environmental conditions and the status of the POEL defects, the Director of Energy Safety may issue an exemption subject to the following conditions:

- The cable for the electric line shall be 0.6/1kV rated cross-linked polyethylene (XLPE) insulated aerial bundled cable (ABC), in accordance with AS 3560-1991, comprising improved performance grade XLPE insulation designed for installation in bushfire prone areas;
- Ground clearance from any point where vehicles may traverse to the POEL electrical conductors shall be maintained to a minimum of 4.6 metres;
- An accessible suitably rated over-current protective device other than a fuse link is installed at the origin of the POEL (normally at the point of supply);
- The pole(s) is (are) constructed of material suitable for the conditions of use and the environment and, in general, be comprised of reinforced concrete or galvanised steel;
- All undergrowth and vegetation in the vicinity of POEL be removed immediately and kept permanently clear in accordance with Section 84 of the Electricity Safety Act and the Code of Practice for Electric Line Clearance; and/or
- All other requirements shall comply with the Electricity Safety (Installations) Regulations and the requirements of the Australian/New Zealand Standard, AS/NZS 3000:2000 (Wiring Rules).

4. GENERAL

These exemption conditions are confined strictly to one POEL electrical installation and the relevant electricity distribution company is advised.

All electrical installation work must be undertaken by a registered electrical contractor and the relevant certificate of electrical safety must be provided to the owner/occupier.

PRIVATE LINE DEFECT – RECTIFICATION DETAILS**UNSAFE DEFECTIVE PRIVATE ELECTRIC LINE AT: SMITH ST. SMITHVILLE**

Please complete the details below and mail or fax to this office on 03 9764 8577 within 28 days of the defect notice date.

It should be noted that a Registered Electrical contractor should always carry out repairs on your private line and properly certified tree clearing personnel must always be used or consulted to prune or clear vegetation away from powerlines

TO : UAM FAX 039764 8577

REGISTERED ELECTRICAL CONTRACTOR (ELECTRICIAN DOING WORK)

NAME	PH. No.
_____	_____
EWR NO.(available from REC)	PROGRAM DATE / / 20
_____	_____
SAFETY CERT. No. (from REC)	COMPLETION DATE / / 20
_____	_____

AND / OR

TREE CLEARING – RESPONSIBLE PERSON

NAME	PH. No.
_____	_____
PROGRAM DATE / / 2000	COMPLETION DATE / / 20
_____	_____

SIGNED BY OWNER	DATE / / 20
_____	_____

OWNERS CONTACT DETAILS: PH(HM)	PH(WK)
_____	_____

ORIGINAL (TO CUSTOMER)

LIS:.....	
Installation Numbers	
.....
.....
.....
.....

..... Office Telephone.....

M.....

**NOTICE OF CUSTOMER'S INSTALLATION DEFECTS/S:
 PRIVATE OVERHEAD ELECTRIC LINE/S**

Your attention is drawn to the undermentioned defect/s currently evident on Private Electric Line/s at your premises. Under the Statutory Regulations governing electrical installations, supply may be disconnected from premises where a defect exists and your supply, therefore -

- * has been disconnected for safety reasons
 - will be referred to ESV for disconnection if arrangements have not been made to rectify the defects withindays from the date hereof.
- Date of Issue/...../.....

(* delete as applicable)

In the interest of your own safety and continuity of supply, you should, without delay, obtain the services of a Registered Electrical Contractor* in order that the defect/s receive prompt attention. A listing of electrical contractors may be found in the Classified Section of the telephone directory or from the National Electrical Contractors Association.

PLEASE NOTE

In certain cases it may be necessary to replace a Private Overhead Electric Line where substantial reconstruction is required, with an Underground Line.

In this instance:-

- The Overhead Line must be replaced with an Underground Line.**
- The maintenance indicated below must be performed promptly.**
- It will also be necessary to arrange with your electrical contractor the installation of:-
 - Circuit Breaker/s
 - Conductor Spreader/s

THE FOLLOWING ITEMS HAVE BEEN FOUND TO BE DEFECTIVE

POLES	CONDUCTORS	CROSSARMS	TREES*
<input type="checkbox"/> Deteriorated	<input type="checkbox"/> Damaged	<input type="checkbox"/> Deteriorated	<input type="checkbox"/> Contact likely/overhanging
<input type="checkbox"/> Not Straight	<input type="checkbox"/> Out of Sag	<input type="checkbox"/> Undersize	<input type="checkbox"/> Within 2m (Clearance space)
<input type="checkbox"/> Stay/s Missing	<input type="checkbox"/> Termination Defective	<input type="checkbox"/> Brace/s Missing	<input type="checkbox"/> Within regrowth space
<input type="checkbox"/> Cap/s Missing		<input type="checkbox"/> Not Straight	
Insufficient Clearance:			
<input type="checkbox"/> Raiser Deteriorated	<input type="checkbox"/> - Between Conductors	<input type="checkbox"/> Insulator Damaged	<p>* NOTE Where the required clearances from trees can safely be attained an electrical contractor need not be engaged.</p>
<input type="checkbox"/> Loose Hardware	<input type="checkbox"/> - From Structures		
<input type="checkbox"/>	<input type="checkbox"/> - Spreader/s Required or Defective	<input type="checkbox"/>	
	<input type="checkbox"/> - From Ground		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

NOTES OR SKETCH

- **PROMPT ADVICE WHEN THIS MATTER HAS BEEN ATTENDED TO WOULD BE APPRECIATED AND WILL AVOID UNNECESSARY CORRESPONDENCE.**
- **THIS NOTICE DOES NOT PRECLUDE THE POSSIBILITY THAT OTHER DEFECTS EXIST.**

Should you require further information regarding this matter please contact Mr. at the above office between the hours of and It will be necessary for your nominated Registered Electrical Contractor to contact the above officer **BEFORE** attempting repairs.
Yours faithfully for Manager.

For Office Use Only

FILE COPY

LIS:.....	
Installation Numbers	
.....
.....
.....
Meter Numbers	
.....	
.....	
.....	

..... Office Telephone.....

M.....

- * U = To be replaced with Underground Line
- M = Overhead requires maintenance
- C = Circuit Breaker/s required
- S = Spreader/s required

Supply disconnected when notice issued

Customer notified that disconnection will occur after days from Date of issue
i.e. / /

RECORD OF ACTION

Pend Date	Re-Issue Date	Letter Sent
...../...../...../...../...../...../.....
...../...../...../...../.....	M.....
...../...../...../...../.....
...../...../...../...../.....
...../...../...../...../.....	M.....
...../...../...../...../.....
Disconnected on/...../.....		Converted to U.C.M. <input type="checkbox"/>
INSTALLATION	Approved/Connected on/...../.....	Converted to H.V. & Substation <input type="checkbox"/>
BY.....		Computer Record No.....

THE FOLLOWING ITEMS HAVE BEEN FOUND TO BE DEFECTIVE

POLES	CONDUCTORS	CROSSARMS	TREES*
<input type="checkbox"/> Deteriorated	<input type="checkbox"/> Damaged	<input type="checkbox"/> Deteriorated	<input type="checkbox"/> Contact likely/overhanging
<input type="checkbox"/> Not Straight	<input type="checkbox"/> Out of Sag	<input type="checkbox"/> Undersize	<input type="checkbox"/> Within 2m (Clearance space)
<input type="checkbox"/> Stay/s Missing	<input type="checkbox"/> Termination Defective	<input type="checkbox"/> Brace/s Missing	<input type="checkbox"/> Within regrowth
<input type="checkbox"/> Cap/s Missing		<input type="checkbox"/> Not Straight	
Insufficient Clearance:			
<input type="checkbox"/> Raiser Deteriorated	<input type="checkbox"/> - Between Conductors	<input type="checkbox"/> Insulator Damaged	<p>* NOTE Where the required clearances from trees can safely be attained an electrical contractor need not be engaged.</p>
<input type="checkbox"/> Loose Hardware	<input type="checkbox"/> - From Structures		
<input type="checkbox"/>	<input type="checkbox"/> - Spreader/s Required or Defective	<input type="checkbox"/>	
	<input type="checkbox"/> - From Ground		

NOTES OR SKETCH

***COMPLETE AFTER INSTALLATION APPROVED**

DETAILS OF CUSTOMER'S CONDUCTORS (TICK AS MANY AS REQUIRED)						No. OF PRIVATE POLE/S TO BE INSPECTED
LOW VOLTAGE						ALL TYPES ENTER No. <input style="width: 50px; height: 20px;" type="text"/>
INSULATED	ALL OR PART OPEN WIRE		MATERIAL			
UNDERGROUND	AERIAL CABLE	ALUMINIUM	COPPER	UNKNOWN	PRIVATE HIGH VOLTAGE	
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	

Issued By: R.E.C. to Contact:

Dear Sir/Madam,

UAM LOGO

DEFECTIVE PRIVATE LINE REMINDER
Smith St. Smithville

SP AusNet has engaged Utility Asset Management Pty Ltd (UAM) to undertake the management of defective Private Electric Lines (POELs) on its behalf.

On the __/__/__ you were notified that the private electric line at the above address was unsafe requiring your urgent attention and requesting that you contact this office either by phone or by fax.

To date our records indicate that no one has made contact with our company to discuss the remedial work required to be actioned.

You must contact this office within 7 days on Phone 03 9763 3088 between the business hours of 8.30AM - 5.00PM or complete and mail or Fax on 03 9764 8577 the details requested on the pro former attached.

We remind you that the defect rectification period is **42 days** from the defect notice date. Private lines with outstanding defects beyond this time which in this case is the __/__/__ will be referred to Electricity Safety Victoria for disconnection **unless prior permission** is granted by UAM Pty Ltd acting on behalf of SP AusNet.

On days of Total fire bans regardless of the defect notification period, Private Electric Lines with urgent outstanding defects will be disconnected by SP AusNet for the entire period of the Fire Ban

If the repairs are not made within the **42-day** rectification period and it is necessary to disconnect the line beyond this time then the appropriate fees will be charged to reconnect supply. These disconnection charges in some cases can amount to a total cost of \$400.00.

Should you require any further information, please contact our representative Mr. _____ on telephone 03 _____.

UAM LOGO

Dear

FINAL NOTICE**Unsafe Defective Private Line at:****Smith St. Smithville**

SP AusNet has engaged Utility Asset Management Pty Ltd to undertake the management of defective Private Electric Lines (POELs) on its behalf.

You were advised on 2 occasions (/ / and the / /) of the unsafe condition of your private electric line at the above premises and that this matter required your urgent attention.

To date, we have not received advice that the necessary work has been actioned or completed. Please contact this office if the defects have been rectified, or what action is underway to repair the outstanding defects.

As the unsafe condition of your private line has not been rectified, SP AusNet is required to refer the matter to Energy Safe Victoria to disconnect electricity supply to the premises supplied by the defected line. If we do not hear from your Registered Electrical contractor within seven (7) working days from issue of this notice, referral to Energy Safe Victoria will occur without further notice on the / / .

On Days of total fire bans regardless of the notification period, private lines with urgent outstanding defects will be disconnected by for the entire period of the Fire Ban

If it is necessary to disconnect the line then the appropriate disconnection and reconnection fees will be charged.

SERVICE TRUCK VISIT	NORMAL HOURS	AFTER HOURS
Disconnection	\$159.05	\$263.30
Reconnection	\$24.15	\$137.15

NOTE: ALL PRICES INCLUDE GST

If you have any questions regarding this matter, please contact our representative Mr. _____ on telephone 03 _____.



Disconnection Warning Notice

DISCONNECTION NOTICE - Days of Total Fire Ban

On days of Total Fire Ban, SP AusNet **is required to disconnect all defective private electric lines**. Such action causes considerable inconvenience to customers whose properties are disconnected.

You have currently registered with us a **defective private electric line that requires urgent repairs**. If the defects on your line are not repaired, you will be disconnected for the full duration of any Total Fire Ban. The costs charged to disconnect and reconnect you will be as follows:

SERVICE TRUCK VISIT	NORMAL HOURS	AFTER HOURS
Disconnection	\$159.05	\$263.30
Reconnection	\$24.15	\$137.15

NOTE: ALL PRICES INCLUDE GST.

Total Fire Ban normally commences at midnight and so generally attract the after-hours charges listed above.

Please note that SP AusNet has **no alternative but to carry out this procedure** in line with bushfire mitigation requirements.

Please note that repairs should always be carried out by a registered electrical contractor. Properly certified tree clearing personnel must always be used to cut or clear vegetation away from powerlines.

Should you require any advice concerning your defective private line we would only be too happy to be of service to you. Please contact..... on

Yours faithfully

(Date)



System for Recording location of POELs with Urgent Defects

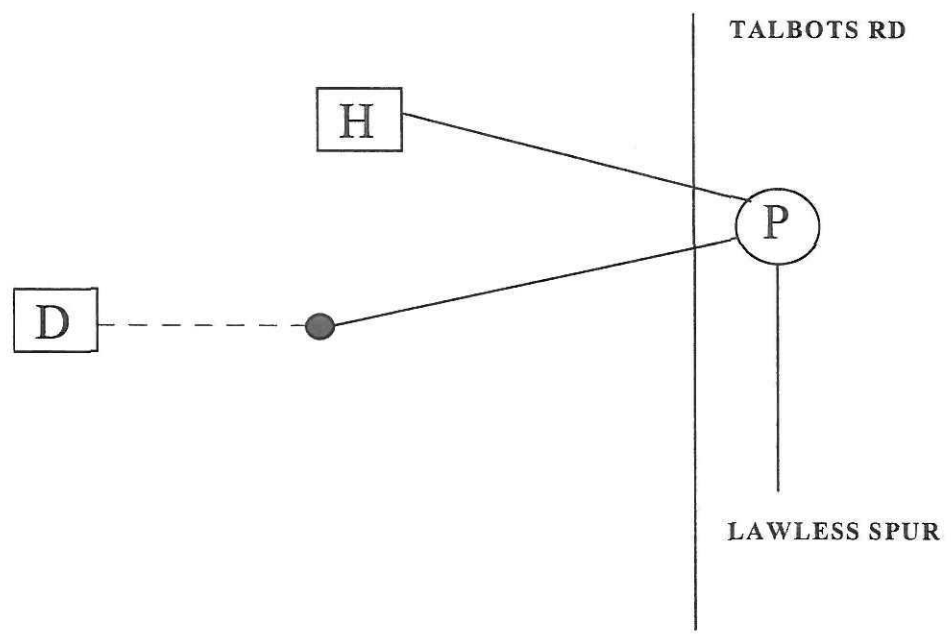
LIS N°
 CUSTOMER NAME
 POSTAL ADDRESS

SUPPLY ADDRESS

METER N°
 INSTALLATION N°
 SWZ1
 SWZ2
 DRP
 MAP REF. N°
 FEEDER
 SUB STATION
 LOCATION
 U/G PIT

DISCONNECTION POINT

REMOVE 3 WIRE O/H SERVICE TAILS FROM JUNCTION BOX.



Bushfire Mitigation

Guidelines for Requiring the Undergrounding of Private Electric Lines

Document number:	BFM 21-76
Issue number:	10
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/6/2009
File Name	BFM 21-76.doc

Guidelines for Requiring the Undergrounding of Private Electric lines

1 PURPOSE

The purpose of this procedure is to set out the guidelines for determining whether new or substantially reconstructed POELs need to be put underground.

This procedure applies to all fire risk areas and all personnel with responsibilities for supply offers and customer installations.

2 REFERENCES

Electricity Safety Act 1998
 Electricity Safety (Installations) Regulations 1999
 Electricity Safety (Electric Line Clearance) Regulations 2005
 ESV 4111 - Line Inspection Manual
 ESV 4137 - Service and Installation Rules
 BFM 21-75 - Procedures for Defective Private Electric Lines
 BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

Non Fire Area	<i>Low Bushfire Risk Area</i> of Electricity Safety (Electric Line Clearance) Regulations 2005
Fire Area	<i>Hazardous Bushfire Risk Area</i> of Electricity Safety (Electric Line Clearance) Regulations 2005
POEL	Private Overhead Electric Line
Act	Electricity Safety Act 1998

4 PROCEDURE

SP AusNet is empowered by Section 85 of the Electricity Safety Act to require POELs to be placed underground, which in essence states that SP AusNet, with the agreement of Electricity Safety Victoria, has the power to order that any private electric line or electric line proposed to be constructed or substantially reconstructed be placed underground.

Regulation 403 of the Electricity Safety (Installations) Regulations requires that any private electric line to be constructed or substantially reconstructed **must** be placed underground except that private overhead electric lines may be constructed or substantially reconstructed in non-fire areas.

Exemptions to the above requirement can only be granted by Electricity Safety Victoria in accordance with Regulation 416 of the Electricity Safety (Installations) Regulations.

Guidelines for Requiring the Undergrounding of Private Electric lines

The following policy applies in relation to the above:

- (a) All new POELs and POELs requiring substantial reconstruction, except for situations set out in 4.3 below, will be required to be placed underground. This applies to all POELs forming:
1. un-metered mains
 2. consumers mains, submains and final subcircuits for which SP AusNet is aware of defects on the lines; and
 3. includes single spans, without poles, such as those from a SP AusNet pole on the property to a building or structure or, between buildings or structures.
- (b) All new POELs or POELs requiring conductor replacement which are exempt from 4.2.2 (a) above and permitted to be constructed or reconstructed as an overhead line must be constructed with multi core insulated conductors in accordance with the Service and Installation Rules.

The following exemptions from 4.2 (a) above apply:

- The POEL is in a non fire area
- A written exemption has been obtained by the customer from the Energy Safe Victoria to construct or substantially reconstruct a private overhead electric line in a fire risk area.

The assessment of “substantial reconstruction” will be based on the following:

- More than 30% of poles in the line require replacement
- More than 30% of the conductor in the line requires replacement
- The line does not meet either of the above alone, but is judged as having an accumulation of defects which would represent an equivalent degree of difficulty for repair and cost, as the above.

This will require some judgment and needs to also consider the condition of attachments, the sag of conductors, the assessed life of the remaining elements of the line and the suitability of the electricity supply arrangements in meeting the customer’s needs. Judgments made must be able to stand up to scrutiny.

The Works Planning and Performance Monitoring Manager may approve temporary repairs to a POEL in a fire area where a small number of poles in a private line are found to be defective and other poles could be expected to become defective over the next few years provided:

- The number of defective poles is less than 30% of the total
- The line has no other significant defects

Guidelines for Requiring the Undergrounding of Private Electric lines

Defective poles are temporarily staked by industry approved pole reinstatement technology (i.e. RFD, Powerbeam nails)

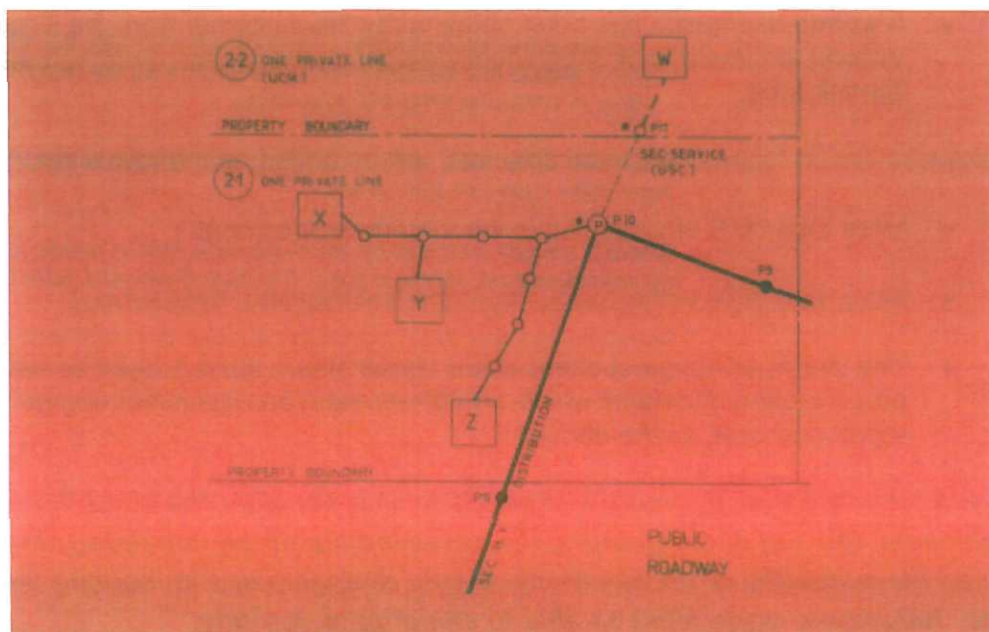
- There is a formal agreement, refer document BFM 21-76-A, with the **LAND OWNER** that the above measures will permit a once only 3 year maximum deferral of the undergrounding of the line. (Period of time dependent on staking method)
- Installations under this agreement are accurately recorded by the region and processes established to ensure follow up actions when the agreement expires.

Note:

The option of temporarily supporting poles with the agreement to underground the line is a voluntary option adopted by the customer so as to minimise his long-term costs. The customer has the right to take the option of replacing the defective poles.

The following is advisory and outlines other considerations which should be taken into account when dealing with the undergrounding of existing POELs in fire areas:

- customers should be encouraged to underground a portion of their overhead line when the amount of reconstruction work of that portion exceeds 30%. Refer example below.



Consider the example where the portion of the line to building Z contains two deteriorated poles that require replacement. Of the customer's 7-pole private line, 2 poles require replacement (2/7 of the total). The extent of replacement pole work required is less than 30% and thus the "substantial reconstruction" criteria does not apply to the private line. However, for the example shown, the customer should be encouraged to underground the supply to building Z as the overhead line to building Z requires at least 30% reconstruction and the expense of replacing these poles may be wasted when the remaining poles become defective. In these circumstances SP AusNet should recommend to the customer a strategy plan for the undergrounding of the entire private line in a manner that will minimise costs in the long term and stage the replacement in affordable parcels.

Guidelines for Requiring the Undergrounding of Private Electric lines

- POELs will not always be the optimal method of meeting a customer's immediate and long-term electricity needs both in terms of reliability and quality of supply and cost. Consideration should be given to the option of establishing a substation on the property.
- Where a POEL is to be replaced consideration must be given to the existing and the future distribution network arrangement to determine suitability of the current point of supply and any changes necessary.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
9	5/6/2006	Minor changes to reflect current business practice.
10	30/6/2009	Minor changes to reflect changes to organisational structure



AGREEMENT FOR TEMPORARY SUPPORT OF DEFECTIVE POLES AND
REPLACEMENT OF OVERHEAD PRIVATE ELECTRIC LINE

Further to inspection of the overhead private electric line ("the line") situated at

.....

("the property") and Notice of Customer's Installation Defects dated/..../.... , issued by SP AusNet regarding the line.

I/We the undersigned owner(s) of the line agree:

- to cause the defective pole(s) described in the aforementioned Notice of Customer's Installation Defects to be supported in an approved manner , within 7 days of the date of this agreement.
- to undertake to arrange for the line to be replaced at my/our expense **not later than**/..../.... ("the specified date") with either -

1* An underground private electric line constructed in accordance with The Service and Installation Rules for such lines.

2* A high voltage extension of SP AusNet's distribution system in accordance with SP AusNet's standard practices and conditions for such extensions, plus the necessary consumer's mains **to connect** thereto. I/We further agree to complete all necessary acts required of me/us not less than 3 months prior to the specified date to enable SP AusNet to construct the extension by the specified date.

* (Delete 1 or 2 above.)

I/We the undersigned owner(s) agree and acknowledge that -

- a) this agreement shall not prejudice SP AusNet's rights under the Supply and Sales Code, the Electricity Safety Act 1998 or any other relevant Act or agreement related to electricity supply to the property;
- b) my/our responsibility for the line (as specified in the Electricity Safety Act 1998) is not diminished in any way by the temporary support of the pole(s) in the line;
- c) if the property is sold or otherwise disposed of, the details of this agreement shall be notified to all prospective purchasers and a copy included with the Vendor's Statement delivered in accordance with the Sale of Land Act;

- d) further approved work carried out on the line will not affect this agreement;
- e) failure to arrange for the necessary work to be COMPLETED by the specified date will result in, the disconnection of the line from SP AusNet's electricity supply system; and
- f) this agreement shall expire only upon deliberate and permanent disconnection of the line from SP AusNet's electricity supply system.

OWNER OF OVERHEAD PRIVATE ELECTRIC LINE

(BLOCK LETTERS)

.....

OWNER(S) SIGNATURE(S)

.....

DATE SIGNED /... /... (DATE OF AGREEMENT)

SPECIFIED DATE FOR COMPLETION /... /...

SP AusNet'S RESPONSIBLE OFFICER (TITLE)

NAME BLOCK LETTERS) SIGNATURE

.....

OFFICE USE ONLY

ACCOUNT NUMBER(S) AFFECTED

.....

SUPPLY DISCONNECTED /... /... BY

.....

WORK COMPLETED /... /... ACCEPTED BY

.....

GUO (ISD UPDATE)	LUO	FIO
M&T/S MWO	CMWO	NCWO

ISSUED BY..... /... /...

Bushfire Mitigation

CFA Restrictions for the Declared Fire Danger Period

Document number:	BFM 21-77
Issue number:	8
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	21/10/2008
File Name	BFM 21-77.doc

CFA Restrictions for the Declared Fire Danger Period

1 PURPOSE

To set out procedures for compliance with legislated CFA requirements applying during the fire season. This procedure applies to:

- all personnel working in country areas
- all vehicle operators
- personnel responsible for the maintenance of vehicles; and
- personnel responsible for field activities.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual
CFA Act 1958

3 DEFINITIONS

Declared Fire Danger Period	a period declared by the CFA on a municipality-by-municipality basis for which conditions apply to the lighting of fires and use of equipment.
Off public road locations	a location where vehicles will be in contact with any crop, grass, stubble, weeds, undergrowth or other vegetation

4 PROCEDURE

4.1 GENERAL REQUIREMENTS

The CFA Act 1958 in part sets out the following requirements which must be observed by all personnel in fire declared areas:

- Burning is prohibited except upon obtaining a written permit signed by a Municipal Fire Prevention Officer and in accordance with the conditions appearing on such permit.
- No fire may be lit in the open air for cooking, barbecues, or other such purposes except in a properly constructed fireplace or a trench at least 30 centimetres deep around which there is an area of 3 metres width clear of all flammable material and the air movement is no stronger than 10 km/h. The space above this area must also be clear for a minimum of 3 metres of all flammable material. No fire may be lit within 7.5 metres of any log or stump. No such fire may be left unattended and must be completely extinguished before leaving it. The fire must not exceed an area in excess of one square metre and the size of the fire and the fuel used must be the minimum size necessary for the purpose.
- It is an obligation to report any fire discovered to a Fire Brigade, Forest Officer or Police Officer.
- The throwing down of lighted tobacco, cigarettes, cigars, matches or any other burning material or thing is prohibited.

CFA Restrictions for the Declared Fire Danger Period

- The placing of phosphorous or any other explosive or combustible substance in a position where it may be ignited (whether by the sun's rays or by any other cause) is prohibited.
- Any person who uses welding or gas-cutting equipment or any grinding tool in the open air must use a shield of fire resistant material, wet down or clear for a radius of 1.5 metres. There must be kept available a hose connected to a water supply, a fully charged knapsack, spray pump or a container of at least 9 litres of water. Work cut-offs and electrode stubs must be placed in a fireproof receptacle.
- A blowlamp or gas torch must not be put down where a fire is likely to be caused.

4.2 VEHICLES - CFA REQUIREMENTS

Personnel responsible for field activities will inform all vehicle operators that vehicles with hot exhausts entering "off road" situations can initiate fires and the following:

(a) During declared "Fire Danger Periods" the CFA requires:-

- Every motor vehicle in contact with grass or other vegetation must be fitted with an efficient exhaust-silencing device.
- Every heat engine and every tractor which is in contact with or within a distance of 9 metres from any crop, grass or stubble or other vegetation must:-
 - i) be free from mechanical faults and defects likely to cause fire;
 - ii) carry the prescribed fire extinguisher (refer to 4.3).
 - iii) be equipped with an efficient spark arrester, or a spark arrester which complies with Australian Design Standard (AS 1019).
 - iv) Pre-existing tractors must have efficient spark arresters and new tractors must comply with AS 1019.

(b) EWPs & Crane Borers, additional requirements

The above restrictions especially affect EWPs, crane borers and any other vehicles that are left off road with engines running. Operators of these vehicles must ensure that the following steps are taken:

- never leaving the vehicle unattended with the motor operating
- avoid working on grassed areas wherever possible
- remove build up of grass from the vehicle
- the vehicle is carrying tools (shovels, rakes) to clear an area
- heat resistant sheets or water to douse the area

(c) ULP Vehicles

It is imperative that vehicles using unleaded petrol are tuned correctly as otherwise this will cause the exhausts to become much hotter. Any vehicles that operate off-road should be checked to ensure no grass is trapped on or near the exhaust systems, this is especially crucial on ULP vehicles as ULP exhaust systems operate at around 700°C. Vehicle operators during the summer period

CFA Restrictions for the Declared Fire Danger Period

must assess the dangers of entering a long grass area and, if entering, be equipped and ready to use a firefighting knapsack or extinguisher.

(d) Maintenance of vehicles

Personnel responsible for the maintenance of vehicles must ensure that the above information is provided to those carrying out the vehicle maintenance.

4.3 FIRE FIGHTING EQUIPMENT ON VEHICLES

All vehicles that may be required to operate in Fire Hazard Areas must carry the fire fighting equipment, set out below as a minimum requirement.

Vehicles that may travel off public roads	<p><u>Sedans/Station Wagons/Utilities/4WD Utilities/4WD Wagons</u></p> <p>Knapsack 9 litre to comply with AS 1687 or dry chemical fire extinguisher that complies with AS/NZS1841. 1:1997 and AS/AZS 1841.5: 1997.</p> <p><u>Other vehicles</u></p> <p>Knapsack 16 litre (plastic) or Knapsack 14 litre (brass) (both must comply with AS 1687)</p> <p>Notes</p> <p>(1) In areas with a high exposure to sunlight the plastic knapsack may crack and be inoperative, hence the more costly brass knapsack is preferable. Where plastic knapsacks are chosen they should be regularly checked for signs of deterioration, it is possible to purchase replacement plastic sections without fittings.</p> <p>(2) Any other vehicle extinguishers required for other purposes must be a type approved by the Transport Manager.</p>
EWPs, Crane Borers, LCTs and Vehicles carrying/ towing Portable Generators (Additional)	Shovel and Rake hoe

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
6	15/09/2005	Document placed into new template 5/6/06. No change made to text.
7	13/10/2008	Minor clarification to Section 4.2 re working on grassed areas
8	21/10/2008	Clarification of vehicle types in Sec. 4.3

Bushfire Mitigation

Guidelines for Communication of Electrical Hazards to Emergency Response Authorities

Document number:	BFM 21-78
Issue number:	7
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	David Just
Date of approval:	1/6/2007
File Name	BFM 21-78.doc

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

1 PURPOSE

To set out processes for the communication of possible electrical hazards to Emergency Response Authorities that may be encountered in carrying out their duties.

This procedure applies to all SP AusNet and Contractor personnel engaged in communicating electrical safety guidelines to fire fighting authorities.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

Emergency Response Authorities	Country Fire Authority (CFA) Metropolitan Fire Brigade (MFB) Department of Sustainability and Environment (DSE) Vic Roads SES
---------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------

4 PROCEDURE

The Regional Managers must establish processes to arrange meetings and attend relevant forums with Emergency Response Authorities and communicate safety guidelines as set out in Appendix 1.

5 APPENDICES

1. Electrical Hazards: Guidelines for Fire-fighting Authorities

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
6	31/5/2005	Document placed into new template 5/6/06. No change made to text.
7	1/6/2006	Document updated to reflect changes in terminology

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

Appendix 1

Electrical Hazards: Guidelines for Fire-fighting Authorities

1. Electrical Hazards and Fires

Electricity is involved in most fire-fighting operations, whether the fire is due to electrical or other causes. If electricity supply is involved, it will represent danger and fire fighters should be able to recognise the hazard, taking the necessary steps to protect themselves and others. Fire fighters must always treat electrical powerline wires as alive and authorised SP AusNet personnel are the only ones normally permitted to touch or move powerline wires. Fire fighters should be aware that all voltages in commercial use in Australia are lethal and may cause death.

If electrical powerlines or service cables to buildings are in the fire area, **IT IS ESSENTIAL TO CALL SP AusNet PERSONNEL** to the site **EARLY** in order to carry out any necessary switching.

Fires within several kilometres of main transmission (tower) lines should also be reported to allow possible switching. In this regard SP AusNet should be contacted.

It is not intended to differentiate between high and low voltage powerline wires in these notes, as a **FIRE IS A SCENE OF ABNORMAL ACTIVITY AND IT IS EASY TO MAKE AN ERROR.**

It is necessary for fire fighters to maintain a minimum clearance from all overhead powerline wires which have fallen from their supporting structures. For lines supported on poles, clearance should be 6m; for lines supported on towers, clearance should be 20m unless SP AusNet personnel on site indicate that this distance can be reduced.

2. Types of Emergency

The following are various emergencies likely to be encountered by fire fighters:

2.1 Windy conditions can cause overhead lines to break and fall when struck by flying debris. These conditions may, in cooler weather, be accompanied by rain or snow. Also, snow loading on conductors can cause them to break - a condition not likely to be encountered by fire-fighting teams.

2.2 Tree limbs and bark on lines may cause arcing and burning of the limbs or bark with the wires breaking at the point of contact.

2.3 Where water has a high mineral content or is contaminated by atmospheric pollutants or dust, it could conduct electricity.

In the dry summer months, the insulators on overhead lines become dust-covered and only a slight amount of moisture is required to cause an electrical "leakage" to the ground through the pole. Pole fires can occur at the point where the insulator is fitted to the crossarm or where the crossarm is fitted to the pole.

This is the only case where light rain without wind causes electrical fires and is worse in the salt-laden atmosphere close to the sea.

2.4 Motor vehicles striking poles where the forces involved are sufficient to break the powerline wires.

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

2.5 Where powerline wires break, they may fall onto other line wires (usually of a lower voltage), fences, motor vehicles, etc, and cause the object they have fallen onto to become electrically alive.

2.6 When overhead powerline wires (conductors) break for any reason, there is a change of forces at adjacent poles and, in some cases, the poles have been known to fall.

2.7 After conductors have been stressed, the wire tie holding the conductors may break and the conductor may fall onto the crossarm. The electrical "leakage" through the crossarm and pole may cause them to burn.

2.8 With the increase in use of concrete poles in place of wooden poles in electricity lines, additional precautions should be taken in the following cases-

2.8.1 Conductor resting on steel crossarm or against concrete pole -

Steel crossarm/s and concrete pole are electrically bonded together and are electrically conductive right through to ground level, there may be electrical resistance between a concrete pole and the surrounding earth and so a fireman standing on the ground could receive an electric shock by touching a "live" concrete pole. This could occur when fighting a ground fire in proximity to a concrete pole. Also, "step" voltages are possible with the above conditions.

2.8.2 Insulator "Flat" - that is having electrical "leakage" across or through it - comment is as above.

2.8.3 Conductor resting on a wooden crossarm -

Since the crossarm has some resistance to electric current flow the possibility of electric shock from touching the concrete pole could be reduced, **BUT**, because of the electrical conductivity of the concrete pole, there is an increased possibility of the **CROSSARM BURNING THROUGH AND DROPPING THE "LIVE" CONDUCTOR**.

3. Safety Precautions

3.1 When a fire is first reported, advise SP AusNet (131 799) so that personnel authorised to work on electrical lines can be despatched to assist at the site of the fire where necessary.

3.2 Do not touch or cut electrical conductors. In an extreme emergency, where human life is at stake, conductors may be moved using the method set out in Section 10 of these notes.

3.3 Do not operate any electrical switch or equipment at any time, unless under extreme emergency conditions. Such apparatus **MUST NOT** be operated where flammable gases or liquids are present.

3.4 Illuminate the area during periods of reduced visibility.

3.5 Post a safety observer to warn personnel of electrical hazards.

3.6 All personnel to maintain a minimum clearance from any broken or lower than usual electrical conductors. For conductors supported on poles, clearance should be 6m; for conductors supported on towers, clearance should be 20m, unless SP AusNet personnel on site indicate that this distance can be reduced. Do not fell trees if they will not clear the conductors by 6m.

3.7 As far as practicable, keep fire-fighting equipment away from areas where electrical wires are down. Since fire-fighting personnel are preoccupied with operating their equipment, it is worth effort to reduce their risk of contact with fallen electrical wires.

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

3.8 For pole fires, use a nozzle size adequate to ensure that the spray reaches the pole top.

Use of at least a 3/8" nozzle, 1/2" for preference, at approximately 420 kPa (61 psi) **AT THE BRANCH**, would ensure that the stream is broken. This pressure should be maintained by increasing pump pressure as lengths of hose are added.

NOTE: The best choices are -

- nozzle - 1/2" Small Town Branch-, and
- water pressure - 690 kPa (100 psi).

3.9 When fighting fires on poles when there is an angle in the conductors, always spray the broken stream from outside the angle so that if the insulator, crossarm or pole breaks, the conductor will move away from the fire fighters.

3.10 When fighting pole fires, always play the **BROKEN STREAM** onto the burning pole from a **minimum distance of 6.4 metres** at an angle of 90° from the line of conductors. **DO NOT SPRAY** water onto any pole from **UNDERNEATH THE CONDUCTORS** (refer to Figure 1).

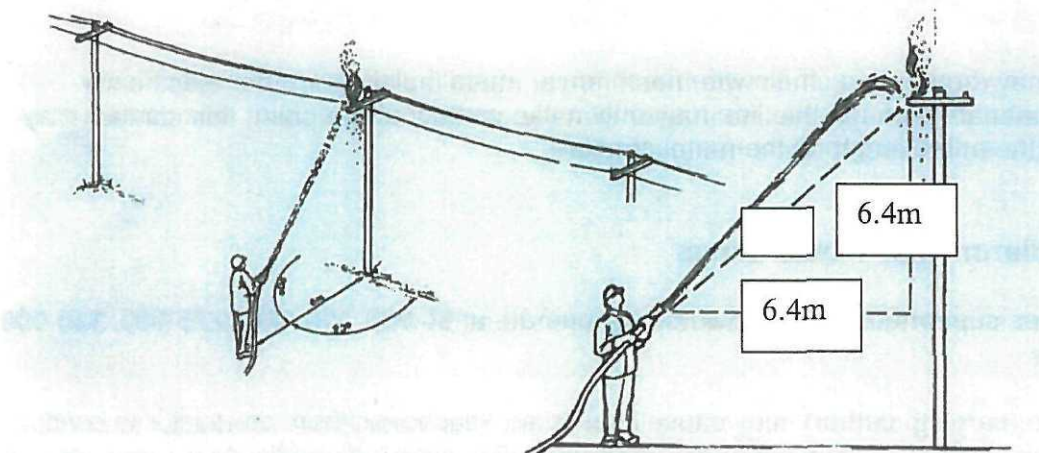


Figure 1

3.11 Always be careful of burning structures as they are likely to collapse and leave the live wires they are supporting to be another hazard. They may also fall on fire fighters.

3.12 Except as indicated in Section 10 of these notes, do not use sticks, timber, ladders (many wooden ladders have a steel wire reinforcement) or ropes to move conductors and, therefore, must be considered as conducting materials. Fire fighting authorities are permitted to fight fires on SP AusNet installations provided the safety precautions listed above are observed.

3.13 Continuous water jets should never be directed onto any conductor, whether supported by a pole or tower.

4. Fires in SP AusNet Installations

4.1 Pole Fires

These are the most common type of fires in SP AusNet equipment encountered by fire fighters and may be caused by leakage from the energised conductor and from bush or grass fires. Provided that the safety precautions listed in the previous section are observed, trained fire

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

fighters may fight pole fires with safety. When closer access is required to conductors on the top portion of a pole, the instructions of the local electricity supply personnel must be complied with.

4.2 Underground Cable Fires

Underground cable fires are unlikely to be encountered often in country areas. Provided a minimum clearance of six metres is maintained and the cable sprayed with a broken stream of water, no danger to fire fighters is likely to occur.

4.3 Station Fires

All fires associated with stations (including pole-mounted transformers) are likely to have blazing oil associated with them and these may be extinguished by playing water onto the blazing oil, preferably with a suitable nozzle from a distance of at least six metres.

Fires in major stations, i.e. those with ground-mounted transformers, should be sprayed from outside the surrounding fence and at a minimum distance of six metres. Owing to the danger of falling structures with live conductors on them, only fire fighters accompanying authorised SP AusNet personnel will be permitted to enter a station yard. Care should be exercised to maintain safe clearances from any overhead line entering the station in case it falls after fire damage.

A powerline may drop over a chain wire mesh fence, metal building or other electrically conductive material. Although the line may only make contact at one point, this contact may make "alive" the entire length of the metal structure.

5. Fires Under or Near Tower Lines

Overhead lines supported by steel towers may operate at 66 000, 220 000, 275 000, 330 000 or 500 000 volts.

Dense smoke (carrying carbon) may cause lines to arc (flashover) from conductor to conductor, or conductor to ground, or from conductor to ground wire, strung along the tower tops, causing flashes and/or explosions.

Fire fighters should keep 3m clear of tower bases during and after fires. Heavy dew on an ash residue may cause insulator flashover with "leakage" from powerlines into the earthed steel tower.

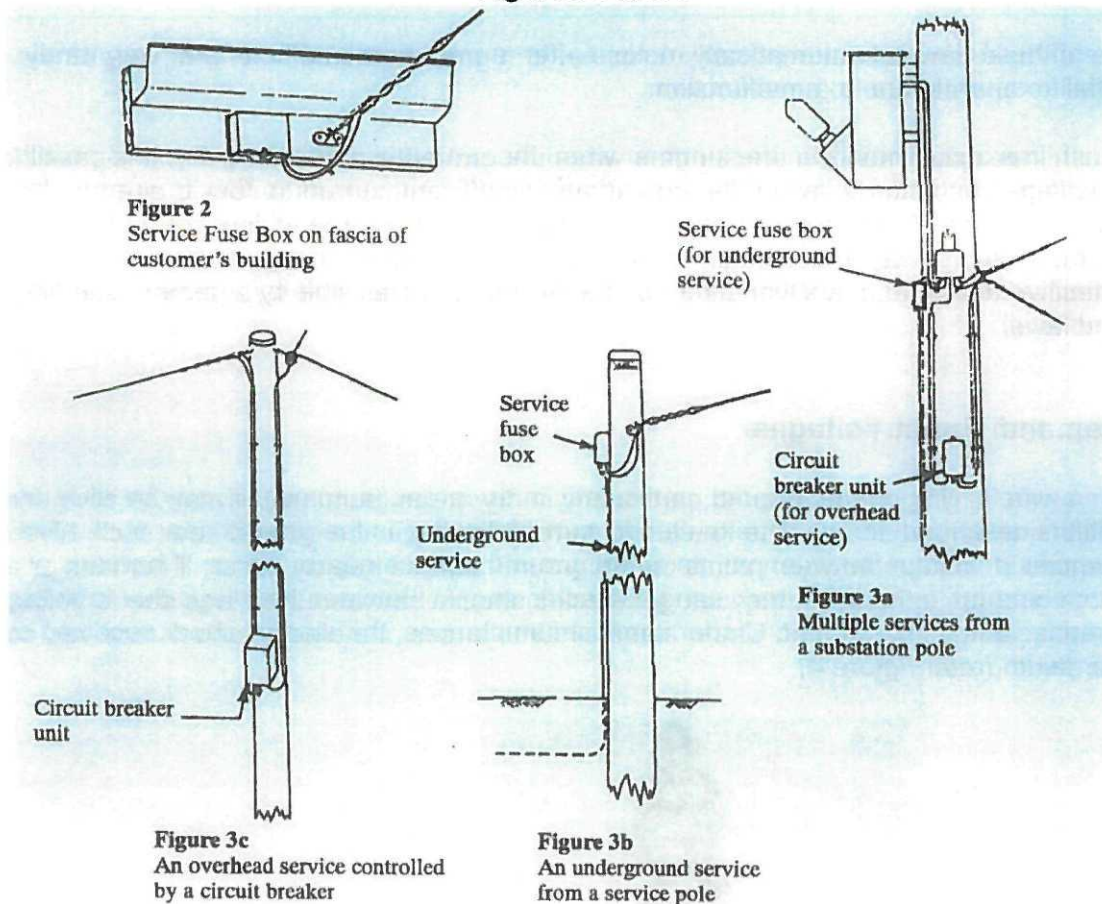
NOTIFY SP AUSNET WHEN FIRE OR SMOKE THREATENS A TOWER LINE, so that they may consider switching the line out-of-service.

6. Damaged Customer Premises

When working in or around damaged premises, it is important to remember that even though the power may be turned off at the switchboard and the fuses removed, there may still be live wires in the building. Accordingly, all wires and fittings must be treated with extreme caution. The only time a building can be classed as free from electrical hazards is when SP AusNet have removed their service fuses and in the case of most underground supplies, disconnected the electricity supply in the pit at the property boundary.

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

Figures 2 and 3



Electricity supplies to a building are usually from one source but may be from more than one. They may come underground or overhead and may be isolated by service fuses on the building itself (refer to Figure 2) or by service fuses or circuit breaker mounted on a structure (usually a pole) remote from the building. In the case of underground cable, disconnection of supply in a pit at the property boundary may be necessary. Some methods of fusing remotely are illustrated in Figure 3.

Because of the number of possible supply variations, it is **ESSENTIAL** to call SP AusNet personnel to the site early.

FIREFIGHTERS SHOULD ALWAYS REGARD SERVICE WIRES UP TO THE SUPPLY SIDE OF THE MAIN SWITCH/S ON CUSTOMER'S PREMISES AS ALIVE, UNLESS A RESPONSIBLE REPRESENTATIVE OF THE SUPPLY AUTHORITY HAS DEMONSTRATED THAT THEY ARE DEAD.

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

7. Electrical Protection Devices

IT IS ESSENTIAL FOR THE SAFETY OF PERSONNEL THAT ALL SP AusNet PLANT/APPARATUS/CONDUCTORS BE TREATED AS ALIVE, EVEN IF IT IS IN CONTACT WITH THE GROUND.

When an electrical fault occurs, whether due to an electrical failure, car hitting a pole, branches of trees striking conductors, storms or pole fires, protective devices are built into the electrical system to normally disconnect the faulty section.

Some of these devices automatically reclose after a predetermined time and, very rarely, some may fail to operate due to a malfunction.

As bush fires occur mostly in the summer when the ground is particularly dry, it is possible for a high voltage conductor to lay on the ground and insufficient current to flow to operate the protective device. There are also other situations where an overhead line conductor may break and drop in such a way that it either remains alive, or is livened up again after one operation of a protective device, at a position either on the ground or accessible by a person standing at ground level.

8. Step and Touch Voltages

When a wire is lying on the ground, particularly in dry areas (summer), it may be alive under the conditions described above. Due to electric current flowing in the ground near such alive wire, differences of voltage between points on the ground surface nearby occur. If humans or animals go close enough to the wire, they can get electric shocks between their legs due to voltage differences across the ground. Under some circumstances, the electric shock received could cause death (refer Figure 4).

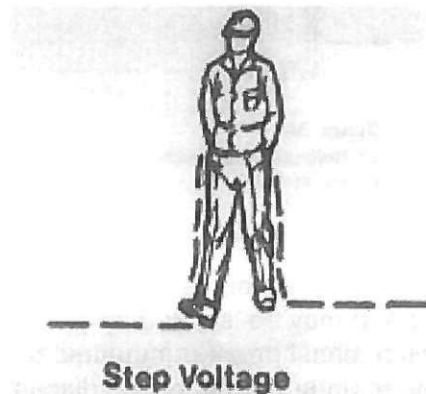


Figure 4 A person becomes part of a current flow path (near a fallen live wire)

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

The voltage difference would depend upon soil type, moisture content and temperature and upon other factors. Measurement would be the only way to find out the actual voltage at a certain position. However, tests and experience show that six metres is a safe distance for a person to stand from a fallen live wire without experiencing lethal voltages.

SP AusNet personnel are trained and their expertise is maintained by practice in handling live pole line conductors.

Because of this and their knowledge of the local electrical system, **AUTHORISED SP AusNet PERSONNEL SHOULD BE THE ONLY ONES PERMITTED**, excepting in a case of extreme emergency, **TO HANDLE FALLEN CONDUCTORS**.

Touching a concrete pole, transmission line tower or other conductive structure, when an insulator is 'flat' or when a live conductor is touching either the structure or a steel crossarm mounted on the structure could produce a similar condition to the "step voltage", but in this case called a "touch voltage" (refer to Figure 5).

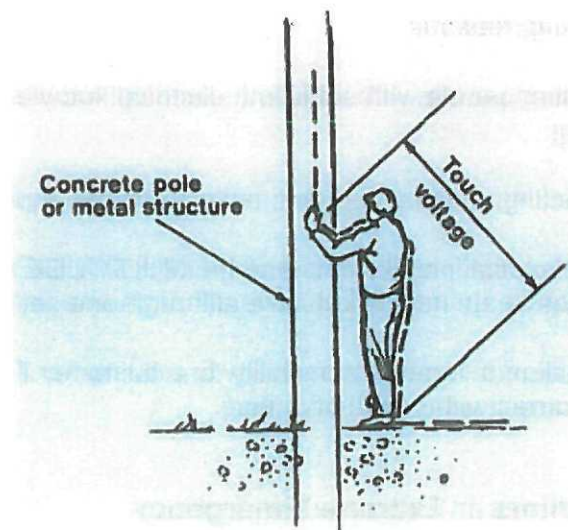


Figure 5 A person becomes part of current path from conductive structure (when a fault is present).

Usually, because the structure can conduct electric current, protection quickly disconnects electricity supply but, if the earthing connection of the structure has a high "resistance", the protection may fail to operate and the risk of electric shock to a person or animal touching the structure may be high.

If a "live" wire touches the metal body shell of a vehicle or mobile plant, that shell will also become "alive". Any person standing on the ground who touches the shell would become an electrical current path to the ground. This can and often does prove fatal.

If the occupants of the vehicle or plant remain inside without touching the shell, then they are relatively safe because a part of the tyres (although steel belted radials are conductive) acts as an insulator. The shell around them, provided no touch is made, will divert electric current flow away from their bodies.

If people are observed to be inside a vehicle or plant under these conditions, they should be advised to remain inside and encouraged to understand and carry out instructions.

If due to fire, or other reason, it is imperative for them to move from the vehicle or plant, they should be advised to **JUMP CLEAR**, rather than step out, so as to avoid making a "touch" between shell and ground.

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

If a person is found lying on a "live" wire, the victim may be rolled off the conductor by using dry wooden boards, a long dry wooden pole, or a length of dry rope or hose which obviously contains no steel or other electrical conducting materials. If any doubt exists about the insulating properties of the material it must not be used. Under no circumstances should any bodily contact by hand, foot or otherwise be made with either the person or the wire.

9. Use of Rubber Gloves and Insulating Sticks

SP AusNet and worldwide experience shows that all insulating tools must be maintained in perfect condition and proven by regular testing. Live line working at any voltage necessitates skills which are only acquired with constant practice, and **THE ISSUE OF INSULATING STICKS AND GLOVES TO PERSONNEL NOT USING THEM CONTINUALLY IS NOT RECOMMENDED.**

It is not the policy of SP AusNet to issue insulating sticks or fuse removal sticks to other authorities for the following reasons:

- The difficulty in selecting people with sufficient electrical knowledge and their subsequent training and retraining.
- The problem of inspecting, maintaining and testing suitable equipment.
- The wide variety of electrical installations and the **MULTITUDE OF DIFFERENT TYPES OF FUSING** which may leave an installation alive although one set of fuses is withdrawn.
- The subsequent question of legal responsibility to a customer if damage or personal injury occurs due to the incorrect withdrawal of a fuse.

10. Removing Powerlines in Extreme Emergency

An extreme emergency is one where human life is dependent on immediate action.

In the case of LV conductors a grappling hook attached to a suitable length of insulating line may be used if available to move the conductor. Fallen wires may be knocked clear by striking them with thrown sticks or stones **if no other acceptable means is available**. Sticks must not be held in the hand when coming in contact with conductors.

11. Communications

Normally the CFA local Brigade Captain/Group Officer would report any emergency to the local SP AusNet office or the Fault and Emergency Call Centre (131 799).

Where the above contacts are not accessible, SP AusNet has supplied to the CFA a silent telephone number for emergency situations. This special number is to be used by the CFA Group Officers (or other officers to whom this responsibility has been delegated by the CFA Zone/Regional Officer) to report the emergency to SP AusNet.

Local arrangements may also be made in the after-hours situation between the local CFA Brigade Captain and SP AusNet district availability officers where appropriate.

Guidelines for Communications of Electrical Hazards to Emergency Response Authorities

12. Summary

12.1 Notify SP AusNet (131 799) of location of fire and request assistance.

12.2 Treat all wires and SP AusNet installations as ALIVE.

12.3 Maintain the following minimum clearances from all SP AusNet wires even if they are on the ground;

- 6 metres for pole lines
- 20 metres for tower lines.

Unless SP AusNet personnel on site indicate that this distance can be reduced.

12.4 Keep all personnel away from all SP AusNet wires, using a safety observer where necessary.

12.5 "Live" wires lying in pools of water on wet pavement present a serious hazard. In this case, the ground, pool of water or pavement may be energised. Keep well away and keep others away.

12.6 SP AusNet personnel are the only ones normally permitted to touch or give access to SP AusNet assets.

12.7 A wire may come off a pole and remain suspended above the ground, at vehicle or pedestrian height. The wire will still be "live". This hazard is made worse when VISIBILITY is reduced by SMOKY or DUSTY conditions.

12.8 Under the following condition, appropriate trained personnel in a Rural Fire Brigade may combat a pole fire without waiting for permission from an SP AusNet Officer.

The fire-fighting equipment shall be such, and used from an appropriate distance, that **A SPRAY OF WATER**, and not a jet, shall be directed onto the fire. Since a broken stream is non-conducting, there is **GENERALLY NO NEED TO DISCRIMINATE AS TO THE QUALITY OF THE WATER. Salt Water shall not be used on Transmission lines**

Safety of personnel shall be enhanced by:

- using small diameter nozzle-
- using a high pressure water supply;
- achieving a reduced droplet size in the spray; and
- standing at least six metres clear from base of pole.

Bushfire Mitigation

Permits required for Days of Total Fire Ban

Document number:	BFM 21-80
Issue number:	9
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/06/2009
File Name	BFM 21-80.doc

Permits required for Days of Total Fire Ban

1 PURPOSE

The purpose of this procedure is to set out the permits which must be obtained and held to enable SP AusNet to carry out restricted works on days of Total Fire Ban.

This procedure applies to all SP AusNet personnel responsible for obtaining the permits and distribution network and construction resources personnel including contractors.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

MFB Metropolitan Fire Brigade
CFA Country Fire Authority
DSE Department of Sustainability & Environment

4 PROCEDURE

4.1 PERMITS REQUIRED

- MFB Permits:** Allows emergency cable jointing, emergency welding, cutting and grinding on days of Total Fire Ban in the MFB area, subject to conditions being met.
- Responsibility: Environmental Manager, yearly, prior to declaration of the fire season.
- CFA Permits:** allows welding, cutting, grinding and the use of blow lamps and gas torches on days of Total Fire Ban in areas controlled by the CFA, subject to conditions being met.
- Responsibility: Environmental Manager, yearly, prior to declaration of the fire season.
- DSE Permits:** Allows welding, gas cutting, soldering and grinding on days of Total Fire Ban in areas controlled by the DSE, subject to conditions being met.
- Responsibility: Environmental Manager, yearly, prior to declaration of the fire season.

4.2 DISTRIBUTION OF PERMITS

Prior to the declaration of the fire season the Environmental Manager, will obtain permits from MFB, CFA and DSE. Copies of the permits will be placed on the SP AusNet Networks Intranet site. Manager Field Services, Manager Gas Services, Manager DMS and other relevant Managers will ensure that relevant personnel within their organisation including contractors are advised of the permits.

Permits required for Days of Total Fire Ban

4.3 WORK ON DAYS TOTAL FIRE BAN

If restricted activities are to be undertaken on days of Total Fire Ban a current copy of the appropriate permit must be held on site. All conditions on the permits must be adhered to. SP AusNet personnel must ensure that contractors under their control adhere strictly to the conditions of the permits.

4.4 VALIDITY OF PERMITS

These permits are applicable for one summer period only. It is necessary to have a current permit to perform any of these restricted activities.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
8	31/05/2005	Document placed into new template 5/6/06. No change made to text.
9	30/06/2009	Document updated to reflect organisational structure

Bushfire Mitigation

Notice of Completion of Bushfire Mitigation Obligations

Document number:	BFM 21-81
Issue number:	12
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/6/2009
File Name	BFM 21-81.doc

Notice of Completion of Bushfire Mitigation Obligations

1 PURPOSE

The purpose of this procedure is to record that bushfire mitigation obligations have been met.

The procedure applies to the Director Asset Engineering.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual

BFM 21-81-A - Notice of Completion of Bushfire Mitigation Obligations

3 DEFINITIONS

Bushfire Mitigation Obligations All Business Rule requirements as set out in Section 4.2 of this procedure.

Regulations Electricity Safety (Electric Line Clearance) Regulations 2005

4 PROCEDURE

4.1 GENERAL

- Director Asset Engineering must complete all the bushfire mitigation obligations either prior to, or on the gazetted Fire Season Declaration date and personally sign a declaration to the effect that all works are complete and will be maintained so for the duration of the fire season.
- The declaration must include the declared date of the fire season for the area and list the status of each obligation, as set out below in 4.2.
- If the obligations will not be met prior to the fire season, the declaration must include the remedial actions proposed including completion dates.

4.2 OBLIGATIONS

The Director Asset Engineering must ensure;

- No pole, including those in private electric lines, will fall outside the inspection cycle requirements of the Business Rules during the declared fire season.
- All limited life and unserviceable poles are fire safe and will remain fire safe for the duration of the fire season.
- All PT30 and PT180 items actions are complete or will be completed in accordance with the requirements of the Business Rules.
- All unacceptable surge diverters are removed or disconnected or will be removed or disconnected in accordance with the requirements of the Business Rules.

Notice of Completion of Bushfire Mitigation Obligations

- All identified 22kV bird covers are fitted.
- All private electric lines will be fire safe on days of Total Fire Ban.
- All required data has been entered into the Q4 system and will be maintained up to date for the duration of the declared fire season.
- The pre summer inspection has been completed and appropriately documented.
- All vegetation works have been completed in accordance with the Regulations and will be maintained for the duration of the declared fire season. (ie. all code PT1 & PT30 tree reports are actioned or will be actioned in accordance with the requirements of the Business Rules).
- All required data has been entered into the vegetation management system and will be maintained up to date for the duration of the declared fire season.
- Field Audits have been conducted by the Director Asset Engineering and his Management Team. Documentation detailing the nature, frequency and location of these audits is available.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
10	15/06/2005	Document placed into new template 5/6/06. No change made to text.
11	6/6/2007	Document updated to reflect organisational changes
12	30/6/2009	Document updated to reflect organisational changes



Notice of Completion of Bushfire Mitigation Obligations

To: Environmental Manager

From:

Re: Notice of Completion of Bushfire Mitigation Obligations

This notice is advice that I have completed all bushfire mitigation obligations as listed in Section 4.2 of procedure BFM 21-81 by the gazetted fire declaration date and will maintain that status in accordance with the requirement set out by the "Business Rules". Any exceptions to the foregoing are detailed below.

Declaration Date of the Fire Restriction Period was

(Details of any Obligations not met and Status)

Documentation detailing the nature, frequency and location of field audits conducted by my Management Team and myself are available.

I will ensure that the Network will remain fire safe for the duration of the declared fire restriction period as required by the:

- Bushfire Mitigation Manual Document BFM 21-79
- Electricity Safety (Electric Line Clearance) Regulations 2005.

Dated

Signed

Title

Bushfire Mitigation

Maintenance and Construction Activities on Days of Total Fire Ban

Document number:	BFM 21-82
Issue number:	12
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/6/2009
File Name	BFM 21-82.doc

Maintenance and Construction Activities on Days of Total Fire Ban

1 PURPOSE

The purpose of this procedure is to set out procedures for maintenance and construction activities, which may be undertaken on Total Fire Ban days.

The procedure applies to:

- all personnel responsible for and working on maintenance and construction activities;
- all vehicle operators; and
- personnel responsible for the maintenance of vehicles.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual

BFM 21-80 - Permits required for days of Total Fire Ban

BFM 21-77 - CFA Restrictions for the Declared Fire Danger Period

BFM 21-63 - Bushfire Mitigation Strategy Plan

Electricity Safety Act 1998

Electricity Safety (Electric Line Clearance) Regulations 2005

3 DEFINITIONS

Personnel	SP AusNet employees, contractors and sub-contractors.
Declared Fire Danger Period	a period declared by the CFA on a municipality-by-municipality basis for which conditions apply to the lighting of fires and use of equipment
Non Fire Area	<i>Low Bushfire Risk Area</i> of Electricity Safety (Electric Line Clearance) Regulations 2005
Fire Area	<i>Hazardous Bushfire Risk Area</i> of Electricity Safety (Electric Line Clearance) Regulations 2005
Rural Area	as defined in the Electricity Safety Act 1998.
Urban Area	as defined in the Electricity Safety Act 1998.
Responsible Person	as defined in the Electricity Safety Act 1998.
Fire Control Authority	as defined in the Electricity Safety Act 1998.

Maintenance and Construction Activities on Days of Total Fire Ban

4 PROCEDURE

4.1 PREARRANGED SHUTDOWNS

4.1.1 Non Fire Areas

All maintenance and construction activities can be undertaken in these areas.

For work on feeders that involves interruptions to electricity supply for those sections which extend into Fire Areas, written approval is to be obtained from the respective Regional Manager, Manager Field Services, Works Management Coordinator, the Area Operations Officer, the Construction Supervisor, the Asset Performance Coordinator and any other personnel deemed appropriate and take into consideration the following;

- Duration of shutdown;
- Number and type of customers affected;
- Type of work being undertaken (ie. re-conductoring, pole replacement, etc.)
- Restoration times; and
- Emergency response times.

4.1.2 Fire Areas

The respective Regional Manager shall approve in writing continuation of any pre-arranged shutdowns. This will be done in consultation with the Manager Field Services, the Works Management Coordinator, the Area Operations Officer, the Construction Supervisor, the Asset Performance Coordinator and any other personnel deemed appropriate and take into consideration the following;

- Location of work;
- Ground conditions (eg. long grass);
- Assessment of work conditions;
 - ⇒ morning heat level
 - ⇒ duration of outage
 - ⇒ type of work being performed
- Wind strength;
- Temperature and humidity;
- Restoration and emergency response times

The Area Operations Officer will formulate each morning by 10.00 a.m. a "two day prediction" report predicting whether the next two days will be days of total fire ban. The Area's Operations Officer will compile a report of construction activities on predicted days of total fire ban. This report will be reviewed the afternoon prior to predicted days of total fire ban with the appropriate persons to obtain the written permission necessary under this procedure for any of the jobs to proceed should the next day be in fact a declared day of total fire ban. Construction forces should be aware at this time and make provisions to do other work should the jobs be cancelled due to Total Fire Ban declaration.

The Network Operations Centre (NOC) will liaise with authorities in obtaining information about Total Fire Ban declarations and will communicate that information system wide.

The Area Operations Officer shall notify individual customers, where appropriate, and the Customer Call Centre when any pre-arranged shutdown is cancelled. This is so customers understand that they will have electricity supply on the day and that if supply is interrupted, then they will know to call the Faults Call Centre to report it.

Maintenance and Construction Activities on Days of Total Fire Ban

Any work requiring the use of naked flames is to be cancelled unless a copy of the relevant permit is available on site and all conditions relating to the permit are adhered to. Refer to document BFM 21-80.

All vehicles are to be equipped and audited to ensure all CFA and other requirements for the declared fire danger period are maintained. Refer to document BFM 21-77.

Where written approval is required the job is considered cancelled until this approval is obtained.

4.2 LIVE LINE ACTIVITIES

4.2.1 Non Fire Areas

All live line work can be carried out safely pending the normal assessment by the work crew to carry out the live line work safely, ie.

- No excessive wind conditions;
- Temperature and humidity conditions minimised.

4.2.2 Fire Areas

Limited Live Line work and emergency work can be done if its considered that the work can be carried out safely pending the normal assessment of task by the work crew and taking into consideration the following;

- Suppression of auto reclose protection;
- Location of work;
- Ground conditions (eg. long grass);
- Assessment of work conditions;
 - ⇒ morning heat level
 - ⇒ type of work being performed.
- Wind strength;
- Temperature and humidity; and
- Restoration & Emergency response times.

Limited Live Line work means tasks which limit the need to displace conductors or don't involve increased likelihood of flashover/conductor clashing eg.

- ⇒ Fitting D's
- ⇒ Bird Covers

For both pre-arranged shutdowns and limited live line work a formal risk assessment shall be performed and a copy of the assessment report shall be sent to NOC prior to work commencing.

In all cases, for emergency work where the above criteria cannot be safely maintained, to minimise the risk consideration should be given to having a suitable fire truck available on site while performing the task.

Any work requiring the use of naked flames is to be cancelled unless a copy of the relevant permit is available on site and all conditions relating to the permit are adhered to. Refer to document BFM 21-80.

Maintenance and Construction Activities on Days of Total Fire Ban

All vehicles are to be equipped and audited to ensure all CFA and other requirements for the declared fire danger period are maintained. Refer to document BFM 21-77.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
10	5/06/2006	Minor changes throughout document to reflect current business practice.
11	5/6/2006	Updated to reflect changes to organisational structure
12	30/6/2009	Updated to reflect changes to organisational structure

Bushfire Mitigation

Operations Procedures when a Fire Occurs

Document number:	BFM 21-83
Issue number:	8
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/6/2009
File Name	BFM 21-83.doc

Operations Procedures when a Fire Occurs

1 PURPOSE

The purpose of this procedure is to set out procedures for SP AusNet personnel or contractors attending fires.

This procedure applies to all SP AusNet personnel or contractors who may attend or be involved with a fire situation.

2 REFERENCES

BFM 21-70 - Reporting Procedures
 BFM 21-71 - Investigation of Significant Fires
 BFM 21-79 - Bushfire Mitigation Manual

3 DEFINITIONS

Fire	the ignition of SP AusNet's distribution assets and/or combustible materials on the ground including trees and other vegetation possibly caused by SP AusNet's distribution network assets
AVL	the Availability Linesman that is on call for the area affected by the fire.
AO	the Availability Officer that is on call for the area affected by the fire.
Fire Coordinator	the CFA/MFB Fire Coordinator
Fire Commander	the CFA/MFB Fire Commander.
Electrical Operator	the person qualified and authorised to operate the High and Low Voltage networks.
Duty Disaster Officer	the person nominated under the Municipal Emergency Consultative Committee (MECC), once it has been activated.
Fire Disaster Zone	the area nominated by the Incident Controller as being under the control of the active MECC.

4 PROCEDURE

4.1 ARRIVING AT A FIRE

The fault crew is to immediately call Network Operations Centre (NOC) and inform of:

- any isolation required;
- the size of the fire;
- the requirement for the CFA/MFB to attend;
- if another crew is required to assist.

Operations Procedures when a Fire Occurs

The fault crew is to assess the immediate public risk and isolate the fault if appropriate.

The fault crew is to remain on site until the fire is out or SP AusNet Networks or contractor personnel have relieved them.

The site is not to be left until a thorough inspection of the affected assets has been performed and the assets confirmed as good. That is, leaving the assets permanently or temporarily repaired so that the appropriate standards are maintained. This is to be carried out in conjunction with CFA (or MFB if appropriate) to ensure no poles/cross arms continue to burn.

4.2 ACCESS UNDER MECC

When a fire or disaster occurs and is established by a MECC Coordinator, the authorised Electrical Operator is not to proceed into the defined Fire Disaster Zone either through road blocks or other access routes.

Exception:

If, after consultation between the AO, AVL, the Fire Commander and the Fire Coordinator, electrical switching within the defined zone is required, the following shall apply:

1. Authority to operate within the defined zone shall be by agreement between the Fire Coordinator and SP AusNet's AO and/or NCC and/or the Incident Controller.
2. The requesting Fire Coordinator should supply an escort to accompany the authorised Electrical Operator, to provide protection and guidance while the latter is working within the defined zone.
3. At all times, the authorised Electrical Operator shall reserve the right not to enter and to withdraw from the defined zone, if they consider their safety at risk. Should an authorised Electrical Operator find themselves in an area which has been defined a Fire Disaster Zone, they shall exercise caution and move to a location outside the zone to continue switching.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
7	6/06/2005	Document placed into new template 5/6/06. No change made to text.
8	30/6/2009	Changes to reflect organisational structure

Bushfire Mitigation

Auditing of Vegetation Management Groups

Document number:	BFM 21-84
Issue number:	10
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	30/06/2009
File Name	BFM 21-84.doc

Auditing of Vegetation Management Groups

1 PURPOSE

The purpose of this procedure is to set out the process and requirements for auditing of a vegetation management group.

This procedure applies to all SP AusNet and Contractor personnel with responsibilities for auditing vegetation management groups.

2 REFERENCES

QMS 21-04 - Complaint and Corrective Action Handling
 BFM 21-79 - Bushfire Mitigation Manual
 BFM 21-84-A - Assessment Checklist - System Audit
 BFM 21-84-B - Assessment Checklist - Field Audit
 Electricity Safety (Electric Line Clearance) Regulations 2005
 Electricity Safety (Network Assets) Regulations 1999
 Electricity Safety Act 1998

3 DEFINITIONS

Vegetation Management Group	Specialist group responsible for the management, coordination and supervision of all work associated with the Vegetation Management Program.
Field Officer	Person employed by the Vegetation Management Group and responsible for local fieldwork.
Regulations	Electricity Safety (Electric Line Clearance) Regulations 2005

4 PROCEDURE

4.1 SYSTEM AUDIT

The Business Manager Utility Services will review the vegetation management group's internal process of management on an annual basis. The following areas will be reviewed in this system audit;

- Vegetation Management Data Base
- Field Management
- Methods of Patrol
- Sub-Contractor evaluation
- Time Frames
- Cycle Inspection Programs
- Vegetation Management Personnel and Sub-Contractor Training
- Evaluation of Alternatives to Tree Clearing
- Customer Consultation Notification and Negotiation Process
- Monitoring and Auditing process

Auditing of Vegetation Management Groups

4.2 PERFORMANCE AUDIT

The Business Manager Utility Services will review the performance of the vegetation management group twice per year; before and during the fire season. The following areas will be reviewed in a field audit of the vegetation management activities:

- Cutting to Code
- Pre Summer Inspection
- Accurate identification of vegetation codes
- Accuracy of databases
- Health and Safety Statutory requirements met by contractors
- Equipment specifications comply with SP AusNet's standards and those of the Australian Safety Standards Association

Field audits will involve an inspection of a random number of spans no less than 10, of a particular feeder. The area chosen for field audit will be one that in the last month has had vegetation activities performed. Audits will be conducted by the Business Manager Utility Services and other qualified representatives from SP AusNet accompanied by a representative of the vegetation management group.

4.3 METHOD OF AUDITING

Process and field audits will be conducted based on questionnaire format set out in forms, BFM 21-84-A and BFM 21-84-B respectively. Results of audits will be communicated to the vegetation management group who will then be responsible for carrying out any necessary action including actions dealing with sub-contractors.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
8	5/6/2006	Minor changes to document reflecting current business practice.
9	5/6/2008	Minor changes to document reflecting changes to codes
10	30/6/2009	Changes to reflect current organisational structure



ASSESSMENT CHECKLIST - SYSTEM AUDIT

Date: _____

Auditor/s: _____

Location _____

TASK / ITEM	N/A	G	S	A/R	COMMENTS
Organisational Structure					
Is there a documented organisation structure?					
Are the role/responsibilities/accountabilities of key individuals documented?					
Strategy adopted to maintain clearance					
Documentation: Evidence that a vegetation management data base is in place and includes information on significant vegetation					
Process for updating significant vegetation regularly exists.					
What is the process of data collection?					
What information is collected and how is it used?					
Inspection & Evaluation					
What is the process used to manage vegetation?					
How are the risks assessed at each site?					
What are roles/responsibilities/accountabilities of the field officer?					
What is the roles/responsibilities/accountabilities of the office personnel?					
What is the process used for line inspection? What is the process used for cycle inspection programs? Show current status					

TASK / ITEM	N/A	G	S	A/R	COMMENTS
What is the process used for managing 56Ms? Show action plan					
When are alternates to cutting & pruning considered?					
Notification Consultation Negotiation Process Describe process used in the notification of affected persons? Show evidence?					
When are affected persons consulted? Show evidence					
What is the process used in the customer negotiation phase?					
What is the process used in resolution of a dispute?					
Time Frames What process does the vegetation management company use in order to determine its pre summer workload?					
What is the process used for completion of works in urban areas?					
Sub-Contractor Evaluation How is the performance of the contractor measured?					
What is the process used for determining the accuracy and currency of completed works by contractors?					
Training What process is used to assess the training needs of vegetation management personnel?					
How does the vegetation management company ensure contractors have conducted appropriate training? Show training plan					

TASK / ITEM	N/A	G	S	A/R	COMMENTS
Monitoring and Auditing Process How often are contractors audited? Other Responsible Persons Describe how other responsible persons (Local Govt, VicRoads, PELs etc.) are notified of their responsibilities					
How are they audited to ensure work has been done.					
What is the level of coordination with such.					
Community Liaison Describe what information/advice is provided to the community at large.					
OTHER					

GENERAL COMMENTS

Issues Management System # Raised.

Bushfire Mitigation

Auditing of Network for Fire Safety

Document number:	BFM 21-85
Issue number:	13
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	George Covino
Date of approval:	5/6/2008
File Name	BFM 21-85.doc

Auditing of Network for Fire Safety

1 PURPOSE/SCOPE

The purpose of this procedure is to set out the process and requirements for auditing of the Distribution Network to ensure that it is fire safe at declaration date and that it is maintained fire safe during the fire season.

This procedure applies to all SP AusNet and Contractor personnel with responsibilities for maintaining and auditing SP AusNet's Distribution Network.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual
 BFM 21-85-A - Bushfire Mitigation System Audit Questionnaire
 BFM 21-85-B - Bushfire Mitigation Senior Management Review
 BFM 21-85-C - Bushfire Mitigation Audits Prior to Fire Season
 BFM 21-85-D - Fire Season Field Audit
 Electricity Safety Act 1998
 Electricity Safety (Network Assets) Regulations 1999
 Electricity Safety (Electric Line Clearance) Regulations 2005

3 DEFINITIONS

Vegetation Management Group	Specialist group responsible for the management, coordination and supervision of all work associated with the Vegetation Management Program.
Asset Performance Coordinator	Person responsible for maintenance works in areas listed below.
Regulations	Electricity Safety (Electric Line Clearance) Regulations
Maintenance Areas & No Fire Spans	means – approx. Beaconsfield - 20,000 spans Lilydale - 35,000 spans Sth Morang - 13,000 spans Bairnsdale - 32,000 spans Leongatha - 26,000 spans Traralgon - 27,000 spans Benalla - 24,500 spans Seymour - 13,000 spans Wodonga - 22,000 spans
ESV	Energy Safe Victoria
ELCCC	Electric Line Clearance Consultative Committee
CFA	Country Fire Authority
Fire Season	Period that area is declared by CFA or DSE

Auditing of Network for Fire Safety

4 PROCEDURE

4.1 AUDITS PRIOR TO FIRE SEASON

The Director Asset Engineering shall ensure that sufficient internal audits to validate the completion of all bushfire mitigation obligations (as detailed in Section 4.2 of Document BFM 21-81) are conducted, prior to the commencement of the fire season, each year in each Maintenance Area.

Audits will be undertaken each year (normally during October/November) into all facets of the implementation of the bushfire mitigation program. The Works Planning & Performance Monitoring Manager shall prepare an audit schedule, which shall be approved by the Director Asset Engineering

Audit personnel shall include:

- Director Asset Engineering
- Director Asset Engineering Management Team members
- Network Strategy & Planning Management Team members

Small groups of these officers will conduct the audit and each group must produce a summary report on the findings. Copies of these reports to be forwarded to:

- Director Asset Engineering

Audits shall include checks and assessments in the following areas -

- Planning
- Monitoring
- Q4
- Urgent Work
- Poles
- Trees
- Private Electric Lines
- Line Hardware

Audits shall be conducted using the questionnaire format set out in document BFM 21-85-C.

4.2 SENIOR MANAGEMENT REVIEW/AUDITS

A review by Senior Managers shall be held annually to validate the efficiency of SP AusNet's management processes, program compliance and program relevance.

A review into all facets of the implementation of the bushfire mitigation program shall be undertaken prior to the commencement of the Fire Season (nominally early December) each year. Managers attending the reviews will include:

- Board Members
- Managing Director
- General Managers and
- Other Senior Managers.

Representatives from the CFA shall be invited to attend the reviews as observers.

Auditing of Network for Fire Safety

Small groups of these officers will also conduct a field audit in nominated regions and each group must produce a report on any findings. Copies of these reports to be forwarded to the Environmental Manager

Audits shall cover the issues outlined in document BFM 21-85-B.

Environmental Manager shall be responsible for scheduling and coordinating the review and audits.

4.3 AUDITS DURING THE FIRE SEASON

The Director Asset Engineering shall ensure that audits of SP AusNet's Network are performed during the fire season each year. This process shall commence at the start of the fire season (nominally early December) and continue throughout the period of the fire season (nominally end of April). The following areas shall be audited:

- Vegetation Clearances as defined by the code
- Priority Line maintenance items:
 - Cross Arms
 - Low Voltage Spreaders
 - Bird Covers
 - Unacceptable Surge Diverters
 - Conductors, out of sag

The Asset Performance Coordinators, with the assistance of the Regional Managers and the Vegetation Management Group representatives shall determine the critical areas of the network that should be field audited. This shall be based on issues including:

- Extremely high fire risk areas as defined by CFA and acknowledged by local personnel.
- The length of time since network assets have been inspected and maintained
- The length of time since cyclic clearing of vegetation has been carried out.

Field audits shall include an inspection of a random number of spans in the defined critical areas. A minimum of 1% of the total fire spans in each of the two Maintenance Regions of the business shall be audited during the fire season.

The audits shall be carried out on a monthly basis for the duration of the fire season. A trained officer shall conduct these audits. Details of relevant training undertaken by the officers shall be documented.

Prior to the 15th December, each Asset Performance Coordinator shall prepare an audit plan for his Maintenance Area, which shall be approved by the Works Planning & Performance Monitoring Manager. Field audits will be conducted using the questionnaire format set out in document BFM 21-85-D.

Results of audits will be communicated to the relevant Asset Performance Coordinator who will then be responsible for carrying out any necessary action including updating of the Maintenance database, further field assessment or remedial work.

The Asset Performance Coordinator shall review audit findings and expand the audit program if the numbers of non-conformances are significant. Summary reports on audits undertaken shall be forwarded to the Works Planning & Performance Monitoring Manager at the end of each

Auditing of Network for Fire Safety

month. Works Planning & Performance Monitoring Manager shall be notified immediately if the number of non-conformances in an audit are significant.

4.4 AUDIT BY SP AUSNET INTERNAL AUDITOR

SP AusNet Internal Audit Group undertakes audits of the BFM system.

5 APPENDICES

None.

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
10	5/6/2006	Document updated to reflect current business practice.
11	5/6/2007	Document updated to reflect changes to organisational structure.
12	5/6/2008	Document updated to reflect changes to titles asset maintenance staff.
13	30/6/2009	Document updated to reflect changes to organisational structure.



BUSHFIRE MITIGATION SYSTEM AUDIT QUESTIONNAIRE

Location:

Auditors:

Attendees:

.....

Organisational Structure:

Who is accountable responsible for the various functions of the Bushfire Mitigation Program?

Documentation

- BFM Manual & Procedures
- BFM Strategy Plan
- Vegetation Management Plan
- Line Inspection Manual

MONITORING & REPORTING

- Demonstration of Q4 System

- Data entry procedures

- Frequency of entries

- Input of Vegetation Management information

- Delays on data entry

- Calculation of BFM Index

- Fire starts - reporting, recording monitoring

- Faults - reporting, recording monitoring

- Actions/Comments



BUSHFIRE MITIGATION SENIOR MANAGEMENT FIELD AUDIT

Location:

Date:

Audit Team:

Personnel Interviewed
Documents Inspected:
Vehicles Inspected:
Locations Inspected:

<i>SITE AUDIT</i>	
Item	
Is there an understanding who is responsible for the various functions of the Bushfire Mitigation program within the Area?	
Knowledge of where to find up-to-date copies of BFM policy, procedures, plans permits etc.;	
Understanding of aspects of BFM policy, procedures, plans permits etc as it applies to them	
Desk top demonstration and audit that all off-road vehicles have portable fire fighting equipment fitted and in good order, exhaust systems checked and that vehicular communications systems are fully operational and have been checked;	
Investigate what checks they have made to ensure that all work has been completed and that standard of work is satisfactory	
That field staff have (or will get) attended training/information sessions on actions to be taken when caught in a life threatening fire situation - what was the training and who conducted it;	
That fire detection systems and fire services inside station are fully operational;	
That fuel (grass and any other) in Stations and other facilities/sites is not at dangerous levels;	
Level of liaison with local authorities- CFA, Council etc. is adequate	
Other	



BUSHFIRE MITIGATION Audits Prior to Fire Season

Location:

Review Team

Attendees:

.....

Target Date for Completion of Work: /...../.....

Declaration Date or anticipated date: /...../.....

Organisational Structure:

Who is responsible for the various functions of your Bushfire Mitigation program within your Area?

FUNCTION

RESPONSIBLE PERSON

-
-
-

MAINTENANCE PROGRAM

VEGETATION MANAGEMENT

- Responsibilities

- Pre summer inspections - Status

- Tree Clearance - Status

Item	No. Outstanding	No. Outstanding > allowed period	Comments
Code PT1s and PT30s			

- Action plans for achieving target and for 56M trees

- Actions/Comments

LINE INSPECTION

- Process
- Status

Item	Outstanding > Cycle	Outstanding > Period Allowed	Comments
Line Inspection			

Actions/Comments

PRIORITY PT30 & PT180 ATTACHMENTS & CONDUCTORS

- Status

Item	No. Outstanding	No. Outstanding > allowable period	Comments
Priority PT30 Attachments			
Priority PT180 Attachments			
Priority PT30 Conductors			
Priority PT180 Conductors			

Main Issues

Action Plan for work identified during the fire season

Actions/Comments

POLES

Status

Item	No. Outstanding	No. Outstanding > allowable period	Comments
U/S Poles			
L/L Poles			

Condemnation Rate

Staking Strategy

Actions/Comments

UNACCEPTABLE SURGE DIVERTERS

• Status

Item	No Outstanding	No. outstanding > 30 days	Comments
Unacceptable Surge Diverters			

Actions/Comments

BIRD COVERS

Status

Item	No Outstanding	No. outstanding >90 days	Comments
22 kV Bird Covers			
66 kV Bird Covers		NA	
Acrylic Covers		NA	

Actions/Comments

SWER ISOLATION SUBSTATIONS

Testing program

Rectification process

Actions/Comments

PRIVATE OVERHEAD ELECTRIC LINES (POELs)

Status

Item	Backlog	Comments
POELs to be inspected this year		
No. of POELs outstanding and not made fire safe (in Fire Hazard Areas)?		

Management Strategy

Disconnection policy?

Actions/Comments

ACTIONS FOR TOTAL FIRE BAN DAYS

Strategy

Plan for suppression of feeders to reduce fault current

POEL disconnections

Pre- arranged shutdowns

Plan for patrolling lines that have been suppressed

Staff Awareness of their responsibilities on TFB days -

Contingency planning requirements

FIELD INSPECTION

ASSETS

VEGETATION

VEHICLES

Actions/Comments

Bushfire Mitigation

Communication Guidelines for Prescribed Burning Near Electrical Assets

Document number:	BFM 21-86
Issue number:	1
Status:	Approved
Sponsor:	Renzo Negrelli
Approver:	David Just
Date of approval:	1/06/2007
File Name	BFM 21-86.doc

Communication Guidelines for Prescribed Burning Near Electrical Assets

1 PURPOSE/SCOPE

To set out processes for the communication of requirement to Authorities undertaking prescribed burning near electrical assets.

This procedure applies to all SP AusNet and Contractor personnel engaged in communicating requirement to Authorities undertaking prescribed burning near electrical assets.

2 REFERENCES

BFM 21-79 - Bushfire Mitigation Manual

BFM 21-78 - Electrical Hazards: Guidelines for Fire-fighting Authorities

3 DEFINITIONS

Nil

4 PROCEDURE/POLICY

Authorities requesting advice on electrical assets related issues that they need to consider when undertaking prescribed burning near electrical assets shall be advised of the following:

- Need to advise Network Operations Centre in advance of any control burnings near electrical assets
- Need to protect assets from damage or electrical fault by
 - Reducing fuel load in easements under powerlines
 - Removing grass and other fuel around timber poles
 - Checking timber poles at the completion of burn to ensure that poles have not caught fire.
- Need to be aware of possible electrical hazards when working near our assets; especially if the need to attend to a fire on our assets arises. Refer to procedure BFM 21-78 - Electrical Hazards: Guidelines for Fire-fighting Authorities

5 APPENDICES

Nil

6 SCHEDULE OF REVISIONS

Revision	Date	Details of Change
1	01/06/2007	Original Document