

# **GDF SUEZ HAZELWOOD**

The logo for GDF SUEZ, featuring the company name in a stylized, outlined font. The letters are composed of a grid of small dots, giving it a textured appearance. The logo is positioned centrally on the page.

## **ELECTRICITY SAFETY - BUSHFIRE MITIGATION PLAN**

**For period commencing 1 July 2013**

<b>GDF SUEZ Hazelwood</b>	<b>Electricity Safety - Bushfire Mitigation Plan</b>
-------------------------------	--

<b>Title:</b>	GDF SUEZ Hazelwood Mine Bushfire Mitigation Plan
<b>Author:</b>	Peter Brimblecombe
<b>Synopsis:</b>	This document defines the processes and procedures used to mitigate the risk of bushfire caused by the overhead power lines under the control of GDF SUEZ Hazelwood.
<b>TRIM Reference No:</b>	

**REVISION/CHECKING HISTORY**

REV No.	AUTHOR	DATE	CHECKED BY		APPROVED BY	
0	P Brimblecombe		C Morley	30 Sep 2010	R Polmear	
1	P Brimblecombe		C Morley		S Kemsley	
2	P Brimblecombe	7 Dec 2012	S Kemsley	7 Dec 2012	S Kemsley	7 Dec 12
3	P Brimblecombe	14 Jun 2013	S Kemsley	19 Jun 2013	D Day	19 Jun 2013

**REVISIONS**

REVISION NUMBER	DATE	DESCRIPTION OF CHANGE
0		Development of document from draft for approval
1		Update based on ESV clarifications, organisational change and document review process
2	7 Dec 2012	Update based on ESV clarifications and recommendations
3	19 Jun 2013	Review and update for proposed new regulations

**1. Purpose**

Comply with the requirements of relevant Victorian legislation.

***Relevant Legislation and Regulations***

**Electricity Safety Act 1998 (Version No 022 – 2013)**

**Electricity Safety (Bushfire Mitigation) 2003 (Version 2012 No 51)**

As a business that has electric lines above the surface of the land and in a hazardous bushfire area, GDF SUEZ Hazelwood meets the definition of a "specified operator".

.

**2. Scope**

This plan details the practices and procedures in place at GDF SUEZ Hazelwood for the prevention of fire caused by overhead electrical assets and the mitigation of any fire incident that may occur. As most of the "at risk" electrical equipment is operated by the mine, the main responsibilities for this plan are with mine personnel.

**3. Responsibilities & Authorities****3.1. Director Mining:**

- a) Ensure that the processes and procedures required to comply with the regulations are in place and followed;
- b) Ensure that the procedure is reviewed and updated at regular intervals in line with legislation, regulations and industry "Best Practices"
- c) Have an audit process in place to ensure that the regulatory requirements are being met.

**3.2 Production Manager, Mine:**

- a) Ensure that all operational staff and contractors personnel understand their responsibilities in meeting this plan;

**3.3 Mine Technical Compliance Manager:**

- a) Ensure that the plan is reviewed and updated annually to comply with the regulations and ensure that any changes to relevant operational procedures are compliant with the regulations and reflected in this plan.

**3.4 Director Stakeholder Management:**

- a) Ensure that a copy of the current plan is submitted to ESV annually before 1 July each year.
- b) Confirm that each submission gains ESV approval.

**3.5 Station Technical Compliance Manager:**

- a) Ensure that station electrical equipment meets the requirements of Regulations.

<b>GDF SUEZ Hazelwood</b>	<b>Electricity Safety - Bushfire Mitigation Plan</b>
-------------------------------	--

#### 4. Prescribed Particulars

- a) The name address and telephone number of the specified operator:
- Name: GDF SUEZ Hazelwood
  - Address: Brodribb Road, Morwell
  - Phone No: (03) 5135 5000
- b) Person responsible for the preparation of the plan;
- Peter Brimblecombe,  
Senior Compliance Engineer  
Ph (03) 5135 5945  
PO Box 195, Morwell, 3840
- c) Person responsible for carrying out the plan;
- Peter Brimblecombe,  
Senior Engineer, Compliance, Mine  
Ph (03) 5135 5945  
PO Box 195, Morwell, 3840
- d) Emergency contacts are the Mine High Voltage Availability Officers;
- Peter Brimblecombe,  
Senior Compliance Engineer  
Ph (03) 5135 5945 mob 0409 402 459  
PO Box 195, Morwell, 3840
- OR
- Stephen Dargan,  
EC&I Engineer  
Ph (03) 5135 5876 mob 0408 588 372  
PO Box 195, Morwell, 3840

These officers are available during normal working hours and are rostered for out of hours duty. Each officer will accept calls whether rostered or not.

- e) Fire Policy;
- Mine Fire Service Policy and Code of Practice
- Refer Paradigm Document Id 2589,

“The purpose of this Fire Service Policy and Code of Practice is to achieve the Fire Protection Policy requirements by providing acceptable operating procedures for fire protection services for Mining Operations.”

This will be provided by:

- Establishing a clear strategy and standard of open cut fire protection to:
  - (a) protect all personnel within the Hazelwood Mine;
  - (b) protect all plant and equipment required for the maintenance of coal winning operations, and

(c) protect coal reserves to enable continuation of coal winning activities.

- Ensuring that all personnel associated with the Hazelwood Mine or the Fire Service systems have an understanding and awareness of the effects of fire, the requirements of fire protection, and are aware of their responsibilities.
- Providing a framework which ensures that fire protection objectives are coordinated, coherent and translatable into action and to ensure that these objectives are carried out.
- Ensuring that relevant statutory regulations are met and that a cooperative and coordinated approach is undertaken with relevant statutory authorities. i.e. CFA.
- Ensuring that the equipment used for fire service activities meets relevant operational standards.
- Setting procedures for the testing of new equipment and practices before being approved for general use in the Hazelwood Mine."

f) The objectives of the plan;

"Is adopt sensible precautions as well as the establishment of a system of fire protection in the GDF SUEZ Hazelwood mine to:

- Protect all personnel within the open cut;
- Protect all plant and equipment required for the maintenance of coal winning operations; and
- Protect the brown coal reserves to enable continuation of coal winning activities.

The aim is to prevent or extinguish any fire which may threaten the brown coal winning activities, and to restore normal operating conditions as early as possible after a fire. Training of all personnel in firefighting methods and procedures is an integral part of preparedness for combating fires.

Different levels of protection are defined for various elements of the GDF SUEZ Hazelwood mine based on the risk to personnel, plant and equipment and the brown coal reserves, and the consequences should a fire occur."

Extract from the Mine Fire Service Policy and Code of Practice,  
Paradigm Document OrigId 2589

g) Plan of the mine showing overhead power lines;

The whole site is in an area assigned a fire hazard rating of "high" by the CFA.

Note: the "at risk" business power lines are shown in black. The other coloured lines on the map indicate overhead lines, on our site, owned by MECs

Drawing of mine showing all overhead power lines – appendix 1

Site Locality Map - appendix 2

h) Preventative strategies;

Mine Fire Service Policy and Code of Practice – section 4.5

- In summary this document details the strategies for protection of Hazelwood Mine from fire by any cause with specific details

on the requirements for electric lines to remain in service under all circumstances, especially in the event of a fire.

Local Electrical Instructions – section 5.7.15

- These instructions detail the operating and maintenance practices relating to the high voltage distribution system in the mine.

Vegetation is removed from the vicinity of power lines whenever it is identified as an issue. This could be during routine inspections by trained Electrical Asset Inspectors or ad hoc inspections by mine electrical personnel.

i) List of required works:

<b>Works Required to Support Plan</b>	<b>Completion Date</b>
Review of Fire and Emergency Procedures	31 Aug 2013
Fire Fighting Equipment Annual Inspection	30 Sep 2013
Fire training for all mine personnel	30 Sep 2013
Annual HV asset inspections	25 Oct 2013
Weed control around all switch poles	20 Dec 2013
Weed control/claying of hv cable runs in mine	20 Dec 2013
Claying/sanding of wooden poles on coal	13 Dec 2013
Submission of Bushfire Mitigation plan	30 June 2013
Loading of Bushfire Mitigation Plan to public web site	2 weeks after approval

Note: These works are undertaken annually. The dates are based on the mines declaration of the annual fire season, which is determined by the Deputy Production Manager based on a series of seasonal weather indicators, as detailed in the Paradigm document No 36547 "Guidelines For Season Specific Fire Preparedness and Mitigation Planning"

j) Plan for inspection;

All overhead high voltage power lines are inspected on a 3 year cycle. A contract is let annually for the inspection of a nominated portion of the mine distribution system and all limited life poles on site.

k) Accreditation of Lines Inspectors;

GDF SUEZ Hazelwood does not directly employ linesmen. When the line inspections are due each year, an order is placed on an Overhead Lines service provider, for the inspection of the plant and equipment due that year.

The order requires the inspections be completed by persons with Certificate II accreditation in Asset Inspection (or equivalent as approved by ESV).

Inspector qualifications are checked by the Mine Electrical Supervisor when the Inspector presents for access to the equipment. The Mine

Electrical Supervisor controls access to the lines, monitors progress and checks on site activities.

l) Operation and Maintenance Plans for at-risk electric lines;

i) in the event of a fire:-

The mine power distribution system ("at risk supply network") is expected to operate without impairment to ensure power supply is maintained to all plant. Any non-essential planned maintenance activity would be cancelled.

Mine Fire Service Policy and Code of Practice details the requirement for the operation of electric lines to plant and pumping systems.

In the event of a major fire within the business, the Emergency Response Plan takes effect and power systems are directed by the Incident Controller (this will be a CFA officer) with technical support from GDF SUEZ Hazelwood personnel.

ii) during a day of Total Fire Ban:-

The mine power distribution system ("at risk supply network") is expected to operate without impairment to ensure power supply is maintained to all plant. Any non-essential planned maintenance activity would be risk assessed to ensure that it did not constitute a fire risk and the system impairment to allow the work to be done did not increase GDF SUZ Hazelwoods business risk to an unacceptable level.

The protection of electricity supply and electrical substations, critical infrastructure, will be specifically detailed on a daily fire preparedness plan. This document is issued on the day prior to each day of Total Fire Ban, as well as any day of high fire risk for the business.

iii) during a fire danger period:-

The mine power distribution system ("at risk supply network") is expected to operate without impairment to ensure power supply is maintained to all plant.

Due to susceptibility of coal mines to fire GDF SUEZ Hazelwood declare a site Fire Season for the mine prior to the CFA declared season. This initiates a series of processes within the business to ensure all protective equipment and systems are serviceable and training and inspections are conducted.

Maintenance activities for the overhead lines assets are planned around the requirements for pumping systems and operational plans for coal supply to the power station. Activities are risk ranked and prioritised within our Computerised Maintenance Management System (Maximo).

The Paradigm document "Guidelines For Season & Period Specific Fire Preparedness & Mitigation Planning" OrigId no. 36546, defines the declaration of site Fire Danger Period.

m) methodology for the prevention of fire ignition from at-risk electric lines;

The electric lines for the business are designed to limit the risk of fire ignition.

This is achieved through several design initiatives which are not practical for the public distribution system.

1. There are no automatic reclose facilities enabled within the business. This limits the possibility of energising a damaged line without suitable inspection and monitoring of the situation.
2. All mine feeders are installed with Sensitive Earth Leakage protection to protect personnel and plant in the event of a fault. This system limits the amount of energy delivered to and time of operation of an earth fault. By limiting the duration and magnitude of fault current, the chance of a fault causing a fire is minimised. The power station high voltage overhead lines do not have this protection but are fully protected to ensure the safety and integrity of the plant to which they are connected.
3. All the mine high voltage overhead lines operate at 6,600V. The line hardware specified and used on all new installations is 22,000V hardware. This minimises the risk of an electrical fault that will cause a fire. The power station overhead lines operate at 220,000V but are of very short length and are located in areas where there is no combustible material.
4. All operations of protection at the substations supplying power to the business overhead electric lines require a full inspection prior to the restoration of supply (Refer Local Electrical Instructions, Paradigm Document 4347).
5. Overhead electric line design is managed to minimise the number of crossovers (especially mid span crossovers) to limit the potential for conductor clash.
6. The complete high voltage overhead lines distribution system is modelled by an Independent Engineering Consultant to ensure there is no overloading of individual lines that might contribute to ignition of fires.

All fires on site are recorded and investigated through our Incident Management System (IMS). Recommendations from the IMS reports are sent to the site management team (MLT) for action.

Mine fire is subject to risk assessment under the Occupational Health and Safety Regulations, Part 5.3. Under these regulations fire has been determined to be a Major Mining Hazard. Under this category a detailed risk assessment has been completed and a series of controls established. These assessments and controls are subject to ongoing internal review and audit and review and audit by the regulator.

n) details of the processes and procedures by which the specified operator will;

i) Monitor and audit the implementation of the bushfire plan:-

When the site fire season is declared, the Production Manager provides weekly reports to the mine management team on the progress of all fire preparedness activities.

ii) Identify any deficiencies in the plan or the plans effectiveness:-

All documentation for the fire season is reviewed annually prior to July. In addition business processes ensure the update of documentation based on input from incident investigations, internal audits, external audits, regulator reviews, etc, by logging and monitoring of action items.

iii) Monitor and audit the effectiveness of inspections carried out under the plan



The business has an internal audit system to monitor compliance and in addition is subject to external audit to maintain certification. Regulators also conduct both planned and random audits of many aspects to ensure compliance.

- iv) Improve the plan and the plan's implementation if any deficiencies are identified under subparagraph (ii):-

As noted in point ii), the business has a process to capture and implement improvements for documents and procedures based on findings, recommendations or employee suggestions.

- v) Ensure that any training necessary for persons assigned to perform functions under the plan is provided:-

GDF SUEZ Hazelwood has an annual training calendar for site personnel. This plan is reviewed annually to ensure all requirements are complied with. Employees with assigned functions will be trained before having to perform the functions.

- vi) Monitor and audit the competence of the persons assigned to carry out inspections under the plan:-

Contractors employed to perform inspections will be regularly checked and audited. All contractors working on site are subject to regular routine inspections and audit under our procedure SMS Evaluation of Contractors – (Paradigm Document ID 3210). This requires a Responsible Officer to check the contractor on site and confirm that the all H&S requirements are being met, personnel are qualified and licensed for the work they are performing and the documented work procedure is being followed to the required standard.

- o) the policy in relation to assistance to be provided to fire control authorities in the investigation of fires near the specified operator's at-risk electric lines;

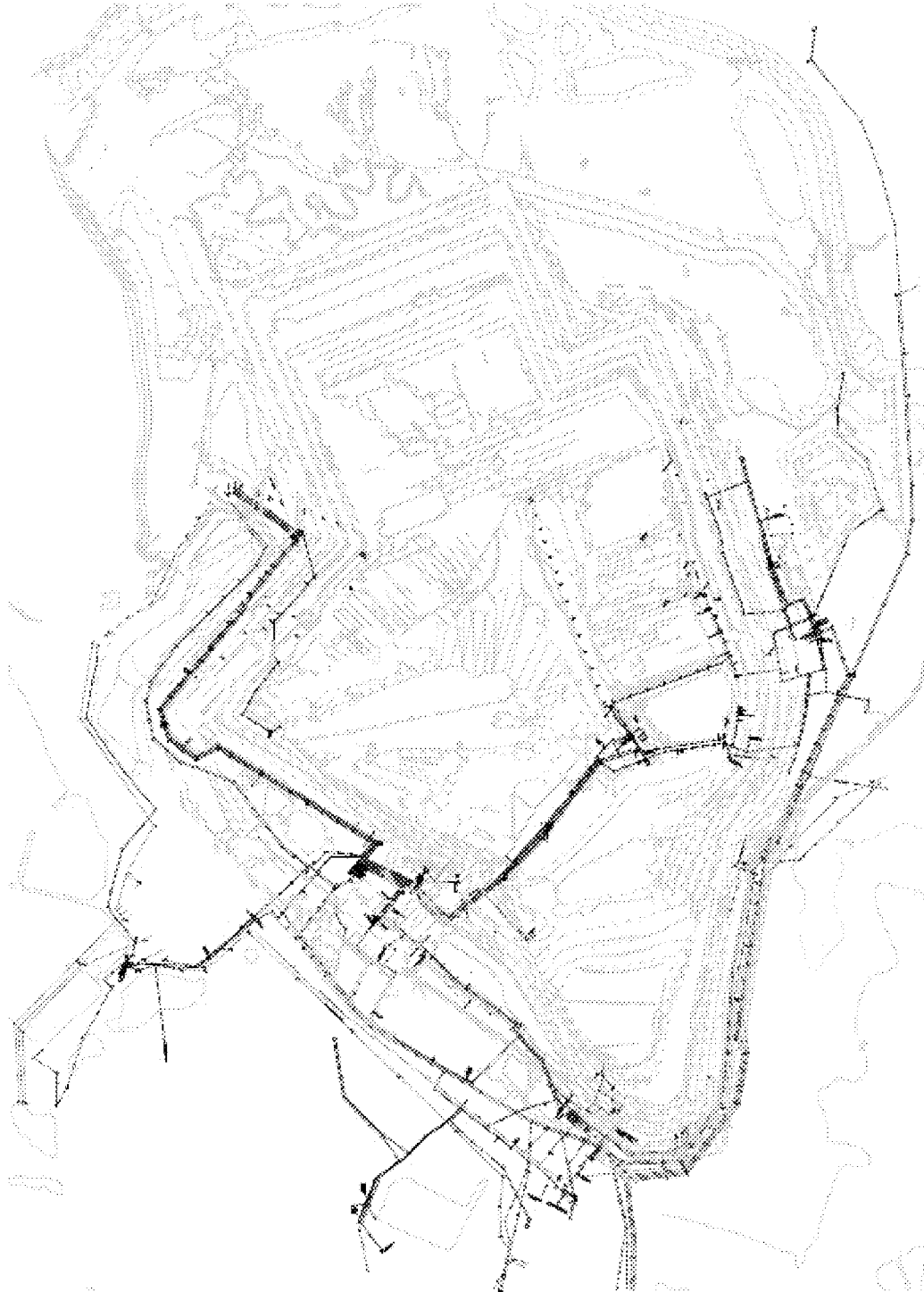
This organisation maintains a close relationship with the local CFA due to the high risk of fire to the business. Regular meetings and joint exercises are held annually. The Emergency Response Plans (Paradigm Documents OrigId No 2895 and 890) detail the relationship between this business and all State Emergency Organisations. This document details the requirements for Statutory Investigations as well as investigations by other emergency authorities, which are fully supported by GDF SUEZ Hazelwood.

**6. References**

<b>Number</b>	<b>Description</b>
OrigId 2589	Mine Fire Service Policy and Code of Practice
OrigId 4347	Local Electrical Instructions
OrigId 2895	Emergency Response Plans GDF SUEZ Hazelwood Mine
OrigId 890	Emergency Response Plans HP Station
OrigId 36546	Guidelines For Season & Period Specific Fire Preparedness & Mitigation Planning
OrigId 3210	SMS Evaluation of Contractors
n/a	Occupational Health and Safety Regulations 2007 (part 5.3)

**Appendix 1 – Drawing of the Mine**

The whole site is in an area assigned a fire hazard rating of "high" by the CFA.  
**Note: the "at risk" business power lines are shown in black. The other coloured lines on the map indicate overhead lines, on our site, owned by MECs**

**Appendix 2 – Hazelwood Locality Map**

<b>GDF SUEZ Hazelwood</b>	<b>Electricity Safety - Bushfire Mitigation Plan</b>
-------------------------------	--

