

HV Line Bushfire Mitigation Management Plan

1. INTRODUCTION

1.1 Background

Maryvale Mill operates 15 spans of 22kV overhead lines stretching approximately 1400m in a defined hazardous bushfire risk area. The Mill is required by State Acts and Regulations to have a Bushfire Mitigation Management Plan. This document is provided to meet the legislative requirements.

1.2 Purpose

To ensure that high voltage overhead power lines in the Maryvale Mill are managed in compliance with the Electricity Safety (Bushfire Mitigation) Regulations 2013 Version 4 (1 May 2016).

2. SCOPE

This procedure applies to the high voltage overhead power lines that run from Maryvale sub-station to Pole No.4, to feed No.4 Paper Machine, and from Maryvale sub-station to the Effluent Plant and No.5 Paper Machine.

These are all of the overhead power lines at Australian Papers Maryvale Mill that are managed by Australian Paper.

3. LEGAL AND OTHER REQUIREMENTS

Section 83BA(2)(b) of the Electricity Safety Act 1998 (incorporating amendments as at 29 June 2015) requires a 'specified operator' of an at-risk electric line to submit a Bushfire Mitigation Plan for acceptance by Energy Safe Victoria, by 1 July, each year. A 'specified operator' means the operator of an 'at-risk' electric line. An 'at risk electric line' is an electric line that is above the surface of the land, and in a hazardous bushfire area.

Maryvale Mill operates 22kV overhead lines in a defined hazardous bushfire risk area. The Mill is required by the Regulations to submit this Bushfire Mitigation Plan annually on 1 July, to Energy Safe Victoria, to demonstrate compliance with the Bushfire Mitigation Regulations. The particulars to be included in the Bushfire Mitigation Plan are detailed in Regulation 1 of the Electricity Safety (Bushfire Mitigation) Regulations 2013 (incorporating amendments as at 1 May 2016). The prescribed particulars for the bushfire mitigation plans for a specified operator are also documented in part 4 of this management plan, along with a response from Australian Paper Maryvale Mill that addresses each requirement.

To provide an audit process, this document will be kept in the Mill document control system, with the document requiring annual review by the Electrical & Automation Manager. This review will trigger the responsible person to ensure that compliance with the Bushfire Mitigation Regulations is being maintained. **The authorisation date for this document is the Version Date given by the document control system, which is shown in the document header.**

To ensure up-to-date information is available, this document is kept in a centralised electronic document control system. In order to meet the legislative requirements, a copy of this plan can be made available by request to the main entrance gate-house to the Maryvale Mill (manned 24 hours a day). Security/First Aid personnel can access the document in the document control system by searching for “HV Line Bushfire Mitigation Plan”, or by searching for the document number “MA-MP-3116.029”. As per the requirements of Section 83BA(2)(b) of the Electricity Safety Act 1998, the HV Line Bushfire Mitigation Management Plan will also be published on the Australian Paper internet site once accepted by Energy Safe Victoria.

This is located at the following link:

<http://www.australianpaper.com.au/sustainability/social-sustainability/safety/>

and can be accessed by clicking on the text ‘High Voltage Line Bushfire Mitigation Plan’.

4. OPERATIONS MANAGEMENT SYSTEM

Australian Paper’s Maryvale Mill has extensive policies and procedures in place to ensure that responsibilities for meeting regulatory requirements are properly defined. These policies and procedures are kept within an electronic document control system to maintain version control, and provide easy access via the mill’s internal computer network.

Procedures of particular relevance include:

- MG-RD-0216.003 [Operations Management System \(Maryvale\)](#).
- MG-SEP-2316.001 [Regulatory Compliance](#).
- MG-SEP-0116.002 [Organisation and Accountability](#).
- [Organisation Chart](#).
- Quality Management System [ISO9001:2008 Certification](#)
- Major Hazard Facility [Licence to Operate](#)



5 REGULATION 1: PRESCRIBED PARTICULARS FOR BUSHFIRE MITIGATION PLANS – SPECIFIED OPERATORS (Version 004 of the Electricity Safety (Bushfire Mitigation) Regulations 2013, 1 May 2016)

Regulation 6	Australian Paper Maryvale Mill Bushfire Mitigation Plan
For the purposes of section 83BA(2)(b) of the Act, a bushfire mitigation plan submitted by a specified operator must specify—	
(a) the name, address and telephone number of the specified operator;	<p>Australian Paper Maryvale Mill (specified Operator) Australian Paper Maryvale Mill Traralgon West Road (PO Box 37) MORWELL VIC 3840 Telephone: 03 5136 0360</p>
(b) the position, address and telephone number of the person who was responsible for the preparation of the plan;	<p>Responsible Person: Paul McLaughlin – Maintenance Manager Australian Paper Maryvale Mill Traralgon West Road (PO Box 37) MORWELL VIC 3840 Telephone: 03 5136 0120 0411 395 446</p> <p>Prepares the Management Plan: Dewald Pelser - Electrical & Automation Manager Australian Paper Maryvale Mill Traralgon West Road (PO Box 37) MORWELL VIC 3840 Telephone: 03 5136 0392 0418 165 950</p> <p>Reviews and approves the Management Plan: Daryl Adams - Specialist HV Engineer / Senior Electrical Supervisory Officer Australian Paper Maryvale Mill Traralgon West Road (PO Box 37) MORWELL VIC 3840 Telephone: 03 5136 0589 0407 203 787</p>



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HV Line Bushfire Mitigation Management Plan

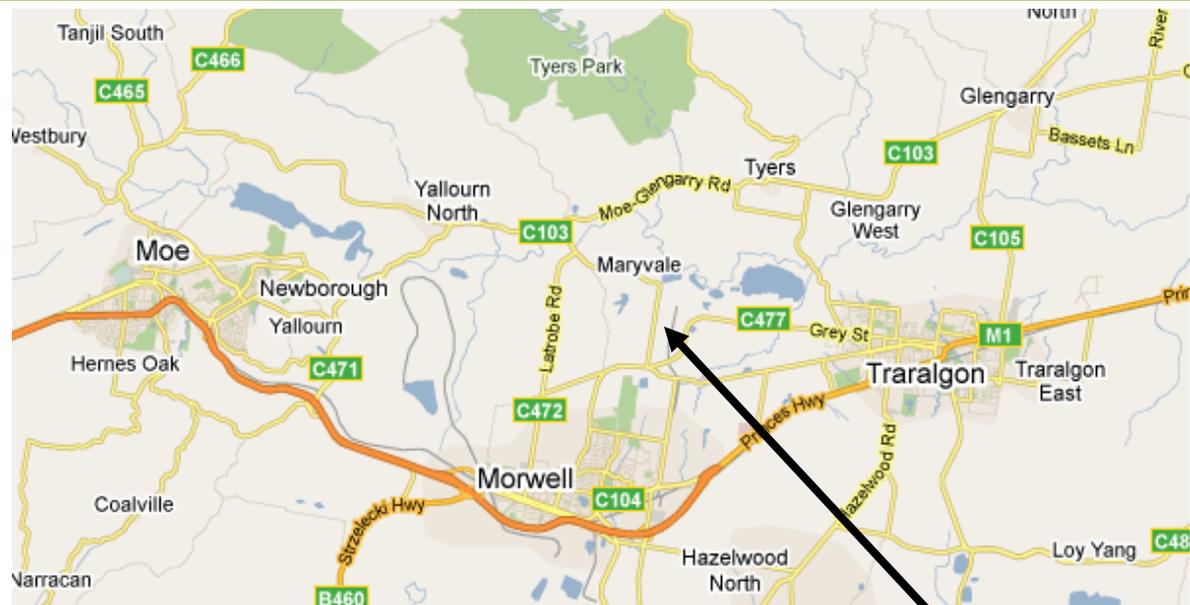
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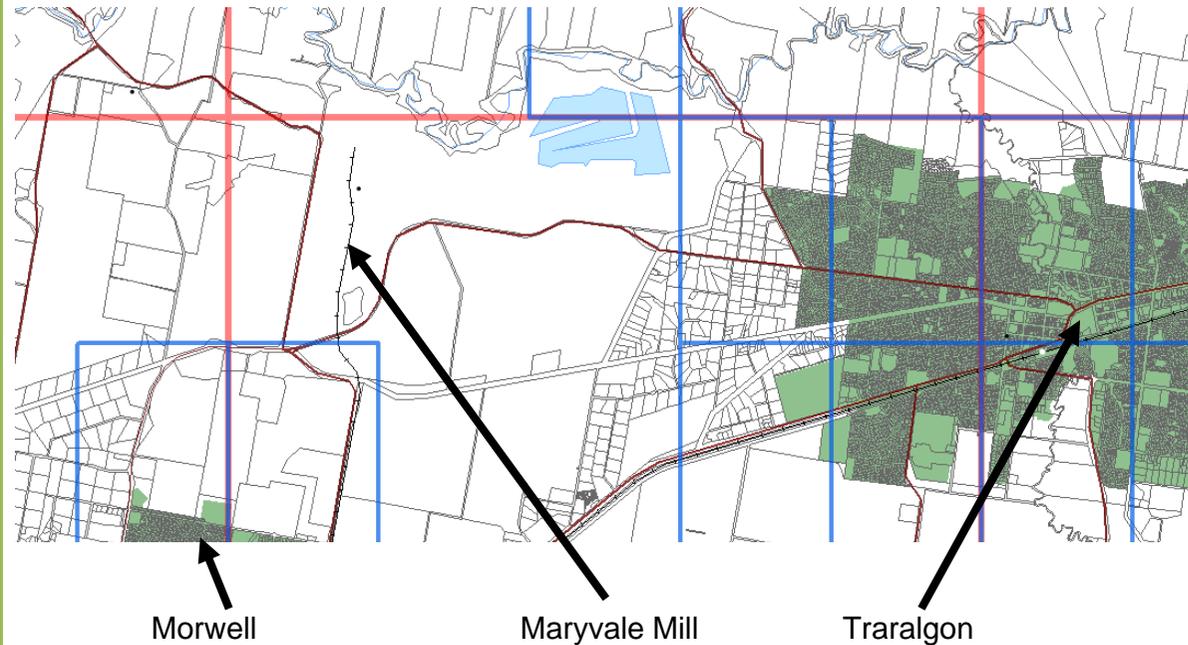
<p>(c) the position, address and telephone number of the persons who are responsible for carrying out the plan;</p>	<p>E/I Workshop Supervisor (responsible for carrying out the Management Plan) Mick Diamante - E/I Maintenance Superintendent Fibrelines & Central Workshop Australian Paper Maryvale Mill Traralgon West Road (PO Box 37) MORWELL VIC 3840 Telephone: 03 5136 0835 0438 543 813</p>
<p>(d) the telephone number of the specified operator's control room so that persons in the room can be contacted in an emergency that requires action by the specified operator to mitigate the danger of bushfire;</p>	<p>Shift Manager (Emergency contact for mitigation of bushfire danger.) Shift Manager (Available 24/7) Australian Paper Maryvale Mill Traralgon West Road (PO Box 37) MORWELL VIC 3840 Telephone: 03 5136 0360</p>
<p>(e) the bushfire mitigation policy of the specified operator to minimise the risk of fire ignition from its at-risk electric lines;</p>	<p>The bushfire mitigation policy adopted by Australian Paper Maryvale Mill to minimise the risk of fire ignition from its at-risk electric lines is to:</p> <ul style="list-style-type: none">• Inspect the overhead power lines annually to reduce the possibility of the power lines creating an ignition source.• Maintaining effective clearance between the overhead power lines and vegetation in excess of the requirements from the Electricity Safety (Electric Line Clearance) Regulations 2015 Version 001 (as at 28 June 2015).<ul style="list-style-type: none">- There are no trees in the path of the overhead power lines, to minimise the impact if an ignition source was created.• Keep grass in the vicinity of the overhead power line short, to minimise the impact if an ignition source was created.• An Emergency Crew are always available on-site, to manage fire or any other emergency situation. Maryvale Mill also operates its own CFA-affiliated Fire Brigade, with on-site tankers available to respond at short notice, should a fire be detected.

	<ul style="list-style-type: none"> Detailed emergency management plans are available, which provide guidance on escalation of resources to meet emergency situations.
<p>(f) the objectives of the plan to achieve the mitigation of fire danger arising from the specified operator's at-risk electric lines;</p>	<p>The objectives of this Management Plan are to:</p> <ul style="list-style-type: none"> maintain the high voltage overhead lines at the Maryvale Mill site to prevent the ignition of bush fires, and Comply with the requirements of the Electricity Safety Act and the Electricity Safety (Bushfire Mitigation) Regulations.
<p>(g) a description, map or plan of the land to which the bushfire mitigation plan applies, identifying the location of all the specified operator's at-risk electric lines;</p>	<p>Location of equipment covered by the Management Plan:</p> <p>The Maryvale Mill is located between Morwell and Traralgon, approximately 160km east of Melbourne. The Mill is a large industrial site bordered on the north by the Latrobe River, and with plantation forests to the East, West, and South.</p>



Maryvale Mill

The Maryvale Mill is in an area that has not been classified by the CFA as having a low fire hazard rating. As such, it has been defined as a high fire hazard rating area, as shown on this map from the 2011 edition of 'fire hazard ratings for the Electricity Safety Act 1998'. (Low fire risk rating areas are shaded green)



The 22kV overhead lines covered under this Management Plan are supported by 16 concrete poles in the locations as shown below.



The 22kV lines run through cleared private property owned and managed by Australian Paper on a large industrial site. Images of some typical poles are show below.



Pole 1&2: looking North



Pole 4: Looking East



Pole 4&5: Looking North



Pole 8: looking East



Pole 12: Looking East



Pole 13&14A: Looking North

<p>(h) the preventative strategies and programs to be adopted by the specified operator to minimise the risk of the specified operator's at-risk electric lines starting fires;</p>	<p>Inspection and Maintenance Procedures:</p> <p>Maryvale Mill manages the maintenance of equipment using a Computerised Maintenance Management System (CMMS). This includes programmed maintenance tasks for:</p> <ul style="list-style-type: none"> • PM174297: Overhead lines annual inspection • PM174298: Overhead switches annual inspection, and • PM174299: Overhead switches 5-yearly maintenance. <p>The annual inspection of the overhead lines shall be undertaken by a trained and licensed electrician, and includes:</p> <ul style="list-style-type: none"> - visual checking of line condition from the ground - thermal imaging of the line at poles, to detect hot spots, and - visual checking that vegetation has not encroached on the clearances given in Table 3 and Figure 5, of the Line Clearance Regulations. <p>Every third year, the inspection of the overhead power lines will be performed by a contracted Asset Inspector who has satisfactorily completed a training course approved by Energy Safe Victoria. The approved training standard is "Certificate II in ESI – Asset Inspection (JET20612)" or subsequent versions, or the previous equivalent approved training course "Certificate II in Asset Inspection (22109VIC)". Documentation verifying completion of approved training shall be checked before the inspection commences.</p>
<p>(i) a plan for inspection that ensures that all of the specified operator's at-risk electric lines are inspected at regular intervals of no longer than 37 months;</p>	<p>Planned Maintenance Task PM174297: Overhead lines annual inspection</p> <p>The annual inspection of the overhead lines shall be undertaken by a trained and licensed electrician, and includes:</p> <ul style="list-style-type: none"> • visual checking of line condition from the ground • thermal imaging of the line at poles, to detect hot spots, and • visual checking that vegetation has not encroached on the clearances given in Table 3 and Figure 5, of the Line Clearance Regulations. <p>In order to ensure that all of Australian Paper Maryvale Mills at-risk electric lines are inspected at regular intervals of no longer than 37 months by persons who have satisfactorily completed a training course approved by Energy Safe Victoria, every third</p>

	<p>year, the inspection of the overhead power lines will be performed by a contracted Asset Inspector who has satisfactorily completed a training course approved by Energy Safe Victoria. The approved training standard is “Certificate II in ESI – Asset Inspection (UET20612)” or subsequent versions, or the previous equivalent approved training course “Certificate II in Asset Inspection (22109VIC)”. Documentation verifying completion of approved training shall be checked before the inspection commences.</p>
<p>(j) details of the processes and procedures for ensuring that each persons who is assigned to carry out the inspections referred to in paragraph (i) has satisfactorily completed a training course approved by Energy Safe Victoria and is competent to carry out such inspections;</p>	<p>The annual inspections shall be undertaken by qualified and licensed electricians employed by Maryvale Mill. The Mill maintains a database of the qualifications and training of all employees, which can be used to verify that people undertaking the inspections have the relevant qualifications and licenses.</p> <p>It is not practicable for the Maryvale Mill to maintain the skills, training, and qualifications required to perform the 3-yearly inspections. For these inspections a contract Asset Inspector will be utilised. Before the inspections are carried out, it will be verified that the contract Asset Inspector has met the ESV training requirements relevant to the task.</p>
<p>(k) details of the processes and procedures for ensuring that persons (other than persons referred to in paragraph (j)) who carry out or will carry out functions under the plan are competent to do so;</p>	<p>The Mill maintains a database of the qualifications and training of all employees, which can be used to verify that people carry out or will carry out functions under the plan have the relevant qualifications and licenses.</p>

- (l) **the operation and maintenance plans for the specified operator's at-risk electric lines—**
- (i) in the event of a fire; and**
 - (ii) during a total fire ban day; and**
 - (iii) during a fire danger period;**

Operations Procedures: Maryvale Mill operates pulp and paper production equipment 'around the clock'. Suitably trained Shift Managers, Operators, Electricians, Fitters, First Aid staff and an Emergency Crew are always available on-site, to manage fire or any other emergency situation. Maryvale Mill also operates its own CFA-affiliated Fire Brigade, with on-site tankers available to respond at short notice. Detailed emergency management plans are available, which provide guidance on escalation of resources to meet emergency situations.

Preparations are made before each summer fire danger period, to clear vegetation and reduce fuel loads around the Mill site, including the area under and near the overhead power lines.

The Australian Paper Maryvale Mill has a work procedure titled "Work – Procedure – Fire Season – [Fire Precautions and Fire Fighting Equipment](#)", document MS-EP-2916.005 that covers all precautions for the risk of fires during the fire season. This details the appropriate fire precautions to be taken during and leading up to a fire season. It also covers the relationships and responsibilities of the various emergency services groups (including the Maryvale Mill CFA-affiliated Fire Brigade, the CFA and others to minimise risks.) This procedure also details actions to be taken in the event of a fire, during total fire ban days, etc.

Due to the high risk of damage to the Maryvale Mill from bushfires approaching from outside of the Mill boundary, these procedures are well embedded and rigidly audited.

In the event of fire, Shift Electrical staff on-site can de-energise the overhead power lines from the Maryvale sub-station.

During periods of total fire ban, the overhead power lines remain energised to support normal Mill production. No cutting or welding work is allowed outside during a total fire ban, except where required for emergency repairs, and then, only in accordance with the requirements of a 'hot work' permit system.

During a fire danger period, the overhead power lines remain energised to support normal Mill production.

(m) **the investigations, analysis and methodology to be adopted by the specified operator for the mitigation of the risk of fire ignition from its at-risk electric lines;**

Any safety issues relating to production, maintenance, or equipment condition, are investigated using the Maryvale Incident Information System (MIIS). Any fires at the Australian Paper Maryvale Mill are also investigated fully by a team including the members of the Australian Paper **Maryvale Mill CFA-affiliated Fire Brigade** involved in fighting the fire, using the 5Ys philosophy. These investigations are reviewed by the Mill, and all actions from these are tracked in the Greater than 5 Hour Event Database, and are regularly monitored and reviewed, to ensure that they are completed.

The methodology to be adopted by Australian Paper Maryvale Mill for the prevention of fire ignition from its at-risk electric lines is to:

- Minimise the possibility of causing an ignition source from HV overhead lines by completing annual inspections, and repairing defects identified during these audits.
- Minimise the impact of an ignition by keeping the fuel levels to a minimum. This is done by keeping the power line area free of trees, and by keeping the grass in the area short.

(n) **details of the processes and procedures by which the specified operator will—**

- (i) monitor the implementation of the bushfire mitigation plan; and
- (ii) audit the implementation of the plan; and
- (iii) identify any deficiencies in the plan or the plan's implementation; and
- (iv) change the plan and the plan's implementation to rectify any deficiencies identified under subparagraph (iii); and
- (v) monitor the effectiveness of inspections carried out under the plan; and
- (vi) audit the effectiveness of inspections carried out under the plan;

Implementation of the Plan and audit the implementation of the plan:

Maintenance activities within the Maryvale Mill are managed using a Computerised Maintenance Management System (CMMS). The inspections required in this plan have been included as Programmed Maintenance (PM) tasks in the CMMS, which will trigger Work Orders for the Central E/I Workshop to undertake the inspections at the required intervals. Any un-actioned Work Orders generated from PM tasks are noted in computer generated reports sent weekly to the Central E/I Workshop Superintendent and Leading Hand. This ensures that the inspections are carried out when required. These are audited annually in March as part of the review of the Maryvale Mill HV Line Clearance Management Plan (Document MA-MP-3116.028), with the audit results captured in section 8 of the HV Line Clearance Management Plan. This was last audited on 20/03/2016, and found to be fully compliant.

Effectiveness of the Plan and identify any deficiencies in the plan's implementation:

Both the HV Line Clearance Management Plan and the HV Line Bushfire Mitigation Plan are reviewed annually by the Electrical & Automation Manager to ensure that they cover the entire installation at the Australian Paper Maryvale Mill, and that they are being implemented effectively by the Central Workshops EI maintenance team.

Improvements to the Plan:

As part of the annual reviews of the HV Line Clearance Management Plan and the HV Line Bushfire Mitigation Plan by the Electrical & Automation Manager, any deficiencies are addressed and improvements are captured and incorporated. As per the document management procedures at the Australian Paper Maryvale Mill, all changes are highlighted in Pink Text. These are then captured in a centralised electronic document control system, and approved for use by the Specialist HV Engineer / Senior Electrical Supervisory Officer prior to being published. The HV Line Bushfire Mitigation Plan is then forwarded to Energy Safe Victoria for approval.

Effectiveness of Inspections as part of the Plan and audit the effectiveness of inspections carried out under the plan:

	<p>The 3-yearly inspections undertaken by an external contracted Asset Inspector will provide an indication of the effectiveness of the annual inspections performed by Mill personnel. If reporting from the 3-yearly inspections indicates a high level of undetected maintenance issues, the implementation of the annual inspections will be reviewed and improved.</p> <p>The effectiveness of the 3-yearly inspections shall be monitored by a review of the inspection reports by the (Maryvale Mill) HV Specialist Engineer, to verify that a sufficient level of inspection and fault detection has been achieved.</p>
<p>(o) The policy of the specified operator in relation to the assistance to be provided to fire control authorities in the investigation of fires near the specified operator's at-risk electric lines.</p>	<p>Generally, Australian Paper Maryvale Mill will deal with any fires on site with our own CFA-affiliated Fire Brigade resources. If required, additional support from surrounding CFA units will be called on to manage a fire.</p> <p>The relationship between the Maryvale Mill fire brigade and the surrounding CFA fire brigades is very good, with the Maryvale Mill CFA-affiliated Fire Brigade resources being available to assist the CFA to control bushfires in the local area, provided they are not required to be on hand for a fire at or close to the Maryvale Mill.</p> <p>In the unlikely event of a fire starting in the vicinity of the Australian Paper Maryvale Mills at-risk electric lines, Australian Paper will assist and fully cooperate with the fire control authorities in the investigation of the possible causes of the fire.</p>