



EnergyAustralia

EnergyAustralia Yallourn

Electricity Safety (Electric Line Clearance) Plan 2021/2022

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VERSION HISTORY

Version	Date	Author	Reason
1.0	March 2011	Paul Metlikovec	Initial Issue
2.0	March 2011	Otto Stumpf / David Wykes	Annual Review
2.1	September 2012	Jacinta Beange	Corporate Re-brand / Organisational Changes
2.2	March 2014	Rachel Alexander	YMA Management System document number changes
3.0	June 2014	Otto Stumpf	Purpose & Scope added, Electrical Line Clearance Plan updated to reflect changes in the Bushfire Mitigation Plan, additional clauses added
4.0	May 2015	Otto Stumpf	Periodic Review and updated plan
5.0	March 2016	Otto Stumpf	Periodic Review and updated plan
6.0	May 2017	Otto Stumpf	Periodic Review; Updated several clauses to comply with the Electrical Line Clearance Regulation 2016; updated telephone numbers, added new photo. Minor changes made to clauses 5.2,5.3 and 5.4 after the review
7.0	March 2019	Otto Stumpf	Periodic Review & internal audit;
7.1	Dec 2019	Brad Miller	Revision to address feedback comments from ESV
7.2	March 2020	Brad Miller	Revision to address feedback comments from ESV
7.3	July 2020	Brad Miller	Revision to address feedback comments from ESV
8.0	Sept 2020	Brad Miller	2020/2021 Plan preparation
9.0	March 2021	Brad Miller	Periodic review and updated plan

AMENDMENTS IN THIS VERSION

No.	Amendment Summary	Amended By
Version 9.0		
1.	Update references to Electricity Safety (Electric Line Clearance) Regulations 2020	Brad Miller
2.	Delete reference to hardcopy of the plan being available on site which is no longer required by the regulation	Brad Miller
3.	Update Appendix 5 cross reference table to align with revised numbering of 2020 regulation	Brad Miller
4.	Update site plan to remove AusNet assets and change title to 2021/2022	Brad Miller

PURPOSE & SCOPE

WHAT	<p>The objective of the Electric Line Clearance Plan is to ensure that there are procedures and processes at the Yallourn site to comply with the Electricity Safety (Electric Line Clearance) Regulation.</p> <p>The procedures define the practises for the management of cutting trees in the vicinity of electric lines, minimises the danger of electric lines causing fire or electrocution and the maintenance of electric lines.</p> <p>The Electric Line Clearance Plan is interlinked with the Bushfire Mitigation Plan and must be monitored and audited each year to identify any deficiencies in the plan and updated before 31 March each year. It must be available upon request from Energy Safe Victoria.</p>
WHEN	This procedure is to be utilised when vegetation needs to be cleared from the sites overhead lines
WHO	This procedure shall be followed by all responsible personnel who implement the Electric Line Clearance Plan and the nominated responsible officer who audits the plan.
WHY	This procedure has been developed to comply with the Electricity Safety (Electric Line Clearance) Regulation.

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1 Preparation of Management Plan

Specified Operator	EnergyAustralia Yallourn Pty. Ltd
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Person Responsible for Plan Preparation	Brad Miller
Position	Risk & Compliance Specialist EnergyAustralia Yallourn
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Postal Address	PO Box 444, Moe, Victoria, 3825
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Person Responsible for Plan Implementation	David Wykes
Position	Electrical Engineer
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Postal Address	PO Box 444 Moe Victoria, 3825
Telephone	03 5128 2357

Emergency Tree Clearance for Immediate Action	For after hours - Ventia Maintenance Contact Officer (Phone number updated weekly - refer to Mine Shift Supervisor 0418 583 008)
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2 Objectives of the Plan

The Energy Australia Yallourn Electricity Safety (Electric Line Clearance) Plan provides a set of instructions that is integrated with the Bushfire Mitigation Plan, site procedures for the Mine, Power Station and Estate Services to manage the safe removal of vegetation in the vicinity of electric lines and minimize the danger of electric lines causing fire or electrocution. The plan ensures security of supply and maintains a safe working environment for employees.

The objectives of the Plan are to:

- fully comply with the Electricity Safety (electric line clearance) regulations
- maintain a program of asset inspections consistent with the assessed level of risk
- manage vegetation fuel loads and Electric line clearances in a timely manner to maximise environment and amenity, for minimum fire risk consistent with relevant standards and regulation
- protection of areas of important vegetation
- ensure reliability of supply
- ensure public and workplace safety
- maintain community satisfaction
- assess the performance of programs supporting this plan and strive for continual improvement

Electronic copies of the Yallourn Electric Line Clearance plan can be found on the EnergyAustralia website:

<https://www.energyaustralia.com.au/document/electric-line-clearance-plan>

3 Site Map

The site plan shown in Appendix 1 - Site Plan shows the overall area of the Yallourn site. CFA have classified the area surrounding the Yallourn site as a High Bushfire Risk Area (HRBA). The current CFA rating is confirmed annually during the plan preparation.

The Mine is a dynamic operation and the overhead lines are re-routed as required to meet mining requirements. Single line drawings and layout drawings are continually updated to record the overhead lines on site. The overhead lines shown in the site plan are the general position of the overhead lines on the site. The current overhead layout drawings are available to Energy Safe Victoria upon request.

As indigenous vegetation regrowth can occur anywhere on site, all areas where overhead lines are situated can be considered as areas where indigenous tree removal can occur. All electric line clearance work completed under this procedure is on Energy Australia Yallourn land, therefore notification and consultation is not required.

Non EnergyAustralia Overhead Lines

On the Yallourn site, there are overhead lines owned and managed by others, typically Ausnet Services power lines. The Ausnet Services power lines are located on easements on the site and are clearly marked in the site drawings. These lines are managed by Ausnet and are not included in the EnergyAustralia Yallourn Electricity Safety (Electric Line Clearance) Plan. Ausnet Services will coordinate the cutting of trees with Estate Services for any overhead lines.

4 Management of Indigenous and Significant Tree

On the EnergyAustralia Yallourn Site, indigenous vegetation is protected under various state and commonwealth legislation. Dedicated conservation areas have been created to allow indigenous vegetation to prosper. Trees that have significance for a cultural, environmental, historical and ecological purpose have been identified and managed in accordance with the site's Conservation Management Plan and the Environmental Management Plan.

Standard Operating Procedure (SHEMS10-SHE-P001) "Removal of Vegetation on the EnergyAustralia Yallourn Site" considers where an exemption applies and indigenous vegetation can be removed. In such times, consultation with the Mine Environmental Engineer, or delegate, is required. The Vegetation Removal Approval Form (SHEMS10-SHE-P001-F01) encompasses the need for tree identification for vegetation removal. Indigenous tree identification is a specialist task. Competent contractors identify indigenous vegetation and in consultation with the Site Environmental Engineer determine the requirement and actions to meet the Plans.

All trees of cultural or environmental significance are identified and included in the GIS process (Geographic Information System). This process is managed by the Mine Environmental Engineer.

5 Vegetation Management and Minimum Tree Clearance Space

The nature of the Yallourn site allows compliance with Code of Practice minimum clearance space to be met by providing a clearance corridor along the path of all overhead powerlines. The corridor extends five metres either side of all powerlines and any vegetation within the corridor is kept below 1 metre in height. These requirements along with instructions for maintenance of trees adjacent to the corridor are explained in further detail in procedure *YMA-OPS-PR-0374 - Management of HV & LV Overhead Distribution System*, included as an appendix to this plan.

Management of Vegetation near Power Lines

The Team Electrical Engineer (Mine) will be responsible for the management of vegetation near power lines on the Yallourn site. The performance measures to assess against the code compliance in the Regulation will be;

- Preparation of the Electric Line Clearance Plan by 31st March each year
- Implementation of the Electric Line Clearance Plan
- Full implementation of the inspection routine
- Number of defects raised for clearance of vegetation near power lines

Management of Overhead Lines

The management of the site's high and low voltage overhead reticulation system is described in the Mine document *YMA-OPS-PR-0374 - Management of HV & LV Overhead Distribution System*. This document covers the design, maintenance, inspection and operation of HV and LV overhead lines on the site. The document also includes a section on vegetation control, inspections and minimum clearance space and vegetation management methods to maintain adequate clearance for overhead lines. The minimum clearance spaces specified within the procedure are developed with reference to the Code of Practice for Electric Line Clearance.

Below is an extract from the Management of LV & HV Overhead Distribution System procedure, describing the process for removal of vegetation and the required minimum clearance spaces:

5.1 VEGETATION CONTROL

5.1.1 Clearance Space

Clearance space is a space surrounding an electric line which must be clear of vegetation. It is also the space parallel to each conductor that must be clear. The clearance varies with the type of electric line installed and the risk of ignition of fire at that location.

Vegetation inspection must be completed and vegetation reduction completed prior to the commencement of the fire season each year.

The clearance space provided in table 1, below, does not include the additional space required to allow for sag and sway of the conductor.

All low voltage overhead lines must comply with the clearance requirements set out in table 3.8 of the Australian/NZ wiring regulations AS/NZ 3000.

Clearance Spaces					
	1	2	3	4	5
Type of Powerline	Spans up to and including 30 meters Selection of spans near the pole	Spans exceeding 30 meters and up to and including 45 meters	Spans exceeding 45 meters and up to and including 70 meters	Spans exceeding 70 meters and up to and including 350 meters	Spans exceeding 350 meters
Nominal Voltage:	In all Directions (Vertically above the line)				
Bared and Covered Low Voltage	2m	2m	5m	5m	5m
6.6kV and 22kV	5m	5m	5m	5m	5m

Table 1 - Hazardous Bushfire Risk Areas

NOTE: The space vertically above the powerline must be kept clear of vegetation.

An additional distance must be added to the clearance space to allow for the sag and away of the conductors and for vegetation regrowth during the period between pruning times.

Victoria has one of the most hazardous bushfire areas in the world. In areas where the Hazardous Bushfire Risk rating is applied, the clearance space surrounding the powerline as defined in Table 1 must be applied.

If further clarification is required consult the Electric line Clearance Regulations 2015.

6 Code of Practice Alternative Compliance Mechanisms

EnergyAustralia does not intend to seek exemption or utilise any of the alternative compliance mechanisms.

7 Performance Measures & Auditing

The Electricity Safety (Electric Line Clearance) Plan will be reviewed annually in March by an internal auditor and updated to reflect any changes in the regulations and any continuous improvement opportunities. A review will be carried out to assess the implementation of the plan against the defined objectives and the compliance against the regulation.

The review will be initiated by a preventative maintenance routine in Maximo, MELECP423E.

Whilst vegetation management works are in progress regular workplace audits will be conducted in the field to monitor performance with regard to safety, code compliance and quality. Further detail of the scope of these audits are included in **Appendix 2 - Management of HV & LV Overhead Distribution System**. The YMA Job Safety Observation proforma included in Appendix 3 - Job Safety Observation proforma will be used to for audits of safe work practices.

Post work inspections will be completed to verify that the line clearance requirements have been met. Where the vegetation clearance work is not satisfactory or the required clearance has not been achieved rectifications works will subsequently be arranged.

The Team Engineer Electrical (Mine) will communicate with vegetation clearing personnel to specify the extent of pruning required and receive feedback to monitor progress of the program of works.

8 Qualifications

All personnel clearing vegetation near overhead lines will be engaged or under the control of representatives from EnergyAustralia. Within the mine area this is managed via the procedure [YMA-H&S-PR-0505 Contractor Safety Management](#) which describes the procedures for ensuring contractors have the required qualifications and competencies to safely work on site. Anybody found to be completing work without the appropriate training or qualification will be instructed to stop work immediately whilst the situation is investigated and the appropriate corrective action is taken.

Qualified personnel engaged in tree/vegetation clearing activities must comply with the Electricity Safety (Installations) Regulations, the Blue Book, site procedures and be assessed competent for the removal of vegetation. They must have a safe work method statement and job safety assessment completed prior to commencing work on clearing vegetation on or near live overhead power lines. Cutting of trees must be done, as far as practical, in accordance with AS 4373 and the Code of Practice for Electric Line Clearance.

The Team Electrical Engineer (Mine) shall take into account the qualifications, experience of contractors/personnel and method for cutting the trees before authorising them to remove tree/vegetation near overhead lines. Authorised personnel contractors must be trained for safety rules (permit procedure for the Mine), Blue Book and hold a qualification in Certificate II in ESI Powerline Vegetation Control before any work is carried out. Further detail of the qualifications required for personnel performing vegetation control or tree pruning, line inspection or arborist services are provided within procedure *YMA-OPS-PR-0374 - Management of LV & HV Overhead Distribution System*.

All personnel working in the proximity of overhead lines shall understand the limits of approach and when required, apply the No Go Zones as defined in the Worksafe and ESV guidance note. Personnel shall also be appropriately trained and competent and where necessary have an electrical authorised spotter.

Vegetation control companies inspect overhead conductors on a twice-yearly basis and clear any vegetation approaching the minimum distances. Should any vegetation breach the minimum distances or contact the conductors then the line will be isolated, and work carried out under permit conditions.

Any consultation, notifications or dispute resolutions will be managed by the Mine Team Electrical Engineer

Training requirements are managed in accordance with procedure *YMA-OPS-PR-0401 Training Competency and Authorisations* which details the systems in place for Yallourn Mine to manage training requirements for designated roles, management of training records and refresher training.

9 Notification & Consultation

All overhead lines are located on private property and not subject to public or community access hence there is currently no requirement for public notification or consultation.

10 Sag & Sway Consideration

The majority of overhead lines are in non-vegetated area's. Where overhead lines do span above vegetation the sway and sag allowance is accounted for in the design of the overhead line and the minimum clearance space is nominated to ensure compliance with the Code of Practice for Electric Line Clearance. Further information including the calculation methods and systems and storage of design drawings and records is provided in Yallourn procedure Management of HV & LV Overhead Distribution System, included in Appendix 2.

11 Management of the Plan

The Electric Line Clearance Plan must be monitored and audited each year to identify any deficiencies in the plan and updated before 31 March each year. It must be available upon request from Energy Safe Victoria.

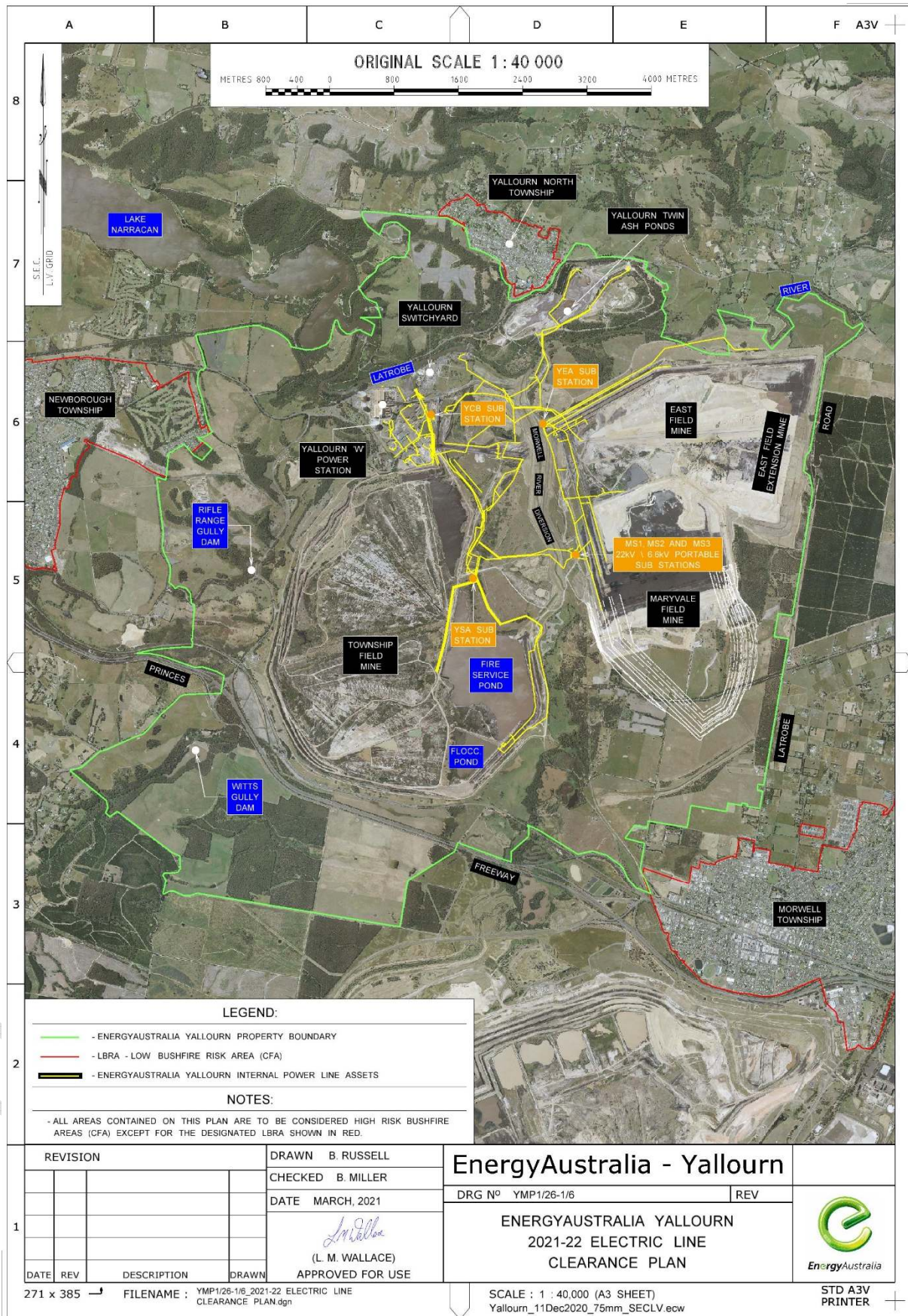
A Maximo PM has been established to initiate the annual review in March each year. This review will include an audit of the effectiveness of the plan for the previous twelve months and capture any improvements or updates. The revised plan will be circulated for approval and signature according to Yallourn's Document Approval procedure.

12 References

Document ID	Document Title
A1034223	SEMS11-ESV-P001 - Wildfire Risk Mitigation
A1039749	SEMS11-SHE-P015 - Management of the EnergyAustralia Yallourn Bushfire Mitigation Plan
A1065137	SEMS13-SHE-L04 - Mine Fire Control Management Plan (FCMP)
A1037878	SEMS10-SHE-P001 - Removal of Vegetation on the EnergyAustralia Yallourn Site
A1017664	SEMS12-SHE-L01 - Emergency Response Plan
A1034637	YMA-OPS-PR-0374 - Management of LV & HV Overhead Distribution System
A1034736	SEMS10-SHE-P001-F01 - Vegetation Removal Approval Form
A1072179	Conservation Management Plan (CMP) - Summary 2011 - May 2013
A1055081	Conservation Management Plan (CMP) Progress Report - Attachment 1 - Appendices - May 2013
A1052587	Conservation Management Plan (CMP) Progress Report - Attachment 2 - Maps - May 2013
A1030077	YMA-H&S-MP-003 - Environmental Management Plan
N/A	Electricity Safety Act 1998
N/A	Electricity Safety (Electric Line Clearance) Regulations 2020

13 Appendices

Appendix 1 - Site Plan



Appendix 2 - Management of HV & LV Overhead Distribution System

YMA-OPS-PR-0374 – Management of HV and LV Overhead Distribution System, [A1034637](#)

Appendix 3 - Job Safety Observation proforma

YMA-OPS-FO-0311 – YMA Job Safety Observation Form, [A1033916](#)

Appendix 4 - Contractor Safety Management

YMA-H&S-PR-0505 – Contractor Safety Management, [A1042632](#)

Appendix 5 - cross reference to the Electricity Safety (Electric Line Clearance) Regulations 2020

EA Yallourn Line Clearance Plan cross reference to the regulation		
Regulation reference number	Prescribed particulars for Electric Line Clearance plans—specified operators - Regulation	Yallourn ELCMP Section:
	9 Preparation and submission of management plans	
(1)	This regulation does not apply to a responsible person referred to in section 84A or 84B of the Act.	N/A
(2)	A responsible person that is not a major electricity company, before 31 March in each year, must prepare a management plan relating to compliance with the Code for the next financial year.	11
(4)	A responsible person must ensure that a management plan prepared under subregulation (2) or (3) specifies the following—	
(a)	the name, address and telephone number of the responsible person;	1
(b)	the name, position, address and telephone number of the individual who was responsible for the preparation of the management plan;	1
(c)	the name, position, address and telephone number of the persons who are responsible for carrying out the management plan;	1
(d)	the telephone number of a person who can be contacted in an emergency that requires clearance of a tree from an electric line that the responsible person is required to keep clear of trees;	1
(e)	the objectives of the management plan;	2
(f)	the land to which the management plan applies (as indicated on a map);	13
(g)	any hazardous bushfire risk areas and low bushfire risk areas in the land referred to in paragraph (f) (as indicated on the map)	Appendix 1
(h)	each area that the responsible person knows contains a tree that the responsible person may need to cut or remove to ensure compliance with the Code and that is—	
(i)	indigenous to Victoria; or	4
(ii)	listed in a planning scheme to be of ecological, historical or aesthetic significance; or	4
(iii)	a tree of cultural or environmental significance;	4
(i)	the means which the responsible person is required to use to identify a tree of a kind specified in paragraph (h)(i), (ii) or (iii);	4
(j)	the management procedures that the responsible person is required to adopt to ensure compliance with the Code, which—	
(i)	must include details of the methods to be adopted for managing trees and maintaining a minimum clearance space as required by the Code; and	4
(ii)	for the purposes of determining a minimum clearance space in accordance with Division 1 of Part 3 of the Code –	4

EA Yallourn Line Clearance Plan cross reference to the regulation		
Regulation reference number	Prescribed particulars for Electric Line Clearance plans—specified operators - Regulation	Yallourn ELCMP Section:
	(A) must specify the method for determining an additional distance that allows for conductor sag and sway; and (B) may provide for different additional distances to be determined for different parts of an electric line span;	
(k)	the procedures to be adopted if it is not practicable to comply with the requirements of AS 4373 while cutting a tree in accordance with the Code;	4
(l)	a description of each alternative compliance mechanism in respect of which the responsible person has applied, or proposes to apply, for approval under clause 31 of the Code;	6
(m)	the details of each approval for an alternative compliance mechanism that—	
(i)	the responsible person holds; and	6
(ii)	is in effect;	6
(n)	a description of the measures that must be used to assess the performance of the responsible person under the management plan;	7
(o)	details of the audit processes that must be used to determine the responsible person's compliance with the Code;	7
(p)	the qualifications and experience that the responsible person must require of the persons who are to carry out the inspection, cutting or removal of trees in accordance with the Code and the Electricity Safety (General) Regulations 2019;	8
(q)	notification and consultation procedures, including the form of the notice to be given in accordance with Division 3 of Part 2 of the Code;	4.1
(r)	a procedure for the independent resolution of disputes relating to electric line clearance	8
(s)	If Energy Safe Victoria has granted an exemption under regulation 11 relating to a requirement of the Code, details of the exemption or a copy of the exemption	6