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PORTLAND SMELTER SERVICES PTY LTD (INCORPORATED. IN VICTORIA)

TRADING AS **PORTLAND ALUMINIUM**

ACN 006306752

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# BUSHFIRE MITIGATION PLAN

## 2024-2025

Rev C.

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## PREFACE

This document is a combined Bushfire Mitigation and Line Clearance plan for 2024-2025.

PORTLANDS ALUMINIUM, has separated Bushfire Mitigation plans and Line Clearance Plans into separate documents in line with the Electrical Safety (Bushfire Mitigation) Regulation 2023 ver 001.

The document is available for inspection at Alcoa's Portland Aluminium Smelter, Quarry Road, Portland, Victoria, 3305, during office hours, 08:00 – 16:00 weekdays and on the Alcoa's website; [www.alcoa.com.au](http://www.alcoa.com.au)

This document has been authorised for submission to Energy Safe Vitoria on behalf of ALCOA of AUSTRALIA LIMITED by.

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Authorisation Date: 11/10/2024

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# PRESCRIBED PARTICULARS FOR BUSHFIRE MITIGATION PLANS — SPECIFIED OPERATORS

## (A) THE SPECIFIED OPERATOR

PORTLAND ALUMINIUM,  
Postal Address  
Locked Bag 1, PORTLAND, VIC 3305.

Location address  
Quarry Road, PORTLAND, VIC 3305

Telephone  
(03) 55215420

## MANAGEMENT STRUCTURE

A description of the Management and Ownership structure of the Facilities is as follows:

ALCOA of AUSTRALIA LIMITED will herein be referred to as the respective site name – “Portland Aluminium.”

The Portland Aluminium Smelter Facility is owned as a Joint Venture between:

- ALCOA of AUSTRALIA LIMITED,
- MARUBENI ALUMINIUM AUSTRALIA PTY LTD.,
- CITIC NOMINEES PTY. LTD.,

It is managed and operated on behalf of the owners by ALCOA PORTLAND ALUMINIUM PTY. LTD., a wholly owned subsidiary of ALCOA of AUSTRALIA LIMITED. ALCOA PORTLAND ALUMINIUM PTY LTD. trades as PORTLAND ALUMINIUM. Where site-specific detail is provided, it will be referred to as “Portland Aluminium.”

(B) THE RESPONSIBLE PERSON AND THE PERSON RESPONSIBLE FOR THE PREPARATION OF THE PLAN

Mr. Stuart Richardson,  
Power Systems Manufacturing Coordinator, Portland Aluminium Smelter  
Locked Bag 1,  
PORTLAND,  
VICTORIA 3305  
(03) 55215313  
0409 232151  
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(C) THE PERSON RESPONSIBLE FOR CONDUCTING THE PLAN

MS Jamie Delgado,  
Power Systems Supervisor, Portland Aluminium Smelter  
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(03) 55215378  
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(D) CONTROL ROOM CONTACTS

The Control room is not continuously staffed (the Operators perform other duties as their primary role).

Contact can be made via the Site Plant Protection Office on (03) 55215420 and asking to speak to the Switchyard.  
After Hours contact is via the same number and asking to speak to the Duty HV Operator.

There is no dedicated email address for the control room.

## (E) BUSHFIRE MITIGATION POLICY

It is Portland Aluminium's policy to operate in a safe, responsible manner which respects the environment and the health of our employees, our customers and the communities in which we operate. We will not compromise environmental, health or safety values for profit or production.

In relationship to Bushfire Mitigation, Portland Aluminium will maintain its Electricity Aerial lines and Vegetation clearances in a condition such these present a minimum as practicable risk for bushfire initiation.

## (F) THE PLAN TO ACHIEVE THE MITIGATION OF BUSHFIRE DANGER

### PORTLAND ALUMINIUM ELECTRIC LINES - 22 kV DISTRIBUTION SYSTEM

#### GENERAL INFORMATION

The Portland Aluminium Distribution HV lines operate at 22 kV and supply auxiliary power to the Smelter and Ship Unloader (located within the Port of Portland Wharf precinct). The lines are fed from the 220/22 kV "L" Transformers and distribution racks in the Portland switchyard. The circuits are earth fault current limited by earth resistors, and overload protection by powder filled fuses.

The Portland 22kV distribution system outside the main switchyard is fully insulated in construction, all cables are fully insulated with earth screens and /or armour, all transformers are fully enclosed and all switchgear is fully enclosed.

The HV cables are buried underground or alternatively supported on cables trays or catenary wires supported by 59 wooden poles. The wooden poles were installed in 1985 during site construction works.

In relation to the attached Pole locations map: -

Poles 1 – 21 have a cable span of 110 metres.

Poles 20 – 21A have a cable span of 12 metres.

Poles 22 – 32 have a cable span of 80 metres.

Poles 33 – 35 have a cable span of 16 metres.

Poles 36 – 40 have a cable span of 30 metres.

Poles 42 – 43 have a cable span of 16 metres.

Poles 52 – 52A have a cable span of 8 metres (disconnected from supply).

All other poles have a cable span of <8metres from Pole to Transformer Airbox.

The 22kV Distribution system insulated cables are AL EPR 1C/50SQ and AL EPR 3C/70SQ PVC.

As such the only part of the system considered to be "aerial lines" are the sections of cables supported by catenary wires supported by wooden poles.

An active program is in place to ensure the distribution feeder lines are maintained such that it presents minimal risk to personnel and to prevent bushfire initiation. As illustrated by the photograph in Appendix C: Referenced Photographs of Portland Aerials Lines there is no vegetation that presents a risk to the aerial lines.

## THE MAINTENANCE OF THE PLANT DISTRIBUTION SYSTEM

The Plant Feeders are currently maintained by a combination of Portland Aluminium electricians and embedded Electrical Contractor (Keppel Prince). The 22kV Distribution system is inspected a minimum of 2 times a year, for structural and hardware integrity,

Replacement of assets occurs once identified via condition assessment inspections.

Wherever practicable non-High-risk issues will be scheduled via our onsite Maintenance Planning processes to maximise external contracted resources and limit production impacts.

### RISK MITIGATION TECHNIQUES.

#### PREVENTION OF FIRES FROM POLE FAILURES

All poles, concrete or wooden, supporting the plant feeders, are inspected on a 3-year cycle by a qualified pole inspector, who services are supplied by Elecnor australia/Timco (or instructed subcontractor).

This meets the requirement of less than 37 months listed in the regulations.

#### PREVENTION OF FIRES FROM LINE HARDWARE FAILURE

As a minimum, the line hardware including catenary cables, and cable support hardware is inspected and maintained by Portland Aluminium Electricians. Significant repairs/replacement work is awarded to Contracted parties via a tender or quotation process relevant at the time.

The use of linesmen trained to 22109VIC Certificate II in Asset Inspection or UET20612 – Certificate II in ESI – Asset Inspection are used to perform these inspections is considered inappropriate as the construction method is vastly different from conventional distribution power line construction.

Transformers and associated switchgear and fuses are inspected and maintained by Portland Aluminium Electricians.

#### PREVENTION OF FIRES FROM CONDUCTOR FAILURE

Due to the design and layout of the 22kV Distribution system the likelihood of bushfire initiation from conductor failure is remote. Thermographic inspections are undertaken twice yearly to locate any “hot joints” for the cable connections and switchgear within the switchyard where open construction is used.

#### PREVENTION OF FIRES FROM VEGETATION IMPACT

There is no large-scale vegetation planted within any area that is likely to any impact on the insulated cables and as such the likelihood of bushfire initiation the distribution system is remote. See photographs in Appendix C

#### PORTLAND ALUMINIUM - EXPOSED 500 kV AND 220 kV BUSBARS AND INCOMING LINES

The Exposed 500 kV and 220 kV busbars are contained in switchyard, an area kept free of vegetation except some ornamental beds along the access roads. The rest of the area is either paved or covered by blue metal to reduce step and touch potential.

Routine maintenance is performed and protection maintenance complies with the NER.

This area is of extremely low fire risk. See photographs in Appendix C: Referenced Photographs of Portland Aerials Lines

The incoming 500 kV lines pass through Portland Aluminium land (referred to as Farmland) and are operated/managed by Ausnet Services until inside the Portland Aluminium’s switchyard.

Farmland 500kV asset management is deemed as no different to other properties with transmission lines passing through and is covered by Ausnet’s Bushfire Mitigation Plan BFM 10-01.



(G) PLANS OF THE LAND TO WHICH THE BUSHFIRE MITIGATION PLAN APPLIES

PORTLAND ALUMINIUM DRAWINGS ATTACHED IN APPENDIX A: REFERENCED DRAWINGS

THE PORTLAND ALUMINIUM ELECTRIC LINES

- See Drawing Number B1-328000-040-PV
- Hazardous Bushfire Risk Areas (HBRA)
- Map Name, Shire, Distribution Company
  - Cape Nelson E1, Shire of Glenelg, Powercor.
  - Lawrence Rock A1, Shire of Glenelg, Powercor.

(H) PLAN FOR INSPECTION THAT ENSURES THAT ALL OF THE SPECIFIED OPERATOR'S AT-RISK LINES ARE INSPECTED

2021

- 22kV Pole Caps replaced following previous audit (WO4309290).
- The six-monthly inspection of the 22kV poles and associated hardware was performed in June and December.
- Coastal Wattle clearing completed August (WO4787820) following 6 monthly audit.
- 22kV Cat Wires, Supports and pole inspections completed December.

2022

- Two six-monthly inspections of the 22kV poles and associated hardware were performed (May and December).

2023

- Two six-monthly inspections of the 22kV poles and associated hardware were performed (June and December).

2024

- 3 Yearly wooden pole inspection and Testing conducted via Elecnor Australia/Timco 12<sup>th</sup> – 15<sup>th</sup> March 2024.
- A six-monthly inspection of the 22kV poles and associated hardware was completed in May with the second six-monthly inspection scheduled for October 2024.

THE PORTLAND ALUMINIUM ELECTRIC LINES

2024

Elecnor australia/Timco and its contractors have inspected all poles and hardware.

There is no vegetation situated near the aerial lines. As discussed earlier, these lines are insulated cables supported by steel catenary cables attached to poles. There are no bare aerial conductors outside the main switchyard.

Vegetation control work will include trimming or removal of trees encroaching on insulated cables when identified during scheduled inspections, routine spraying with herbicide in the switchyard to maintain the blue metal surface "weed free." Weed spraying works were completed in May 2024 and vegetation was removed under the 500 kV Ausnet Services lines inside the switchyard perimeter fence in 2019 and is treated annually to ensure it does not grow back.

(i) DETAILS OF THE PROCESSES AND PROCEDURES FOR ENSURING THAT ONLY PERSONS WHO HAVE SATISFACTORILY COMPLETED A TRAINING COURSE

To comply with the intent of the regulations, Portland Aluminium will use Elecnor and its subcontractors for Pole and hardware inspections. Linesmen trained to 22109VIC Certificate II in Asset Inspection or UET20612 – Certificate II in ESI – Asset Inspection Vegetation will be used.

Confirmation of competencies is achieved via the supply of current certification from Elecnor to Portland Aluminium during the work planning phase (traditionally 6 weeks prior to the planned inspection date).

Inspections and control on Portland Aluminium “Farmlands” is coordinated by Ausnet Services. These contractors are suitably trained having satisfactorily completed a training course approved by Energy Safe Victoria.

Portland Aluminium will supplement this work with its internal electrical work force to perform addition inspections.

Portland Aluminium uses Elecnor and its subcontractors to meet its obligation to use suitable trained personnel; however, the internal electrical workforce are trained electricians, many with long service with Portland Aluminium maintaining the Power Systems electrical assets including HV switchgear. The use of this labor provides additional skills and familiarity with the equipment that using Elecnor alone would not necessarily provide.

The Persons nominated for conducting the plan are Electrically qualified, either at degree or certificate trades level. They are also authorised HV operators and are associated with and /or responsible for HV maintenance activities and the authorisation of maintenance funds. They monitor the maintenance system to ensure that Elecnor and its subcontractors perform the appropriate inspections and tree clearance within the specified timelines. These tasks are also “mandated or regulatory tasks” within Portland Aluminium’s maintenance system and as such produce exceptions reports to high levels of management if the tasks are not completed as scheduled.

Tim Collis is Elecnor Australia/Timco’s supervision contact for the Portland Aluminium maintenance contract.

Portland Aluminium Power Systems employees perform spot audits to confirm Elecnor australia/Timco’s compliance of its maintenance obligations to Portland Aluminium.

No ESV exemption from this training standard has been applied for with ESV.

(j) Operation and maintenance plans for the specified operator's at-risk electric lines

OPERATIONS IN THE EVENT OF A FIRE

Portland Aluminium will continue to operate as normal, unless there is a specific request is received from Fire Rescue Victoria (FRV), Country Fire authority (CFA) or Ausnet Services’ Transmission Operations Centre to de-energise any of Ausnet Services 500kV lines.

Portland Aluminium would cooperate with the FRV/CFA, Ausnet Services Transmission Operations Centre or other emergency services in any future emergency.

Portland Aluminium restricts the entry of Firefighting agencies and its own on-site fire appliance and responders to its Switchyard by locked gates. Entry is not given until an Authorised HV Operator is in attendance and allows access.

In the event of fire emergency on site, FRV/CFA will be contacted in accordance with Portland Aluminium Emergency Plan 1.20. As per Victorian legislation under emergency conditions FRV/CFA do not need to be inducted. They will however be escorted at all times. Dependent on the nature of the fire FRV/CFA may take control of the situation from the Portland Aluminium plant emergency response team. FRV/CFA are provided with a hard copy of the Emergency Plan.

#### OPERATIONS DURING A TOTAL FIRE BAN

Portland Aluminium will continue to operate its lines as normal unless there is a specific request from the FRV/CFA or Ausnet Services Transmission Operations Centre to de-energise any of its lines. Both HYTS-APD 500kV transmission lines have auto reclose capability. In the advent of a protection trip, the lines would not be re-energised until a full patrol was conducted to ensure the lines had no visible damage. This patrol would be conducted by Ausnet Transmission Operations Centre engaged contractor(s).

Site rules do not allow Hot Work to be performed unless critical to safety and/or plant operations. Any such work is to be in accordance with the Schedule 40 Permit issued by the relevant fire Authority.

#### OPERATIONS DURING THE FIRE DANGER PERIOD.

Portland Aluminium will continue to operate its lines as normal unless there is a specific request from the FRV/CFA or Ausnet Services Transmission Operations Centre to de-energise any of its lines. See notes above re days of Total Fires Ban.

#### (K) THE INVESTIGATIONS, ANALYSIS AND METHODOLOGY TO BE ADOPTED BY THE SPECIFIED OPERATOR FOR THE PREVENTION OF FIRE IGNITION FROM ITS AT-RISK ELECTRIC LINES

Portland Aluminium is not aware of any fires initiated by any of its lines since 1980. It believes it is proactive with its sensitive protection settings for the 22kV Distribution system and for its maintenance program to ensure that its systems should not initiate any fires.

#### FOR THE PLANT DISTRIBUTION SYSTEM.

Portland Aluminium opted for insulated construction for its distribution system at design/construction stage.

#### (L) DETAILS OF THE PROCESSES AND PROCEDURES

##### MONITOR AND AUDIT THE IMPLEMENTATION OF THE BUSHFIRE MITIGATION PLAN

The nominated responsible person will audit that the mandated three yearly inspection is budgeted and performed as required by this plan.

Portland Aluminium's CMMS classifies Legislated and Alcoa internal Standards related inspections as "Mandatory" for the work type. This work cannot be deferred without Site Manager written approval. Weekly work completion or performance review also requires recording of the approval and a new reset timeline for completion.

##### IDENTIFY ANY DEFICIENCIES IN THE PLAN OR THE PLAN'S IMPLEMENTATION

See Monitor and audit the implementation of the bushfire mitigation plan, above.

##### MONITOR AND AUDIT THE EFFECTIVENESS OF INSPECTIONS CONDUCTED UNDER THE PLAN

Portland Aluminium reviews its plans as a minimum every 3 years, but generally yearly via the results of the findings for the inspection programs, audits and any incidents.

All follow up work is managed via Work Order in the site CMMS. Where practicable all findings of a High are rectified at the earliest opportunity. The inspection findings are entered into the CMMS with the rating used to determine priority work for Maintenance activities via Work Orders:

Level 1 (HIGH) being for work requiring action within 3 months.

Level 2 (MEDIUM) being for work requiring action within 6 months.

Level 3 (LOW) being for work requiring action within 12 months.

At times, factors such as the complexity of 24/7 Plant Operations, availability of external specialist resources (line workers), registration as contracted suppliers (line workers) etc. the scheduling of work may result in extended timeframes.

The responsible person for monitoring the effectiveness of the inspections is.

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#### IMPROVE THE PLAN AND THE PLAN'S IMPLEMENTATION IF ANY DEFICIENCIES ARE IDENTIFIED

Portland Aluminium's responsible person (listed above) shall ensure that the Bushfire Mitigation Plan 2024-2025 Rev B is changed and that the plan's implementation reflects any deficiencies identified.

#### ENSURE THAT ANY TRAINING NECESSARY FOR PERSONS ASSIGNED TO PERFORM FUNCTIONS UNDER THE PLAN IS PROVIDED.

Portland Aluminium uses Elecnor and its subcontractor to meet its obligation to use suitable trained personnel.

#### MONITORING THE COMPETENCE OF THE PERSONS ASSIGNED TO CONDUCT THE INSPECTIONS UNDER THE PLAN

Portland Aluminium uses Elecnor and its subcontractors who are suitably trained to complete the mandated inspection work. Portland Aluminium relies on Elecnor and its subcontractor's exposure to issues within the broader industry for their expertise.

Each year, Portland Aluminium will seek from Elecnor a statement that its linesmen, subcontract poles and line inspectors, and vegetation clearance inspectors and workers are appropriately trained having satisfactorily completed a training course approved by Energy Safe Victoria to meet the requirements of the Electricity Safety (Bushfire Mitigation) Regulations and Electricity safety (line Clearance) regulations. This will be monitored by spot audits to verify the statement.

#### QUALIFICATIONS.

##### 22 kV DISTRIBUTION SYSTEM AND AERIAL CABLES AT PORTLAND

The pole and line inspectors are qualified Cert II 22109VIC in Asset Inspection Lineworker with additional pole and hardware inspection qualifications.

Note: Electrical systems identification and powerline clearance requirements: Any employee required to perform vegetation clearing works near uninsulated overhead powerlines shall have satisfactorily completed a

training course approved by Energy Safe Victoria relating to tree clearing by non-electrical personnel (or equivalent)

THE PORTLAND ALUMINIUM ELECTRICIANS HAVE THE FOLLOWING QUALIFICATIONS.

“A” grade electrical licence.

HV Operator training (up to 500kV)

At Portland, several of the electricians have been employed for more than 10 years.

They are attached to the High Voltage group which maintains both the HV switchyard and plant 22 kV distribution cables including the aerial insulated cable system. They undertake inspections of the HV switchgear and transformers as part of a “Planned Maintenance activity” (PM) which includes a detail scope of work describing items of equipment and hardware to be inspected.

(M) THE COMPANY POLICY 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  
Portland Aluminium will cooperate with the FRV/CFA, and any other authority as required.

In particular, for tree cutting and removal along the HYTS-APD 500kV line easement, which passes through land currently leased for agricultural undertakings (farming), Portland Aluminium refers to Ausnet Services to manage the easement, with the obligation to ensure the easement is maintained to standards required by the Electricity Safety (Bushfire Mitigation) Regulations and the Electricity Safety (Electric Line Clearance) Regulations

DISPLAY OF PLAN

9 (9)

The document is available for inspection at Portland Aluminium Smelter's Reception desk, Quarry Road, Portland, Victoria, 3305, during office hours, 08:00 – 16:00 weekdays and on Alcoa's website: [www.alcoa.com.au](http://www.alcoa.com.au)

(N) EXEMPTIONS

Portland Aluminium has not applied for any exemptions from ESV in relation to the Portland Aluminium Bushfire Mitigation Plan 2024-2025 Rev B.

## APPENDICES

### APPENDIX A: REFERENCED DRAWINGS

#### THE PORTLAND ALUMINIUM ELECTRIC LINES



328000-040.pdf

### APPENDIX B: PORTLAND ALUMINIUM WOODEN POLE INSPECTION MSWI



Pole Inspection  
MSWI.pdf

### APPENDIX C: PORTLAND ALUMINIUM AERIAL LINES REFERENCE PHOTOGRAPHS

SEE PAGES 13 & 14

### APPENDIX D: ALS INDUSTRIAL SITE THERMOGRAPHIC REPORT – MARCH 2024



MA192402 Alcoa  
Site IRT March 2024.

### APPENDIX E: PORTLAND ALUMINIUM CMMS WORK ORDER HISTORY SCREENSHOT



Wooden Pole  
Inspections Work or

### APPENDIX F: 2024 ASSESSMENT REPORT



REPORT FOR  
PORTLAND Timco Tr

### APPENDIX G: 2024 ASSESSMENT CORRECTIVE ACTIONS



2024 assessment  
Corrective Actions sc

**APPENDIX C: REFERENCED PHOTOGRAPHS OF PORTLAND AERIALS LINES**



**PORTLAND MAIN SWITCHYARD ILLUSTRATING LACK OF SIGNIFICANT VEGETATION**



**PORTLAND 22kV AERIAL LINES SHOWING THE INSULATED CABLE CONSTRUCTION AND LACK OF SIGNIFICANT VEGETATION**