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Bushfire Mitigation Plan v5

AU-3008-OPS-PHA-EL-PLN-00001

23 June 2026

Documented Information			
Document Number	**AU-3008-OPS-PHA-EL-PLN-00001**	**Version Number**	**5**
Document Status	**Draft**	**Hierarchy Level**	**3**
Version Date	**23/06/26**	**Next Review Date**	**25/5/29**
Document Owner	**Yuriy Odarenko**	**Controlled Document (Y or N)**	**Y**
Document Approver	**Cesar Salvatierra**		

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1. Purpose

The purpose of this plan is to prepare and comply with the requirements to the Electricity Safety (Bushfire Mitigation) Regulation. This plan sets out the vision and actions in order to meet this regulation and is to be reviewed as required and submitted to ESV no later than 5 years after the acceptance date.

2. Definitions

For the purposes of this document, the following terms and definitions apply:

Term	Definition/Abbreviations
Authorised Person	A person with sufficient technical knowledge or experience and authorised by the HV Authority to perform tasks that ascertain to the HV plant under their letter of authorisation
CFA	Country Fire Authority
DFDP	A period of time in which the CFA declare to be a fire danger period undersection 4 of the Country Fire Authority Act 1958
ESV	Energy Safe Victoria
Pacific Blue	Trademark of Pacific Blue Australia
Pacific Blue Australia	Registered business name of Pacific Hydro Pty Ltd
Pacific Hydro Pty Ltd	Pacific Hydro Pty Ltd is a parent company of a group of Australian companies including, Pacific Hydro Challicum Hills Pty Ltd, Pacific Hydro Portland Wind Farm Pty Ltd, Pacific Hydro Crowlands Pty Ltd
PBA	Pacific Blue Australia

3. Document approval

Name / Originator	Title	Description	Date	Signature
Yuriy Odarenko	Senior Operations Engineer	Author	23/06/26	
Adrian Ciccocioppo	Production Manager	Reviewer	23/06/26	
Cesar Salvatierra	General Manager Generation, Safety & IT Management	Authoriser	23/06/26	

4. Applicable Sites

Portland Wind Farm

The land on which the three stages of Portland Wind Farm are established consists of a combination of grassed pastures and sand dune scrub and is used where possible for low density sheep and cattle grazing. There are trees within the boundaries of the wind farm however there are none in close proximity of the turbines or substations and all overhead lines are kept clear according to Electricity Safety (Electric Line Clearance) Regulations.

The farms associated overhead lines are located on both road reserve and public/private lands. The vegetation along the overhead lines is a mix of trees shrubs and low-lying grasses.

Pacific Blue Australia recognises that there are multiple electrical assets, not solely electric lines, located at the Portland Wind Farm where fire could originate from, including:

- The wind turbine nacelle,
- The (kiosk) Integrated Grid Connection Transformer and Switchgear adjacent to each wind turbine,
- The Cape Bridgewater (CBW), Cape Nelson North (CNN) and the Cape Nelson South (CNS) substations,
- The P3C and Cape Sir William Grant (CSWG) substations adjacent to the Alcoa Portland Aluminium Switchyard, and
- The 35km of (some single and double circuit) overhead line between the P3C, CBW, CNN, CNS and CSWG substations.

Challicum Hills Wind Farm

The land on which Challicum Hills Wind Farm and its associated overhead line is established consists of grassed pastures and is used predominantly for low density sheep and cattle grazing. There are trees within the boundaries of the wind farm however there are none in close proximity of the turbines or substations and all overhead lines are kept clear according to Electricity Safety (Electric Line Clearance) Regulations.

Pacific Blue Australia recognises that there are multiple electrical assets, not solely electric lines, located at the Challicum Hills Wind Farm where fire could originate from, including:

- The wind turbine nacelle,
- The Integrated Grid Connection Transformer and Switchgear inside each wind turbine,
- The Challicum Hills Wind Farm (CHWF) Main Substation,
- The Buangor (BGR) Switchyard, and
- The 5km of dual circuit 66kV overhead line between the CHWF Substation and BGR Switchyard.

Crowlands Wind Farm

The overhead lines pass through private land, leased by Pacific Blue Australia, predominantly used for low density grazing, cropping and includes a combination of ground cover (grasses) and

various maturity tree species including native Eucalyptus (Red Stringybark, Yellow Box, River Red-gum, Blue Gum, etc). There are also areas directly adjacent to the line used for cropping.

Pacific Blue Australia recognises that there are multiple electrical assets, not solely electric lines, located at the Crowlands Wind Farm where fire could originate from, including:

- The wind turbine nacelle,
- The (kiosk) Integrated Grid Connection Transformer and Switchgear adjacent to each wind turbine,
- The Crowlands substations,
- The 9.3km of internal overhead lines between Substation and turbine clusters.

5. At-Risk Electric Lines

Portland Electric Lines

There is approximately 35km's of 66kV overhead line that runs between the CBW, CNN and CNS substations to the P3C substation at Cape Sir William Grant whose performance and compliance is helped with the implementation of both this plan and AU-1000-OPS-PLN- 00005 Electric Line Clearance Management Plan. The overhead line assets are a combination of Pacific Hydro Portland Wind Farm Pty Ltd owned wood poles and shared Powercor owned wood poles, Steel Cross Arms, 66kV Insulators, Bare overhead conductor, Optical Fibre Cable and Ground Stays. Worley Power Services Pty Ltd has been engaged as the main Operations and Maintenance provider for the Wind Farm, including the electric line assets.

Challicum Hills Electric Lines

There is approximately 5km's of 66kV overhead line connecting the CHWF Main Substation to the Buangor Switchyard and is strictly managed by AU-1000-OPS-PLN- 00005 Electric Line Clearance Management Plan. Worley Power Services Pty Ltd has been engaged as the main Operations and Maintenance provider for the Wind Farm, including the electric line assets.

Crowlands Electric Lines

The internal overhead electric lines owned by Pacific Hydro Crowlands Pty Ltd are located immediately to the north of the 220kV Crowlands terminal station. They consist of steel pole, single and double circuit lines with a combined approximately length of 9.3 km and require vegetation management processes to maintain the clearance space around them. Worley Power Services Pty Ltd has been engaged as the main Operations and Maintenance provider for the Wind Farm, including the electric line assets.

6. Electricity Safety (Bushfire Mitigation) Regulations

Regulation 6 - Prescribed particulars for the bushfire mitigation plans – specified operators

Specified operator legal entity
The specified operator is Pacific Hydro Pty Ltd (ACN 057 279 508)

6.1 6(a) The name, address, and telephone number of the specified operator:

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6.8 6 (d) In case of an emergency contact should be made with:

In first instance to

Worley Control Room

Phone: 0400 317 129

Email: RMC.Sydney@Worley.com

or

24/7 Remote Operations Centre

Level 23, 111 Pacific Highway, North Sydney, NSW 2060, Australia

Phone: 02 9888 5855

Email: RMC.Sydney@Worley.com

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or

Powercor Control Room

1800 061 204

6.9 6(e) Policy

To mitigate as far as practicable the risk of fire starting from those at-risk assets that Pacific Hydro Portland Wind Farm Pty Ltd, Pacific Hydro Challicum Hills Pty Ltd and Pacific Hydro Crowlands Pty Ltd own.

6.10 6(f) Objective/s

This Plan in conjunction with the sites AU-1000-OPS-PLN- 00005 Electric Line Clearance Management Plan has been developed with the main objective to:

- identify possible ignition sources that could cause fire, and
- mitigate/reduce the likelihood and consequences of these through the implementation of effective preventative measures.

The plan is also intended to fulfil the Legislative and Regulatory requirements of the:

- Electricity Safety Act 1998, and
- Electricity Safety (Bushfire Mitigation) Regulations.

6.11 6(g) Maps/ Description

Summary of assets Table 1presents list of the assets to which this plan applies:

Table 1 Summary of assets

Line (feeder) denomination	Voltage (kV)	Number of spans	Length (m)	Insulated Conductor (Y/N)	Conductor details	Number of poles	Pole material	Year of construction
P3C to CNN to CBW	66	401[1]	29700[2]	N	Primary overhead conductor of P3C to CNN to CBW: Oxygen 19/4.75 AAC; Neon 19/3.75 AAC Primary overhead conductor of P3C to CNN: Oxygen 19/4.75 AAC; Neon 19/3.75 AAC	1-434	Wood Class II H5 CCA treated Blackbutt/Spotted Gum 12kN	2008
CNN to CNS	66	80	6081	N	Primary overhead conductor: Oxygen 19/4.75 AAC; Neon 19/3.75 AAC	1-81	Wood Class II H5 CCA treated Blackbutt/Spotted Gum 12kN	2009
CHWF to BGR	66	44	4926	N	Primary overhead conductor: Oxygen 19/4.75 AAC	1-45	Wood Class II H5 CCA treated Black Butt 12kN(2 Concrete)	2003
CRW fdr 1 + fdr 2	33	20[3]	4138[4]	N	Primary overhead conductor of fdr 1: Nobelium 37/3.25 AAAC; Phosphorus 37/3.75 AAAC Overhead earthing conductor: ZTT 13.9mm UGOH termination conductor: Raychem 36KV OXSU-F; ABB 36KV Kabeldon; 33KV 3 core Al XLPE PVC HDPE 400mm2 Circular Primary overhead conductor of fdr 2: Nobelium 37/3.25 AAAC; Phosphorus 37/3.75 AAAC Overhead earthing conductor: ZTT 13.9mm UGOH termination conductor: Raychem 36KV OXSU-F; ABB 36KV Kabeldon; 33KV 3 core Al XLPE PVC HDPE 400mm2 Circular	1-21	Galvanised Steel (600g/m^2) Class II Grade 250 plates and 300 for sections	2019
CRW fdr 3	33	21[5]	5180[6]	N	Primary overhead conductor of fdr 3:	22-43	Galvanised Steel	2019

[1] CNN - P3C use all 202 spans of the branch with dual circuit from the substation and CBW-CNN-P3C use 401 spans from the substation
[2] CNN - P3C cable length is all 9552 m of the branch with dual circuit from the substation and CBW-CNN-P3C cable length is 29700 m from the substation
[3] Fdr1 use all 20 spans of the branch and dual circuit length fdr2 use only 7 spans from the substation
[4] Fdr1 cable length is all 4138 m of the branch and dual circuit fdr2 cable length is 2432 m from the substation
[5] Fdr4 use all 21 spans of the branch and dual circuit with fdr3 use only 1 span from the substation
[6] Fdr4 cable length is all 5180 m of the branch and dual circuit with fdr3 cable length is 242 m from the substation

+ fdr 4					Nobelium 37/3.25 AAAC; Phosphorus 37/3.75 AAAC Overhead earthing conductor: ZTT 13.9mm UGOH termination conductor: Raychem 36KV OXSU-F; ABB 36KV Kabeldon; 33KV 3 core Al XLPE PVC HDPE 400mm2 Circular Primary overhead conductor of fdr 4: Nobelium 37/3.25 AAAC; Phosphorus 37/3.75 AAAC Overhead earthing conductor: ZTT 13.9mm UGOH termination conductor: Raychem 36KV OXSU-F; ABB 36KV Kabeldon; 33KV 3 core Al XLPE PVC HDPE 400mm2 Circular		(600g/m^2) Class II Grade 250 plates and 300 for sections	

Where the following is

P3C: Portland 3 Capes Substation

CBW: Cape Bridgewater Substation

CNN: Cape Nelson North Substation

CNS: Cape Nelson South Substation

CHWF: Challicum Hills Windfarm

BGR: Buangor Substation

CRW Fdr: Crowlands 33kV feeder

Refer to Appendices for the following maps of the land and location of at-risk electric lines

- Portland Wind Farm Overhead Line – Site Layout
- Cape Bridgewater Site Layout showing the location of the electric lines, CBW substation and the wind turbines
- Cape Nelson South Site Layout showing the location of the electric lines, CNS substation and the wind turbines
- Cape Nelson North Site Layout showing the location of the electric lines, CNN substation and the wind turbines
- Cape Sir William Grant Site Layout showing the location of the electric lines, CSWG substation and the wind turbines
- Challicum Hills Wind Farm Overhead Line – Site Layout (HBRA Classified)
- Crowlands Wind Farm showing the location of electric lines and poles - Site Layout (HBRA)

6.12 6(h & i) Preventative Strategies

In line with this plans objectives, the strategies adopted for the prevention of fire ignition from overhead lines are detailed in this section.

Scheduled 36 month Electric Line inspection The reports stemming from these inspections identify, code and prioritise defect/s and their rectification timings (refer to example report Appendix I and Figure 1 below).

Condition of the assessed Item	Priority allocation	Need to be actioned within
The item is assessed to pose an immediate supply reliability, fire or public safety risk	Priority 1	24 hours
The item is assessed as not an immediate supply reliability, fire or public risk, however is likely to become one within 42days to 2 years	Priority 42	42 days
The item is assessed as not an immediate supply reliability, fire or public risk, however is likely to become one within 2 years to 3 years	Priority 2	32 weeks
This item is not a priority 1, 42 or 2 but may require attention before the next inspection (>36 months or 3 years)	Priority 3	> 3years

Figure 1 Asset Defect Priority Rating and Rectification Timings

Note: all time periods mentioned in Figure 1are based on calendar days.

There can be 2-3 week delay between inspection and provision of report and associated recommendations.

If an asset is identified by as part of the inspection with deteriorating defects, however:

- they have not exceeded the criteria under sections (f) to (j) to trigger replacement, and/or
- the inspector expects that deterioration will cause the pole to have a 'limited life (L)' or to become 'unserviceable (U)', during the following scheduled inspection interval then an increased inspection/testing interval can either be:
    - specified as part of the scheduled inspection (and associated report), or
    - requested of the electric line specialised service provider by the responsible person for carrying out this plan,
    - to track further deterioration.

The priority that is assigned to a 'serviceable (S)', 'limited life' or 'unserviceable' pole is independent the assignment and should be linked back to the Inspectors assessment of the risk of failure within the timeframes referred to in Figure 1.

Any increased inspection interval will be calculated using previous deterioration information/rates, if available, from previous inspection results. If no historical deterioration information/rates are available, then the increased interval will default to annual, with the following:

- The Pacific Blue Australia AU-1000-OPS-PLN- 00005 Electric Line Clearance Management Plan details the annual vegetation inspection and clearance works for the overhead lines/spans. The reports stemming from these inspections identify, code and prioritise any applicable clearance work required around the electric lines. The rectification work and timing is programmed according to the codes/priorities stipulated in the reports (refer to example report Appendix H). Figure 1 outlines the different inspection/reporting codes and definitions. The timeline summary of the latest the annual vegetation inspections and clearance works for the overhead lines/spans is presented in Table 2.
- For asset inspection and assessment, PBA's AU-100-OPS-MAN-00002 Asset Inspection Manual (at risk overhead lines) will be used. This manual contains information about electrical assets and the standard for observation and or tests to identify and assess the condition. The timeline



summary of the latest the powerlines assets inspections within 36 months is presented in Table 2.

- Planned invasive inspections are to be conducted every 4 inspections (or 12 years). Below ground inspections of poles are conducted to determine the residual pole strength, identify drainage, moisture or rotting issues or the presence of termites. Drilling into wooden poles or NDT scan of wooden poles (Woodscan) is to be completed above ground and/or below in addition to the below ground inspection. The inspections are carried out by either the dig and drill method or where no-destructive testing is required than Woodscan (for wooden poles) may be used. The timeline summary of the latest poles inspections within 144 months is presented in Table 2. The list of outstanding maintenance items and list of outstanding tree clearing are supplied to ESV with the BMP.
- 36 month Visual Patrol of Electric Lines from the ground and (or) from drone utilising powered image stabilised binoculars and (or) digital SLR cameras for defects and potential failure points,
- Thermographic Patrols as required. This is an unplanned/non-routine task which will be largely dependent on the person responsible for carrying out the plan and if they deem necessary to carry out this action based on fault event logs and known Electric Line condition,
- Insulator washing as required. This is an unplanned/non-routine task which is dependent on the local conditions and subsequent impact of these on sections of the overhead lines, and,
- The auto reclose functionality is currently suppressed on the power lines and the lines are inspected prior to re-energising after faults.
- Any outstanding maintenance items will be rectified or reinspected prior rectification timings in latest powerline asset inspection report that mast be in accordance with Figure 1 Asset Defect Priority Rating and Rectification Timings
- Current replacement/modification programs are:
  - to replace defective assets based on priority stated in latest powerline asset inspection reports;
  - install powerline vibration dampers if the defect is identified to be related to high powerline vibration;
  - if defect has signs of conductor wear against insulator, the connection is cleaned and is greased with silicone grease for electrical insulation and part lubrication.

Worley are currently contracted as the 'specialised service provider' to perform the scheduled 36 month electric line inspection to procedures in PBA's AU-100-OPS-MAN-00002 Asset Inspection Manual (at risk overhead lines) and annual electric line vegetation inspection with any subsequent vegetation cutting/removal to be conducted prior to 1st December or the Declared Fire Danger Period (DFDP), http://www.cfa.vic.gov.au/warnings-restrictions/fire-restrictions-map/).

Table 2 *The timeline summary of the latest powerline inspections and the works*

Line (feeder) denomination	*the latest annual vegetation inspections*	*the latest annual vegetation clearance works*	*the latest the powerlines assets inspections within 36 months*	*the latest poles inspections within 144 months*
P3C to CBW	*14/10/2025*	*5/12/2025*	*10/11/2025*	*08/02/2023*
P3C to CNS	*14/10/2025*	*5/12/2025*	*10/11/2025*	*08/02/2023*
CHWF to BGR	*17/10/2025*	*6/11/2025*	*20/11/2023*	*16/12/2020*
CRW fdr 1	*16/10/2025*	*5/11/2025*	*22/11/2023*	*22/11/2023*
CRW fdr 2	*16/10/2025*	*5/11/2025*	*22/11/2023*	*22/11/2023*
CRW fdr 3	*16/10/2025*	*5/11/2025*	*22/11/2023*	*22/11/2023*
CRW fdr 4	*16/10/2025*	*5/11/2025*	*22/11/2023*	*22/11/2023*

6.13 6 (j) and (k) Qualifications, Experience and Competency of persons

PBA engages suitably qualified contractors to undertake maintenance activities on overhead powerlines covered by this plan.

The training, licences and qualifications of all maintenance personnel engaged to work on Pacific Blue electrical assets are assessed and verified against the minimum competency requirements approved by ESV and required experience. This ensures all personnel meet Victorian industry standards and, where applicable, the Australian Qualifications Framework (AQF) or equivalent requirements.

This at a minimum shall be UET20621 – Certificate II in Asset Inspection and testing or equivalent for Asset inspectors. Further this, personnel carrying out inspections will be inducted into AU-100-OPS-MAN-00002 Asset Inspection Manual (at risk overhead lines) prior to performing the task.

Contractors undertaking rectification works identified through inspection activities must, at a minimum, hold one of the following qualifications relevant to the work being performed:

Certificate III – Electrical Fitter

Lineworker (Distribution Overhead) Licence

Cable Jointer – ESI (Level 3)

Registered Electrical Contractor (REC) Licence

Contractors engaged to perform vegetation management activities in the vicinity of overhead powerlines must have training, licences and qualifications, as per current AU-1000-OPS-PLN- 00005

Electric Line Clearance Management Plan for their roles and be inducted into current AU-1000-OPS-PLN- 00005 Electric Line Clearance Management Plan and current AU-3008-OPS-PHA-EL-PLN-00001 Bushfire Mitigation Plan.

All contractors performing vegetation and/or rectification works on Pacific Blue electrical assets are responsible for ensuring their personnel are appropriately trained, assessed as competent, and authorised for the tasks they undertake.

Pacific Blue will obtain and review evidence of contractor training, qualifications, and authorisations prior to engagement. These records will also be prerequisite for contractors to be able to do site inductions and get access to site for the works. Pacific Blue will maintain records of all approved contractor authorisations and will ensure they are reviewed by the expiry dates of the relevant documentation.

If any worker associated with the Electric Lines and tasks covered under this plan are found to be performing works without required training/qualifications/experience or outside of their capabilities or the prescribed documentation, they are supposed to be working under then work will be immediately stopped and the associated personnel removed from the site.

6.14 6 (l) Operation and Maintenance Plans

PBA prepares operation and maintenance for high bushfire risk days by following the required actions of Site Preparedness checklist in accordance with Emergency Response and Evacuation Plan Pacific Blue Wind Farms and filling the checklist accordingly before DFDP.

This section outlines the plans during certain event/periods.

- **In the event of fire**

In the event of fire which prevents the safe operation of the HV overhead line, the line will be de-energised to minimise further ignition sources.

In such an event PBA should coordinate with the CFA and Local Council to provide support in matters relating to operation of the wind generation site that contain at risk electric lines which are referenced in this document. Where the fire is in the area but presents minimal or no risk to the safe operation of the overhead line, the overhead line will continue to operate with the auto reclose suppressed.

- **During a Total Fire Ban (TFB)**

During a time of total fire ban the associated overhead lines will operate in accordance with normal operating practices (auto reclose suppressed).

PBA acknowledges the fire risk and the potential for certain work activities to ignite a fire during declared Total Fire Ban (TFB) days. In response, PBA has established mandatory protocols that must be followed whenever TFB days are declared.

The following protocols apply:

- postpone, where practicable, all High Voltage switching operations, or limit them strictly to essential activities required to maintain critical services.
- if a High Voltage feeder fault occurs, a visual inspection of all associated electrical assets must be completed to confirm that the fault has not initiated a fire.
- only emergency works necessary to protect public health and safety may be undertaken on a TFB day, and only when appropriate risk controls are implemented.

To ensure that emergency works involving hot-work activities—such as welding, grinding, cutting, or any task involving an open flame—can be conducted safely on TFB days, PBA applies annually

for Hot Work Permits from the CFA under Section 40 of the CFA Act (1958). The PBA Operations & Maintenance Contractor's Risk Assurance Manager is responsible for obtaining the required permits from the relevant authorities and communicating all conditions and expectations to employees and contractors.

There is emergency response protocols and plans in place for each site with the bushfire drill training in place.

- **During the Fire Danger Period**

The wind farms wind turbines, BoP, substations and powerlines assets will be operated in accordance with normal operating practices (auto reclose suppressed) during the DFDP.

IF PBA or The PBA Operations & Maintenance Contractor performs any hot work that requires Fire Danger Period Permits, PBA and The PBA Operations & Maintenance Contractor follow CFA recommendations and current 3285-HS-PLN-0001 Health and Safety Management Plan in relation to the works.

6.15 6 (m) Investigations, analysis and methodology

Electrical events/faults, if they influence risk of fire ignition from the sites at-risk electric lines or not, are always recorded, reported and investigated using Pacific Blue Australia's 'Electrical Event Report' (Appendix J) form which if considered to be a 'serious electrical event' are reported separately to ESV and/or WorkSafe Victoria.

For faults/incidents/defects requiring further internal investigation the 'Defect Reporting Procedure' and associated electronic form (Appendix K&L) is utilised. This process may also instigate a Root Cause Analysis Report (Appendix M) if either:

- the Defect risk rating is extreme/high, and/or
- there have been multiple events of an identical/similar nature (common/systemic defect or fault), and/or
- a request is made from higher levels within the business.

This process helps to ensure that events/faults are properly reported, investigated and actions taken to reduce their likelihood of re-occurring.

Note:

Where assets are in are share arrangement with the network provider, reporting will be performed by a single party and will be the responsibility of the owner of the particular pole.

The major events that were sources for ignitions are presented on Table 3 which are all previous fire starts resulting from Pacific Blue Australia assets (current and historical).



Table 3 The major events that were sources for ignitions

Type of Event	Failed/suspected	Year of Event	Event Frequency, Years/event	Action to mitigate risk of fire ignition from electric lines at risk
Conductor coming in contact with the wooden type poles	failed	2025[7]	7	Powerline vibration sensors were introduced for the investigation of root cause analysis. The monitoring of the last failure location is ongoing and will be complete in Q4 2026. Also monitoring will be done for the areas of noticeable emerging defects. Based on the monitoring findings, the action plan will be implemented to prevent the failure in line with 6.12 6(h & i) Preventative Strategies.
Strain insulator failed with no fire	failed	2023, 2024	8.5	Insulator type was changed to more historically reliable one and powerline vibration sensors were installed to monitor for any abnormal forces on the insulators. There have been signs of abnormal forces identified on particular pole that possibly contributed to the failure and investigation is ongoing and the report will be produced in Q4 2026 for next steps in the failure mitigation in line with 6.12 6(h & i) Preventative Strategies.
Conductor coming in contact with the wooden type poles	failed	2020	7.5	Investigation has been concluded that the failure is due to conductor tie failure. Mitigations and preventative actions have been implemented to reduce the risk of such event in line with 6.12 6(h & i) Preventative Strategies. Method have been introduced to install mechanical vibrational dampeners on the electric line where increased wear is observed due to excessive mechanical forces on the conductor and its movement. It is done in line with 6.12 6(h & i) Preventative Strategies. Additionally, the conductor is inspected as per asset inspection schedule with greasing to reduce friction against insulator in line with 6.12 6(h & i) Preventative Strategies.
Conductor tie	suspected	-	-	The conductor is inspected regularly with additional greasing as required to reduce friction against insulators greasing in line with 6.12 6(h & i) Preventative Strategies.

6.16 (n) Processes and Procedures

There are a number of processes and procedures adopted/relied upon to manage this plan including:

(i) Monitoring, recording and reporting the implementation of the plan is performed predominantly through the following method:

- the use and management of the computerised maintenance management system (CMMS) which records any required scheduled or unscheduled works including, but not limited to, the preventative works listed under section (h & i) of this plan. The specific measure is the closure of maintenance work orders related to bushfire mitigation and line vegetation works which have a due date, or are

[7] Note: August 2025 fire incident involved insulator failure with unknown root course. Powerline sensors have been installed to identify the mechanical behaviour of the powerline till end of Q4 2026 for root course identification and following action plan for the failure type prevention.

required to be done, prior to the 1st December or before the DFDP each year, whichever is earlier.

This measure is referred to as the Bushfire Index and is calculated as follows:

Bushfire Index = $Number\ of\ outstanding\ works \div Total\ works\ required$

Works include all routine Electric Line maintenance and vegetation clearance scheduled and remedial works.

The current **'outstanding works'** include:

PORTLAND WIND FARM

- There are no outstanding/overdue works for this site

CHALLICUM HILLS WIND FARM

- There are no outstanding/overdue works for this site

CROWLANDS WIND FARM

- There are no outstanding/overdue works for this site

The 'works required' include:

PORTLAND WIND FARM

- Line Vegetation assessment
- Line Vegetation cutting/clearing
- 36 month Electric Line Inspection (next due: Nov 2028, 2031)

CHALLICUM HILLS WIND FARM

- Line Vegetation assessment
- Line Vegetation cutting/clearing
- 36 month Electric Line Inspection (next due: Nov 2026, 2029)

CROWLANDS WIND FARM

- Line Vegetation assessment
- Line Vegetation cutting/clearing
- 36 month Electric Line Inspection (next due: Dec 2026, 2029)

Therefore:

Bushfire Index = 0 ÷ 9 = 0.00

Note that the performance/progress of all site maintenance tasks, including the above where applicable, is monitored and reported monthly by the PBA Operations Department.

Other performance measures which will be collated and reviewed prior to the resubmission of this plan to ESV included in Table 4:

Table 4 Performance measures

Key Performance Indicator (KPI)	Target	Result/year
Number of electrical events/faults that have occurred on the relevant Electric Lines with the cause identified to be directly related to their condition and/or compliance with the Regulations.	0	0
Annual Number of Fire Starts.	0	1/2025

Number of Stakeholder complaints/correspondence received in relation to the relevant Electric Lines as measured through Pacific Blue Australia's Communication and External Affairs department and the associated enquires line (1800 730 734) and email address (enquiries@pacificblue.com.au).	0	0
Lost Time Injuries (LTI's) or Medical Treatment Injuries (MTI's) with the cause identified to be directly related to the Electric Lines.	0	0
Future ELCMP submitted by 30th June each year	0	0
Financial Penalties (Penalty Units) received.	0	0

(ii) Auditing the implementation of the plan is largely done in two ways:

- as part of the review process prior to resubmission of this plan to ESV, as well as an annual audit prior to the DFDP will be undertaken by a representative responsible for carrying out this plan which includes:

  a. that the qualifications and experience of personnel performing any scheduled inspection and/or clearance works adheres to both ESV's and this plans requirements,

  b. associated report/s have been submitted to the persons responsible for carrying out this plan,

  c. all inspection/s, report/s and subsequent recommendations from have been conducted in line with the scope/timing of recommendations and to the quality of this plan and the applicable Acts, Regulations, Codes and Standards (as further explained under section (vi). Note that this task may be conducted by an independent third party, where requested by the persons responsible for carrying out this plan. Additional inspections may take place throughout the year if in alignment with other scheduled/unscheduled line tasks (e.g., insulator washing, event/fault inspections etc), and

  d. the inspections and recommendations/works from the report, if any, have an appropriate task/s entered into the CMMS and those task/s have been closed out following completion or the works.

  If either of items **a**, **b**, or **c** in above list are believed to have not occurred then a representative responsible for carrying out this plan is to immediately contact the electric line specialised service provider of the reports and request the required information

  If either of the remaining items in above list have not occurred, then the representative responsible for carrying out this plan is to immediately perform the required work or contact their manager and request support to perform the work.

  Person/s responsible for carrying out this plan may also take the opportunity to perform audits outside the above timeframe.

(iii) Identification of any deficiencies in the plan or the plan's implementation can be done via:

- the review process of this plan prior to resubmission to ESV,
- Person/s carrying out this plan to provide feedback to their manager and/or the person/s responsible for the preparation of this plan when a deficiency is found. This will generally take the form of email correspondence,

- Pacific Blue Australia's employee observation/conversation program which requires each employee and Full time Operations and Maintenance contractor to make 12 observations annually, which takes the form of electronic submissions, and/or
- Review of site/asset risk registers.

(iv) A change, or changes, to the plan and the plan's implementation if any deficiencies are identified under subparagraph (**iii**) of Section 7.16 are performed during the review of this plan prior to resubmission to ESV. If there are more critical changes required to important information, including but not limited to, contact details or applicable procedures/policies these will be performed as soon as possible and resubmitted to ESV. The updated plans will then be reloaded onto the webpages listed in the plan.

The review of this plan is performed by the person/s responsible for preparing the plan in conjunction with the other procedures and tasks listed under sections (**a-d**). As well as incorporating any of the above changes the reviews intention is to, but is not limited to, re-aligning the plan to any updated Legislation, Regulations or Codes, industry practices and Electric Line configurations/locations.

(v) Monitor the effectiveness of inspections under the plan will be performed through the review of the performance measures listed under Section 7.16 (n) Processes and Procedures subparagraph **(i)** by the person/s responsible for preparing the plan.

(vi) Auditing the effectiveness of any inspections carried out under the plan is performed through conducting a ground based visual audit following the completion of the 36-month Electric Line Inspection works. This will be performed by either:

Personnel who have:

- Knowledge of applicable Acts, Regulations and Codes associated with this plan,
- Knowledge of this plan and its auditing obligations,
- Knowledge of, and are familiar with, the Electric Lines subject to the audit

or,

- an independent third party.

The scope of the visual audit will cover a minimum of 10% of the Electric Lines previously inspected and take the form of a marked-up version of the inspection report. If any significant inaccuracies are noted then the audit scope will be expanded to include 100% of the Electric Lines. These inaccuracies will then be reported back to the electric line specialised service provider.

Person/s responsible for carrying out this plan will also take the opportunity to perform audits outside the above timeframe if other scheduled/unscheduled line works are expected and resourcing is available.

Performance of the electric line specialised service provider can be reviewed/audited through Pacific Blue Australia's procedure PHA.HSE.09.014 Contractor Performance Evaluation (Appendix N).

The status of 2024-2025 achievement of all cyclic asset replacement/modification programs is provided below Table 5:

Table 5 Cyclic asset replacement/modification programs

Cyclic asset replacement/modification program	Portland Wind Farm	Challicum Hills Wind Farm	Crowlands Wind Farm
Number of defective assets replaced	16	0	0
Number of powerline vibration dampers installed	0	6 (re-installed)	0
Number of conductor wear locations greased	0	0	0

PBA monitors and reports the progress of all BMP activities throughout the DFDP and on total fire ban days. Provide a consolidated update to senior management summarising BMP progress, rectification compliance, vegetation clearance status, incidents, and resource needs monthly operations meeting. All fire-related incidents, hazards, faults, or deviations from procedures are recorded in CMMS. Actions are assigned, tracked, and closed out by Operations and HSE. Maintain auditable records of inspections, vegetation clearance, defects, hot work permits, training, and incident logs for a minimum of five years. Notify ESV of any notifiable electrical incidents, fire ignitions, or material deviations from the BMP.

6.17 (o) Pacific Blue Australia Policy on Assistance Provided to Fire Control Authorities

Pacific Blue Australia will allow access to and assist fire control authorities in the investigation of fires at or near the relevant Electric Lines.

7. Regulation 15 Exemptions Provided by the ESV

Under the regulation, the ESV may in writing provide exemption to the Electricity Safety (Bushfire Mitigation) Regulation for a specified operator or major electricity company.

Currently, Pacific Blue Australia has not been granted any exemptions.

8. Section 83BA (3) (a) of the Act - Plan available for inspection

The latest Bushfire Mitigation Plan accepted by ESV is available for inspection on PBA public website at either of link presented in Table 6:

Table 6 - Latest Bushfire Mitigation Plan website references

Site Name	Web link
Challicum Hills Wind Farm	https://www.pacificblue.com.au/our-energy-production/operating-sites/challicum-hills-wind-farm
Cape Nelson North/Sir William Grant Wind Farm	https://www.pacificblue.com.au/our-energy-production/operating-sites/cape-nelson-nth-sir-william-grant-wind-farm
Cape Bridgewater Wind Farm	https://www.pacificblue.com.au/our-energy-production/operating-sites/cape-bridgewater-wind-farm
Cape Nelson South Wind Farm	https://www.pacificblue.com.au/our-energy-production/operating-sites/cape-nelson-south-wind-farm

Crowlands Wind Farm	https://www.pacificblue.com.au/our-energy-production/operating-sites/crowlands-wind-farm

Any superseded versions of the plan located at the above websites will be overwritten by the Pacific Blue Australia person responsible for preparing the plan once an updated version of the document has been approved/accepted by ESV.

A hardcopy of the ESV approved/accepted Bushfire Mitigation Plan mentioned above is available for inspection at the responsible person's office, during normal business hours, located at:

Yuriy Odarenko

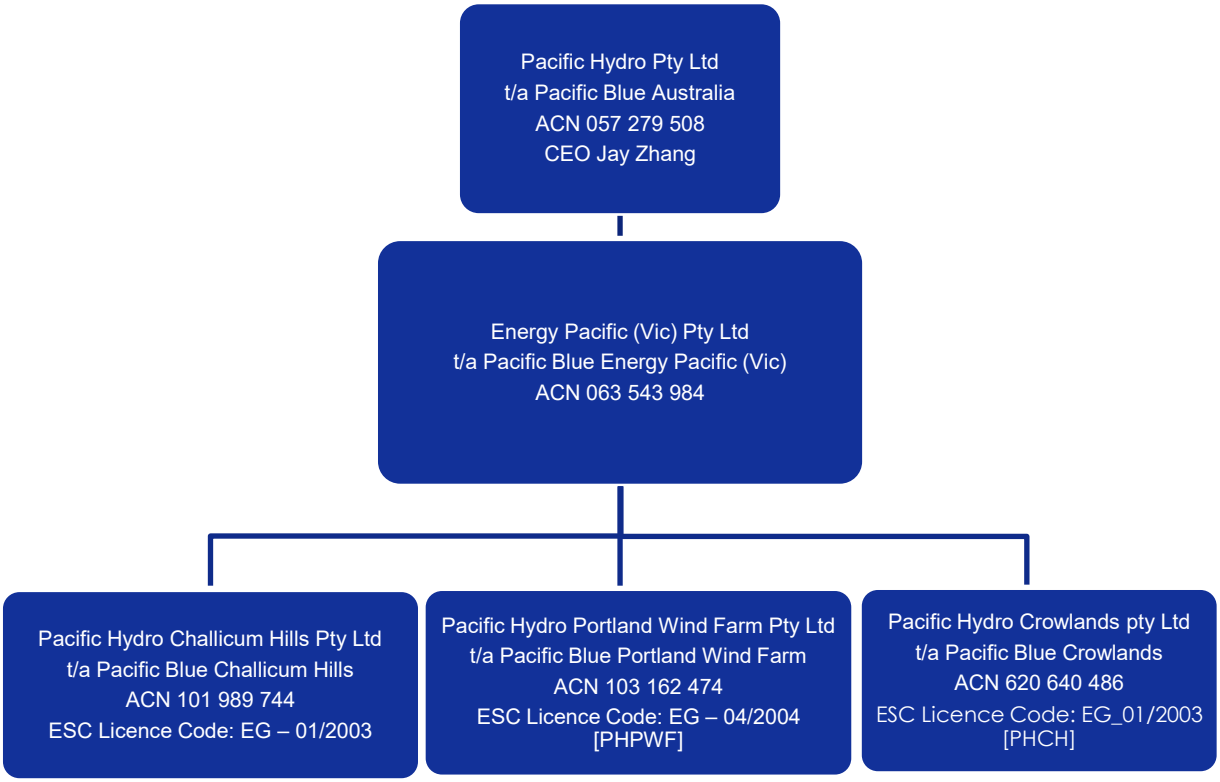
Level 13, 700 Collins Street

Docklands, Victoria, 3008

Any hardcopy superseded versions of the plan will be destroyed by the person responsible for preparing the plan.

9. Corporate Structure

Pacific Hydro Pty Ltd is a parent company of a group of subsidiary companies which own renewable generation assets including powerlines. For the purpose of the Bushfire Mitigation Plan the below chart specify the relationship between the relevant corporate entities:



Other References and Supporting Documents

The Table 7 below lists all the documents that have been referenced within the plan:

Table 7 Document references

Document Number	Document Title
AU-100-OPS-MAN-00002	Asset Inspection Manual (at risk overhead lines)
AU-1000-OPS-PLN- 00005	Electric Line Clearance Management Plan
N/A	Emergency Response and Evacuation Plan Pacific Blue Wind Farms
N/A	Site Preparedness checklist
3285-HS-PLN-0001	Health and Safety Management Plan

10. Document History

The Document History of Table 8 lists the changes made to this document:

Table 8 Document History

Version	Date	Amended by	Comments
0	24/05/2022	Daniel Choi, Senior Operations Engineer	Replaces legacy document PHA. OPS.08.006
1	16/09/2022	Yuriy Odarenko, Senior Operations Engineer	Clarifications for Regulation 6
2	19/10/2022	Yuriy Odarenko, Senior Operations Engineer	Corporate Structure clarification
3	11/03/2023	Yuriy Odarenko, Senior Operations Engineer	New Pacific Blue Australia Template was used
4	06/02/2026	Yuriy Odarenko, Senior Operations Engineer	Reviewed as per next five-yearly BMP re-submission
5	23/06/2026	Yuriy Odarenko, Senior Operations Engineer	Change to the details of one of the persons responsible for carrying out the plan

11. Appendices

A. **Portland Wind Farm Overhead Line – Site Layout (Lines) (HBRA Classified)**

B. **Cape Bridgewater Site Layout showing the location of the electric lines and poles (HBRA Classified)**

C. **Cape Nelson South Site Layout showing the location of the electric lines and poles (HBRA Classified)**

D. **Cape Nelson North Site Layout showing the location of the electric lines and poles (HBRA Classified)**

E. **Cape Sir William Grant Site Layout showing the location of the electric lines and poles (HBRA Classified)**

F. **Challicum Hills Wind Farm Overhead Line – Site Layout (HBRA Classified)**

G. **Crowlands Wind Farm Overhead Line – Site Layout (HBRA Classified)**

H. **Example Vegetation Inspection Report**

I. **Example Asset Inspection Report**

J. **PHA.OPS.09.036.1 Electrical Event Report**

K. **PHA.OPS.09.002 Defect Reporting Procedure**

L. **Defect Reporting Form**

M. **PHA.OPS.09.010 Root Cause Analysis Report**

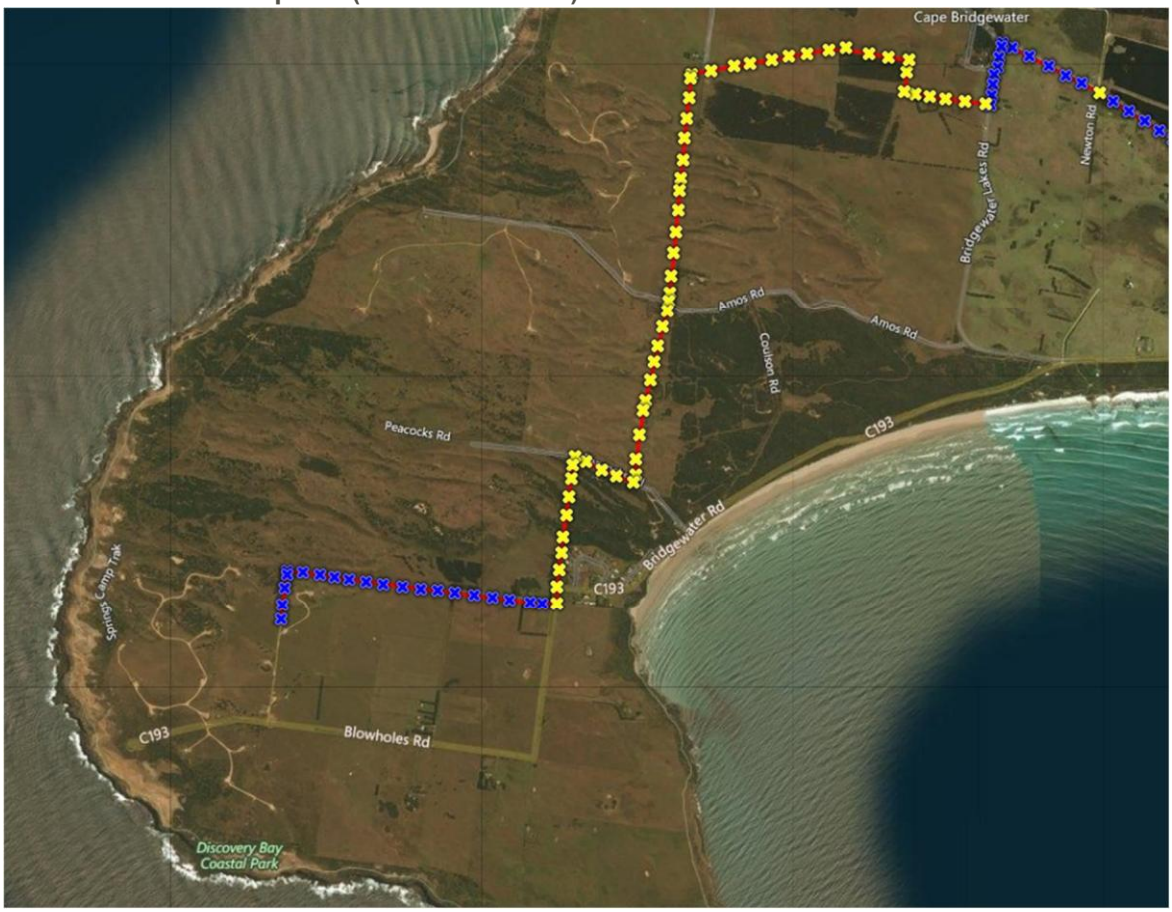
N. **PHA.HSE.09.014 Contractor Performance Evaluation**

Appendix A. Portland Wind Farm Overhead Line – Site Layout (HBRA Classified)



Key	Description
	Wind turbine generator
	Overhead power line
	Overhead power line Challicum Hills and Crowlands
	Underground cable
	Poles owned by Pacific Hydro Portland Wind Farm Pty Ltd
	Poles owned and maintained by DNSP (Powercor)

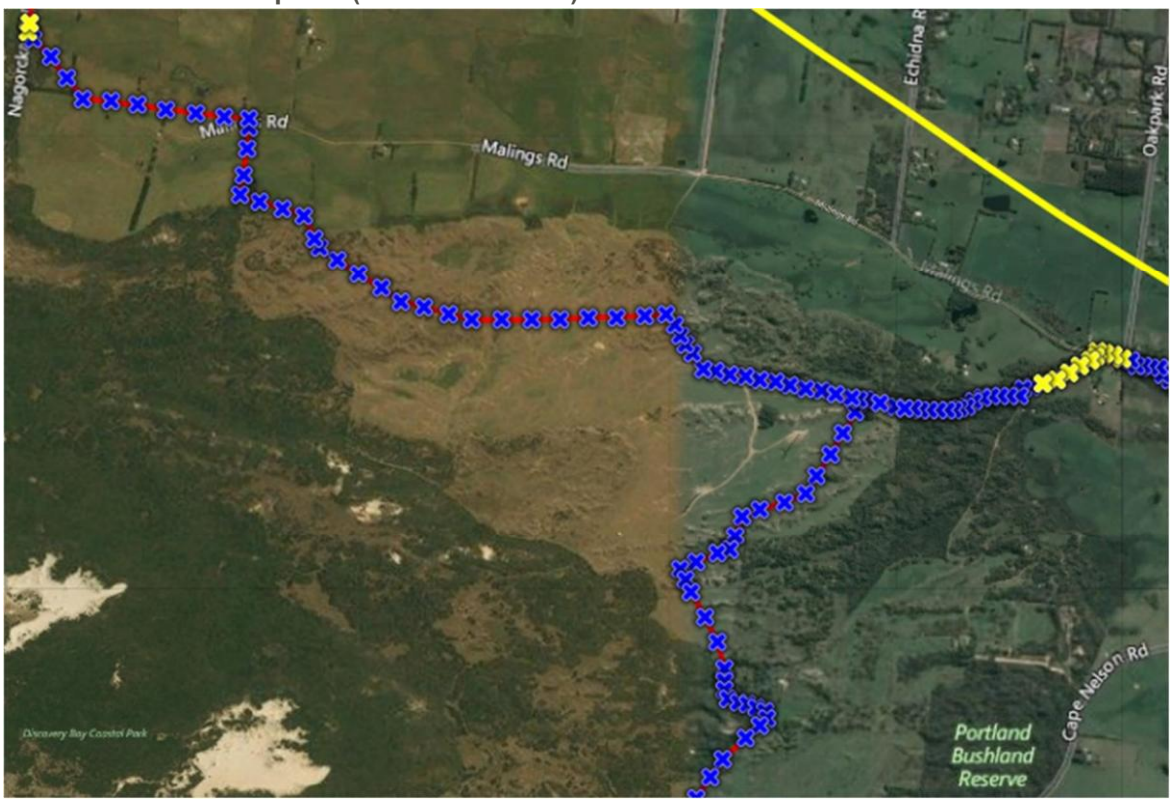
Appendix B. Portland Wind Farm - Cape Bridgewater Site Layout showing the location of the electric lines and poles (HBRA Classified)



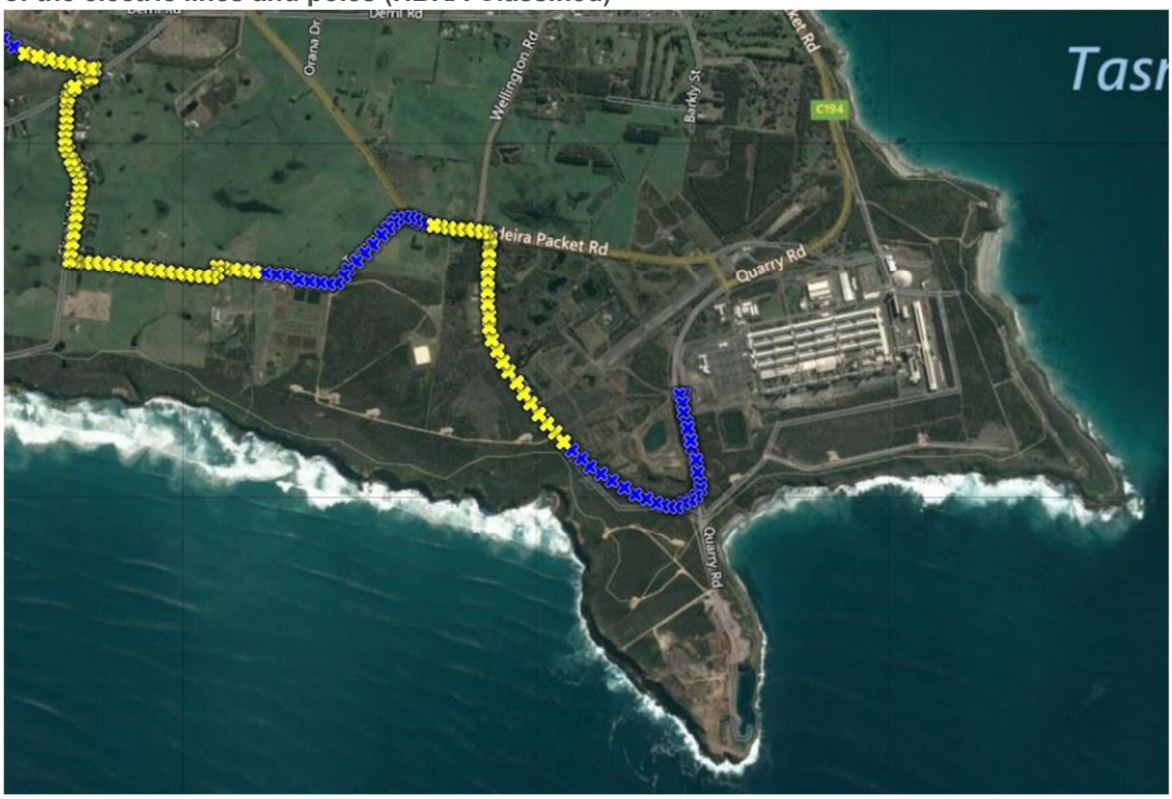
Appendix C. Portland Wind Farm - Cape Nelson South Site Layout showing the location of the electric lines and poles (HBRA Classified)



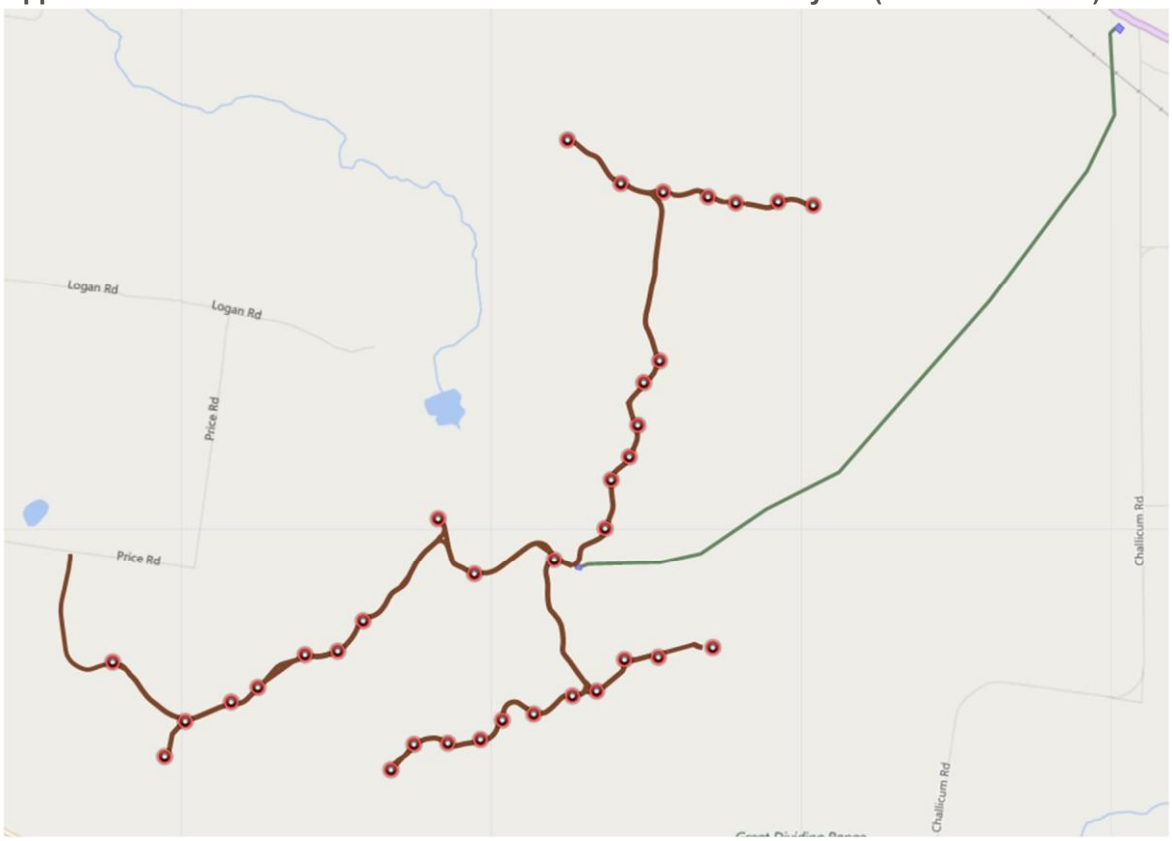
Appendix D. Portland Wind Farm - Cape Nelson North Site Layout showing the location of the electric lines and poles (HBRA Classified)



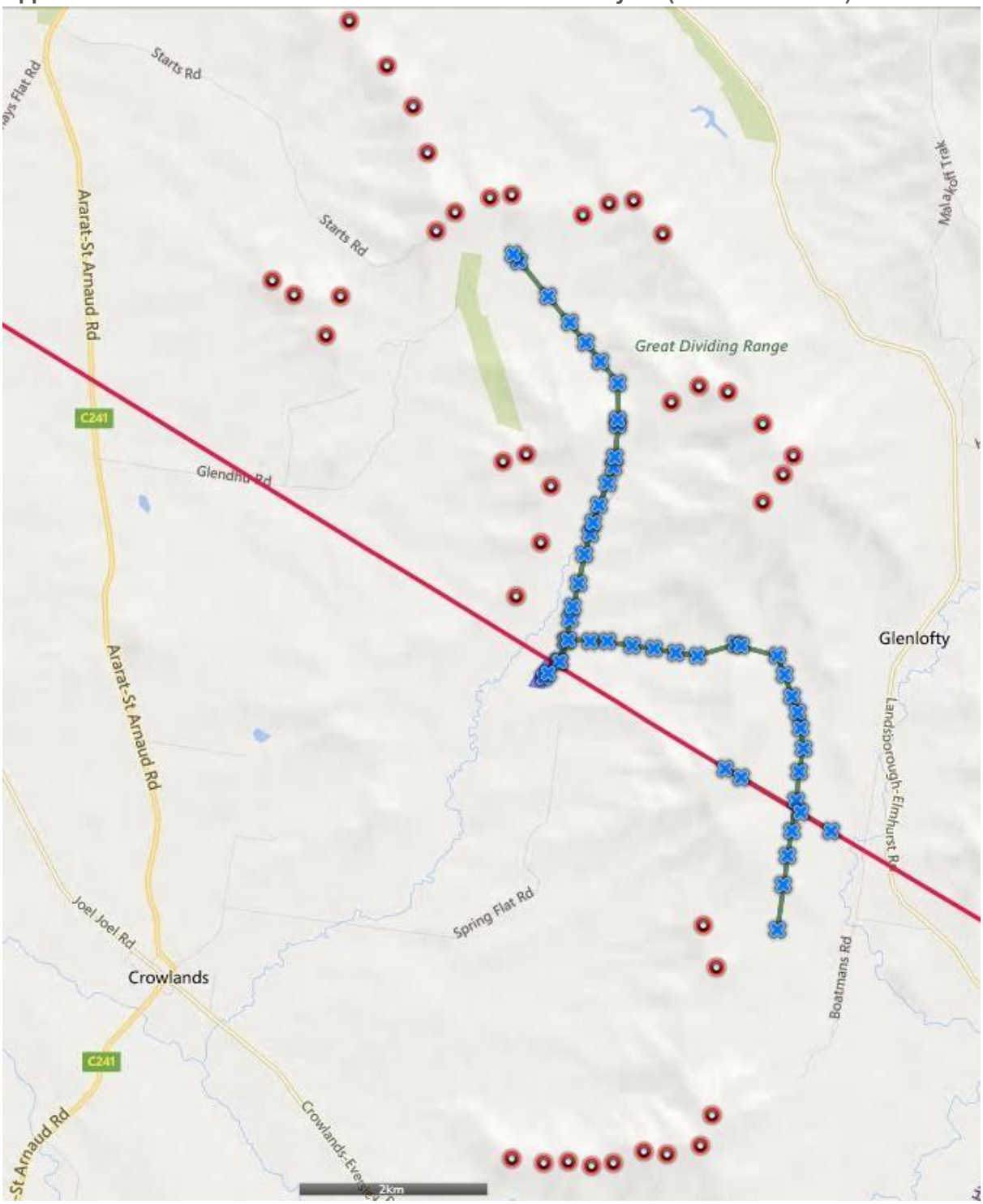
Appendix E. Portland Wind Farm - Cape Sir William Grant Site Layout showing the location of the electric lines and poles (HBRA Classified)



Appendix F. Challicum Hills Wind Farm Overhead Line – Site Layout (HBRA Classified)



Appendix G. Crowlands Wind Farm Overhead Line – Site Layout (HBRA Classified)



Appendix H. Example Vegetation Inspection Report

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Inspection Summary – Challicum Hills Windfarm 66kV Line

Date of Inspection: 17 October 2025 **Conducted by:** Arborrowe Trees and Traffic

Scope: All spans of the 66kV transmission line at Challicum Hills Windfarm were inspected.

Findings:

- **Vegetation Management Required:**
  - Two spans require trimming prior to the 2025/2026 fire season to maintain clearance and reduce fire risk.
  - Approximately eight small trees (species: blackwood, wattle, and eucalyptus) located directly beneath these spans are recommended for removal.
    - These trees are currently small but pose a future risk as they grow.
    - Terrain conditions make future trimming with an Elevated Work Platform (EWP) extremely difficult.
    - Removal from the ground is advised during current works, with trees to be poisoned post-removal to prevent regrowth.

SPAN CODE LEGEND

SPAN CODES	DESCRIPTION
56	Foliage currently Growing within the clearance space
2026	Foliage predicted to grow into clearance space
2027	Foliage predicted to grow into clearance space
2028	Foliage predicted to grow into clearance space
2029	Foliage predicted to grow into clearance space
VS	Foliage predicted to grow into clearance space
NVS	Non-Vegetated Span
OF	Foliage Contacting or soon to contact Optic fibre

SPAN	CODE	SPAN	CODE	WORKS REQUIRED / RECOMMENDED
1A	NVS	23	NVS	
1B	NVS	24	2029	
2	NVS	25	NVS	
3	NVS	26	NVS	
4	2028	27	NVS	
5	NVS	28	NVS	
6	NVS	29	NVS	
7	NVS	30	NVS	
8	NVS	31	NVS	
9	NVS	32	NVS	
10	VS	33	NVS	
11	NVS	34	NVS	
12	NVS	35	2027	
13	NVS	36	2028	
14	NVS	37	NVS	
15	NVS	38	NVS	
16	NVS	39A	NVS	
17	NVS	39B	NVS	
18	NVS	40A	2026	Trim one wattle *
19	NVS	40B	2026	Trim one Euc , *
20	NVS	41A	NVS	
21	NVS	41B	NVS	
22	NVS	SUB	NVS	

* Please note

There are approx. 8 small trees at the bottom of the gully between Poles 41A – 40A and 41A- 41B that are recommended to be removed and poisoned while small before they get larger as the terrain will not be accessible by an EWP to trim in the future, becoming costly to trim or remove at the time

Appendix I. Example Asset Inspection Report

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Pages = 4 (plus reports).

Our Reference: P.0884395.1.01 Date: Tuesday, 16 December 2025

Simon Parry
Project Delivery Manager Pacific Blue Wind Farms
823 Madeira Packet Rd
Portland Victoria 3305

Dear Simon,

Ref: PORTLAND WINDFARM - VISUAL POLE ASSESSMENT 2025

Omexom wishes to thank you and Pacific Blue Wind Farms management for the opportunity to undertake this power line assessment at Portland Windfarm.

During this assessment, five hundred and twenty-three (523) poles were visually inspected with a drone for defects. A spreadsheet is attached. A mix of medium-priority P2 (30) items and low-priority P3 items were identified, as shown in the attached report. No urgent items were found.

The attached report contains Omexom's assessment and information about this project. The report includes:

1. Our visual inspection methodology; and
2. Maintenance reports.

Should you have any questions or concerns, please do not hesitate to contact me.

Yours sincerely,

Jeff Morgan
Business Unit General Manager
Omexom Australia, Asset Services
M. +61 418 501 604
jeff.morgan@omexom.com

1. VISUAL INSPECTION METHODOLOGY

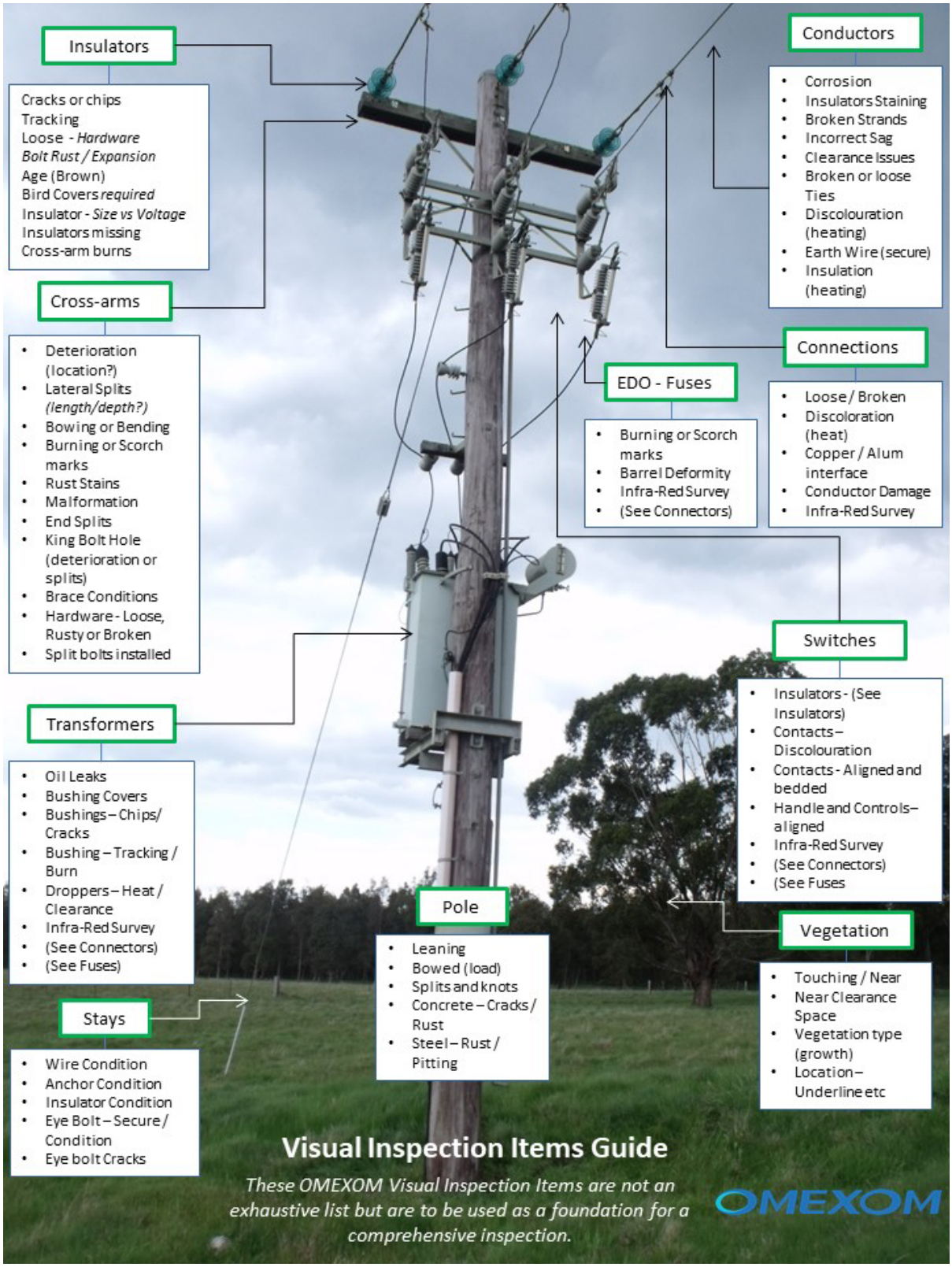
As part of this assessment, OMEXOM carried out aerial (UAV) inspections on five hundred and twenty-three (523) high voltage assets to check for any defects or structural issues.

For this task, a remotely piloted Unmanned Aerial Vehicle (UAV) equipped with a high-definition camera was used to assess the assets from the side and above to detect defects or issues that may not have been visible from the ground.

1. Inspection of each power pole asset, including, but not limited to:

1. **Cross-arms;**
   - Deterioration.
   - Crack, splits and hardware.
2. **Poles;**
   - Damage; rust (steel and concrete).
   - Bowed, leaning and hardware.
3. **Insulators;**
   - Cracks, tracking.
   - Loose hardware and stains.
4. **Conductors;**
   - Corrosion, broken strands, ties.
   - Clearance issues; and deformity.
5. **Connectors;**
   - Loose, broken, discoloured and conductor damage.
6. **Stays;**
   - Wire damage; anchors.
   - wooden insulator damage and eyebolts.
7. **Transformers;**
   - Oil stains; bushings.
   - Droppers and fusing.
8. **ABS and switches;**
   - Insulators; switch and blade alignment; handles and earths.
9. **Fusing and HV apparatus;**
   - Insulators; fuse conditions.
   - Burn marks and tracking.
10. **Earthing;**
    - Connections and earth wires.
11. **Vegetation;**
    - Clearance items, species and location.
12. **Design.**
    - Assets that do not conform to current design standards.

A qualified Cert IV Asset Inspector undertakes all inspections.


Insulators
Cracks or chips
Tracking
Loose - *Hardware*
Bolt Rust / Expansion
Age (Brown)
Bird Covers *required*
Insulator - *Size vs Voltage*
Insulators missing
Cross-arm burns
Cross-arms
• Deterioration (location?)
• Lateral Splits *(length/depth?)*
• Bowing or Bending
• Burning or Scorch marks
• Rust Stains
• Malformation
• End Splits
• King Bolt Hole (deterioration or splits)
• Brace Conditions
• Hardware - Loose, Rusty or Broken
• Split bolts installed
Transformers
• Oil Leaks
• Bushing Covers
• Bushings – Chips/ Cracks
• Bushing – Tracking / Burn
• Droppers – Heat / Clearance
• Infra-Red Survey
• (See Connectors)
• (See Fuses)
Stays
• Wire Condition
• Anchor Condition
• Insulator Condition
• Eye Bolt – Secure / Condition
• Eye bolt Cracks
Conductors
• Corrosion
• Insulators Staining
• Broken Strands
• Incorrect Sag
• Clearance Issues
• Broken or loose Ties
• Discolouration (heating)
• Earth Wire (secure)
• Insulation (heating)
Connections
• Loose / Broken
• Discoloration (heat)
• Copper / Alum interface
• Conductor Damage
• Infra-Red Survey
EDO - Fuses
• Burning or Scorch marks
• Barrel Deformity
• Infra-Red Survey
• (See Connectors)
Switches
• Insulators - (See Insulators)
• Contacts – Discolouration
• Contacts - Aligned and bedded
• Handle and Controls – aligned
• Infra-Red Survey
• (See Connectors)
• (See Fuses
Vegetation
• Touching / Near
• Near Clearance Space
• Vegetation type (growth)
• Location – Underline etc
Pole
• Leaning
• Bowed (load)
• Splits and knots
• Concrete – Cracks / Rust
• Steel – Rust / Pitting
Visual Inspection Items Guide
These OMEXOM Visual Inspection Items are not an exhaustive list but are to be used as a foundation for a comprehensive inspection.
OMEXOM

DEFECT PRIORITY EXPLAINED

P1 The item is assessed to pose an immediate supply, reliability, fire or public safety risk.

P2 The item is assessed as not to pose an immediate but impending supply, reliability, fire or public safety risk. This item should be addressed within 32 weeks of the assessment.

P3 The item is an observation and not a priority.

MAINTENANCE REPORT

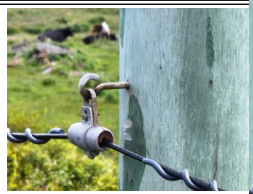
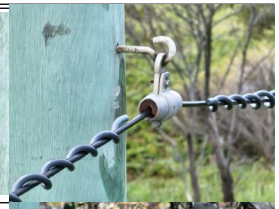
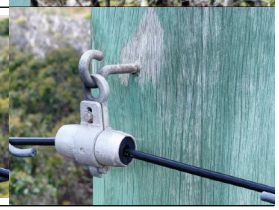
Omexom Project Name **Portland Windfarm 2025**

Omexom Project No P.0884394.1.01

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
Cape Nelson North Gantry -Substation - 23 Nov 2025 - Mitchell Watson	Birds Nest	Top	6 bird's nests along top of gantry.	Remove	P2 (32 weeks)			
997900 P24 -24 - 18 Nov 2025 - Mitchell Watson	Stay Wire	Middle	Stay wire rusty.	Check/Replace if required	P2 (32 weeks)			
997900 P24 -24 - 18 Nov 2025 - Mitchell Watson	66kV Insulator	Bottom, Middle, Top	3 x rusty insulator brackets.	Replace	P2 (32 weeks)			
997901 P25 -25 - 18 Nov 2025 - Mitchell Watson	66kV Insulator	Bottom	Insulator bracket is rusty.	Replace	P2 (32 weeks)			
997908 P27 -27 - 19 Nov 2025 - Mitchell Watson	66kV Insulator	Top	Insulator has rust under cap on end.	Replace	P2 (32 weeks)			

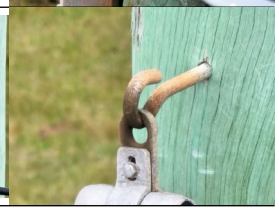
MAINTENANCE REPORT

OMEXOM

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
997965 P54 -54 - 19 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre bracket missing part of insert.	Replace	P2 (32 weeks)			
998464 P264 -264 - 2 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre clamp is worn at eyebolt.	Replace	P2 (32 weeks)			
998468 P268 -268 - 2 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre clamp eyebolt is worn.	Replace	P2 (32 weeks)			
998470 P270 -270 - 2 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre clamp eyebolt is worn.	Replace	P2 (32 weeks)			
998736 P214 -214 - 1 Dec 2025 - Mitchell Watson	66kV Insulator	Centre	Insulator has heavy rust stains on bracket under insulator. possible worn or loose insulator.	Replace	P2 (32 weeks)			

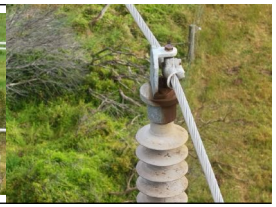
MAINTENANCE REPORT

OMEXOM

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
998773 P244 -244 - 2 Dec 2025 - Mitchell Watson	66kV Insulator	Centre	Poly strain insulator has a damaged shed.	Replace	P2 (32 weeks)			
998509 P302 -302 - 3 Dec 2025 - Mitchell Watson	66kV Insulator	Centre	Rust stains under centre insulator.	Check/Replace if required	P2 (32 weeks)			
998530 P321 -321 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eye bolt worn.	Replace	P2 (32 weeks)			
998531 P322 -322 - 8 Dec 2025 - Mitchell Watson	Attachment tie	Paddock side	Corroded tie.	Monitor	P2 (32 weeks)			
998533 P324 -324 - 8 Dec 2025 - Mitchell Watson	66kV Insulator	Road Side	Rusty insulator bolt at crossarm.	Monitor	P2 (32 weeks)			
998535 P326 -326 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre clamp worn.	Replace	P2 (32 weeks)			

MAINTENANCE REPORT

OMEXOM

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
998571 P332 -332 - 8 Dec 2025 - Mitchell Watson	Stay Wire	On Pole	Rusty stay wire.	Check/Replace if required	P2 (32 weeks)			
724789 P142 -142 - 21 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eyebolt worn.	Replace	P2 (32 weeks)			
745446 P39 -39 - 24 Nov 2025 - Mitchell Watson	66 kV Cross-arm	Top, Centre	HV insulator has rust stains at top of insulator and clamp top bolts. Check bolts and replace if needed.	Replace	P2 (32 weeks)			
745479 P62 -62 - 25 Nov 2025 - Mitchell Watson	66kV Insulator	Paddock side	Clamp on top of insulator has rust stains. Check bolts.	Replace	P2 (32 weeks)			
745486 P64 -64 - 25 Nov 2025 - Mitchell Watson	Attachment tie	Paddock side	22kV tie is broken, not sure who owns the 22kv circuit. (powercor?)	Replace	P2 (32 weeks)			

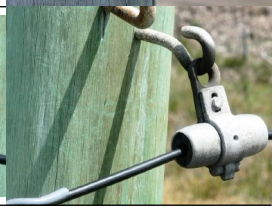
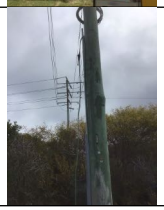
MAINTENANCE REPORT

OMEXOM

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
745507 P79 -79 - 25 Nov 2025 - Mitchell Watson	66kV Insulator	Road Side	Rust stains under insulator roadside. check for wear on insulator bolt.	Replace	P2 (32 weeks)			
745509 P81 -81 - 25 Nov 2025 - Mitchell Watson	66kV Insulator	South side	HV insulator has rust stains on crossarm. Check bolts for wear.	Replace	P2 (32 weeks)			
998000 P68 -68 - 20 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eyebolt worn.	Replace	P2 (32 weeks)			
998148 P130 -130 - 21 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eye bolt worn.	Replace	P2 (32 weeks)			
998656 P170 -170 - 22 Nov 2025 - Mitchell Watson	66kV Insulator	Top	Insulator eye bolt rusty.	Replace	P2 (32 weeks)			
998663 P177 -177 - 23 Nov 2025 - Mitchell Watson	Other	Midspan	Low clearance of optic fibre cable. 3.4m above ground.	Tighten, "Check Overhead Design "	P2 (32 weeks)			

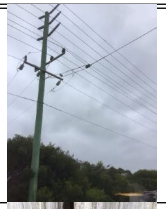
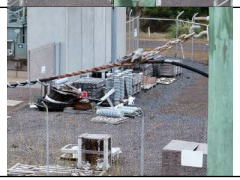
MAINTENANCE REPORT

OMEXOM

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
724857 P369 -369 - 9 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eye bolt worn.	Replace	P2 (32 weeks)			
724862 P371 -371 - 9 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Worn optic fibre eye bolt.	Replace	P2 (32 weeks)			
998492 P286 -286 - 10 Dec 2025 - Mitchell Watson	Clamp / Connector	Top	Optic fibre eye bolt worn.	Replace	P2 (32 weeks)			
997866 x2AG -X2AGL - 17 Nov 2025 - Mitchell Watson	Pole - Above GroundLine	Above Ground Line	Pole is not connected unused asset.	Monitor	P3 (Observation)			
997864 P1 -1 - 17 Nov 2025 - Mitchell Watson	Earth	Above Ground Line	Looks like earth wire should be connected to HV structure.	Repair	P3 (Observation)			
997898 P22 -22 - 18 Nov 2025 - Mitchell Watson	Pole Cap	Top	Pole cap missing.	Replace	P3 (Observation)			

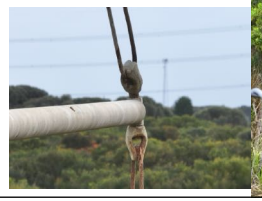
MAINTENANCE REPORT

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Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
903973 P39AG -39AG - 19 Nov 2025 - Mitchell Watson	Stay Wire	Over	Loose stay wire over road.	Tighten	P3 (Observation)			
903973 P39AG -39AG - 19 Nov 2025 - Mitchell Watson	Pole - Above GroundLine	Above Ground Line	Pole has large split.	Monitor	P3 (Observation)			
997864 P1 -1 - 17 Nov 2025 - Mitchell Watson	66kV Insulator	Top	Surface rust on insulator bracket.	Monitor	P3 (Observation)			
997864 P1 -1 - 17 Nov 2025 - Mitchell Watson	Preform Term Wrap	On Pole	Rusty wraps on optic fibre cable.	Monitor	P3 (Observation)			
737361 P5A -5A - 18 Nov 2025 - Mitchell Watson	Pole Cap	Top	Rusty pole cap.	Replace	P3 (Observation)			
997883 P7 -7 - 18 Nov 2025 - Mitchell Watson	Pole - Above GroundLine, Previously Reported	Top	Pole has split near top of pole.	Monitor	P3 (Observation)			

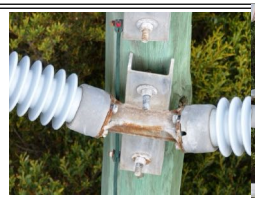
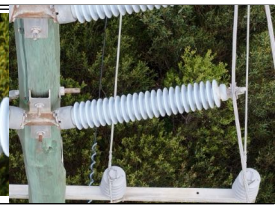
MAINTENANCE REPORT

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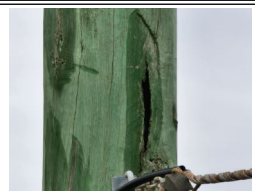
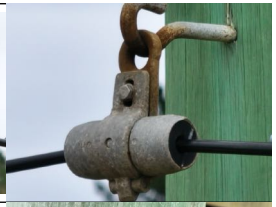
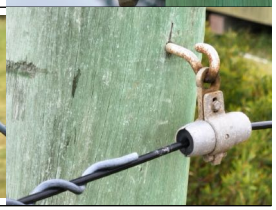
Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
997892 P16 -16 - 18 Nov 2025 - Mitchell Watson	66kV Insulator	Top	Rusty insulator bracket.	Monitor	P3 (Observation)			
997899 P23 -23 - 18 Nov 2025 - Mitchell Watson	66kV Insulator	Bottom	Insulator bracket has surface rust.	Monitor	P3 (Observation)			
997901 P25 -25 - 18 Nov 2025 - Mitchell Watson	Pole Cap	Top	Rusty pole cap.	Replace	P3 (Observation)			
997908 P27 -27 - 19 Nov 2025 - Mitchell Watson	Stay Wire	Middle	Rusty stay wire.	Check/Replace if required	P3 (Observation)			
997908 P27 -27 - 19 Nov 2025 - Mitchell Watson	66kV Insulator	Bottom, Middle, Top	Insulator brackets have surface rust.	Monitor	P3 (Observation)			
997909 P28 -28 - 19 Nov 2025 - Mitchell Watson	Stay Wire	Top	Rusty stay wire.	Monitor	P3 (Observation)			

MAINTENANCE REPORT

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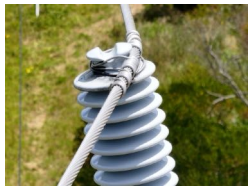
Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
997911 P29 -29 - 19 Nov 2025 - Mitchell Watson	66kV Insulator	Bottom, Middle	Rusty insulator brackets.	Monitor	P3 (Observation)			
997912 P30 -30 - 19 Nov 2025 - Mitchell Watson	Preform Term Wrap	On Pole	Rusty wraps on optic fibre cable.	Monitor	P3 (Observation)			
997920 P35 -35 - 19 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Worn optic fibre bracket.	Monitor	P3 (Observation)			
997920 P35 -35 - 19 Nov 2025 - Mitchell Watson	66kV Insulator	Top	Insulator bracket has rust.	Monitor	P3 (Observation)			
997920 P35 -35 - 19 Nov 2025 - Mitchell Watson	Pole Cap	Top	Rusty pole cap.	Replace	P3 (Observation)			
997922 P36 -36 - 19 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Worn optic fibre bracket.	Monitor	P3 (Observation)			

MAINTENANCE REPORT

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
997924 P38 -38 - 19 Nov 2025 - Mitchell Watson	Pole - Above GroundLine	Middle	Pole has split near optic fibre bracket.	Monitor	P3 (Observation)			
997929 P39 -39 - 19 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Rusty optic fibre bracket.	Monitor	P3 (Observation)			
997930 P40 -40 - 19 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Rusty optic fibre bracket.	Monitor	P3 (Observation)			
997935 P45 -45 - 19 Nov 2025 - Mitchell Watson	Pole - Above GroundLine	Middle	Pole has de laminated.	Monitor	P3 (Observation)			
997955 xP48AG -X48AG - 19 Nov 2025 - Mitchell Watson	Preform Term Wrap, Stay Insulator	On Pole	Rusty stay wire wrap.	Monitor	P3 (Observation)			
997968 P56 -56 - 19 Nov 2025 - Mitchell Watson	Stay Wire	Top	Rusty stay wire.	Monitor	P3 (Observation)			

MAINTENANCE REPORT

OMEXOM

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
997968 P56 -56 - 19 Nov 2025 - Mitchell Watson	Conductor Tie	Road Side, Paddock side	2 ties on outer insulators top crossarm have signs of corrosion.	Monitor	P3 (Observation)			
998790 P258 -258 - 2 Dec 2025 - Mitchell Watson	Preform Term Wrap	Middle	Optic fibre preform term wrap is rusty.	Monitor, Check/ Replace if required	P3 (Observation)			
998469 P269 -269 - 2 Dec 2025 - Mitchell Watson	Conductor Tie	Centre	HV tie has corrosion.	Monitor	P3 (Observation)			
998470 P270 -270 - 2 Dec 2025 - Mitchell Watson	66kV Insulator	Various	HV poly strain insulators have minor bird damage.	Monitor	P3 (Observation)			
997961 P52 -52 - 19 Nov 2025 - Mitchell Watson	66kV Insulator	Top	Minor corrosion on xarm bracket.	Monitor	P3 (Observation)			
997956 P49 -49 - 19 Nov 2025 - Mitchell Watson	66 kV Cross-arm	Top	Minor rust on insulator bracket.	Monitor	P3 (Observation)			

MAINTENANCE REPORT

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
998704 P194 -194 - 26 Nov 2025 - Mitchell Watson	66kV Insulator	Centre	Poly strain insulator has minor bird damage.	Monitor	P3 (Observation)			
998709 P198 -198 - 26 Nov 2025 - Mitchell Watson	Preform Term Wrap	On Pole	Optic fibre has rusty wrap.	Monitor	P3 (Observation)			
998709 P198 -198 - 26 Nov 2025 - Mitchell Watson	Stay Wire	On Pole	Rusty stay.	Monitor	P3 (Observation)			
998714 P202 -202 - 26 Nov 2025 - Mitchell Watson	Preform Term Wrap	On Pole	Optic fibre rusty.	Monitor	P3 (Observation)			
998745 P222 -222 - 1 Dec 2025 - Mitchell Watson	66kV Insulator	Centre	Minor bird damage on poly strain insulator.	Monitor	P3 (Observation)			
998763 P235 -235 - 2 Dec 2025 - Mitchell Watson	Preform Term Wrap	On Pole	Optic fibre cable rusty.	Monitor	P3 (Observation)			

MAINTENANCE REPORT

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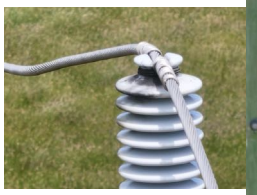
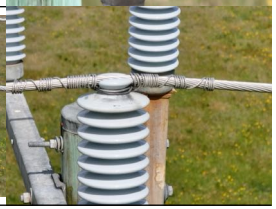
Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
998770 P242 -242 - 2 Dec 2025 - Mitchell Watson	66kV Insulator	Centre	Poly strain insulator has minor bird damage.	Monitor	P3 (Observation)			
998778 P248 -248 - 2 Dec 2025 - Mitchell Watson	Pole - Above GroundLine	Top	Pole has a split near top of pole.	Monitor	P3 (Observation)			
724769 P133 -133 - 21 Nov 2025 - Mitchell Watson	Stay Wire	Centre, On Pole	Rusty stay.	Monitor	P3 (Observation)			
998504 P297 -297 - 3 Dec 2025 - Mitchell Watson	66kV Insulator	Cross-arm end	Insulator hook rusty at crossarm.	Monitor	P3 (Observation)			
998530 P321 -321 - 8 Dec 2025 - Mitchell Watson	Attachment tie	Paddock side	Corroded tie.	Monitor	P3 (Observation)			
998531 P322 -322 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eye bolt worn.	Monitor	P3 (Observation)			

MAINTENANCE REPORT

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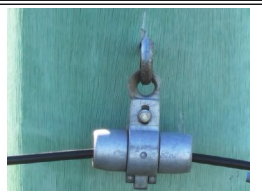
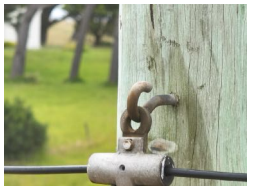
Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
998534 P325 -325 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eyebolt worn.	Monitor	P3 (Observation)			
998572 P333 -333 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eye bolt worn.	Monitor	P3 (Observation)			
998576 P337 -337 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Worn optic fibre eye bolt.	Monitor	P3 (Observation)			
998578 P339 -339 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Worn optic fibre eye bolt.	Monitor	P3 (Observation)			
724800 P148 -148 - 22 Nov 2025 - Mitchell Watson	Pole - Above GroundLine	Above Ground Line	Pole leaning 11 degrees.	Monitor	P3 (Observation)			
724840 P168A -168A - 22 Nov 2025 - Mitchell Watson	66 kV Cross-arm	Top	Xarm 1 bracket has loose nut.	Tighten	P3 (Observation)			

MAINTENANCE REPORT

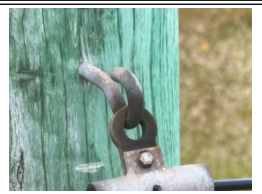
Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
724840 P168A -168A - 22 Nov 2025 - Mitchell Watson	66 kV Cross-arm	Middle	Xarm 2 bracket has loose nut.	Tighten	P3 (Observation)			
745442 P35 -35 - 24 Nov 2025 - Mitchell Watson	Pole Cap	Top	Pole cap needs to be screwed down.	Tighten	P3 (Observation)			
745443 P36 -36 - 24 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eyebolt is worn.	Monitor	P3 (Observation)			
745455 P47 -47 - 24 Nov 2025 - Mitchell Watson	Attachment tie	Centre	Centre phase tie corroded.	Monitor	P3 (Observation)			
784940 P72 -72 - 25 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eyebolt worn.	Monitor	P3 (Observation)			
784940 P72 -72 - 25 Nov 2025 - Mitchell Watson	66kV Insulator	Centre, On Pole	Centre insulator has rust stains. Check bolts for wear.	Monitor	P3 (Observation)			

MAINTENANCE REPORT

OMEXOM

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
998002 P70 -70 - 20 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eyebolt worn.	Monitor	P3 (Observation)			
998041 P91 -91 - 20 Nov 2025 - Mitchell Watson	Pole Cap	Top	Missing pole cap.	Replace	P3 (Observation)			
998087 P107 -107 - 20 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eye bolt worn.	Monitor	P3 (Observation)			
998096 P113 -113 - 21 Nov 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre has worn eyebolt.	Monitor	P3 (Observation)			
998655 P169 -169 - 22 Nov 2025 - Mitchell Watson	Pole Cap	Top	Missing pole cap.	Replace	P3 (Observation)			
998580 P341 -341 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eyebolt worn.	Replace	P3 (Observation)			

MAINTENANCE REPORT

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
998585 P344 -344 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic cable eye bolt worn.	Replace	P3 (Observation)			
998589 P347 -347 - 8 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Optic fibre eye bolt worn.	Replace	P3 (Observation)			
998589 P347 -347 - 8 Dec 2025 - Mitchell Watson	66kV Insulator, Attachment tie	Top	Corroded tie.	Monitor	P3 (Observation)			
998604 P353 -353 - 9 Dec 2025 - Mitchell Watson	Clamp / Connector	On Pole	Worn inner rubber on optic fibre clamp.	Replace	P3 (Observation)			
724866 P375 -375 - 9 Dec 2025 - Mitchell Watson	Pole - Above GroundLine	Top	Pole has split at top of pole.	Monitor	P3 (Observation)			
724877 P384 -384 - 9 Dec 2025 - Mitchell Watson	Pole Cap	Top	Rusty pole cap.	Replace	P3 (Observation)			

MAINTENANCE REPORT

Inspection Details	Maintenance Item	Asset Orientation	Maintenance Description	Recommended Action	Priority	Reason for change of reporting condition	Image 1	Image 2
732286 P292A -292A - 10 Dec 2025 - Mitchell Watson	Attachment tie	Paddock side	HV tie has vibration wear.	Monitor	P3 (Observation)			

Appendix J. PHA.OPS.09.036.1 Electrical Event Report

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Pacific Hydro logo (small)

Electrical Event Report

Report Number

Report Status

PHA.OPS.09.001 Electrical Event Report Procedure

Note: Faults that have the potential to cause injury or property damage are also to be reported on form HSE 012.002.2

Serious Electrical Incidents

Any faults that are deemed to be "serious electrical incidents" must as soon as practicable be reported to Energy Safe Victoria.

- an electrical worker who becomes aware of a serious electrical incident relating to work carried out by that worker;
- an operator of a high voltage electrical installation who becomes aware of any serious electrical incident occurring within that electrical installation
- an operator of a complex electrical installation who becomes aware of any serious electrical incident occurring within that complex electrical installation

Reporting Procedure to Energy Safe Victoria

As soon as it is safe to do so, contact Energy Safe by telephone on Telephone: (03) 9203 9700. This should occur within 4 (four) hours of the incident. The person who reported the incident to Energy Safe Victoria then must submit a written report of the incident to Energy Safe Victoria within 20 business days of the incident.

Short Description *

Reported By * Daniel Choi

Notification Date * 6/10/2020

Site Name * Please select a value...

Serious Electrical Event? * No

Event Number Auto Generated

Event Date & Time * 12 AM 00

Weather at time of event

Brief Description of Fault *

Supporting Attachments

Suspected Cause of Fault

Event Location / Type

Impact of Event - (operations / equipment)

Name / Location / No of CBs Open

Production Relay/s Operated / Triggered

Tripping Relay Indications

Attachments

Data Downloaded: Yes

Data Location

Externals Contacts

Power Restored: 12 AM 00

Duration: hours

	Date	Who	Description
Immediate Actions			
Future Actions			

Is Further Root Cause Required: No

SAVE | SAVE AND SEND UPDATES | CANCEL

Appendix K. PHA.OPS.09.002 Defect Reporting Procedure

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T +61 3 8621 6000
pacificblue.com.au

L13, 700 Collins Street
Docklands VIC 3008
Australia

PacificBlue

Defect Reporting Procedure

PB.OPS.09.002

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Document History

Documented Information			
Document Number	PB.OPS.09.002	Version Number	7
Document Status	Approved	Hierarchy Level	
Version Date	05/07/2024	Next Review Date	01/07/2027
Document Owner	Hongtao Cao	Controlled Document (Y or N)	Yes
Document Approver	Cesar Salvatierra	Legacy Number	PHA.OPS.09.002

Issue	Release Date	Comments
Initial Issued	01.10.2016	
3	3.12.2019	Major Updates to reflect updated GDMP
4	02.2020	Minor updates following improvements to Nintex Forms/Workflows. Format updates.
5	05.11.2021	Minor update to reflect latest GDMP and include the defect form for Outsourced assets
6	02.11.2022	General Review and update
7	01.07.2024	Update to align with Generation Decision-Making Procedrue and current company structure changes

1. Introduction

This procedure outlines the process to be followed when defects (or non-conformances) are found in Assets/systems (hardware or software) which are intended to continue operation.

Management of operational defects is important to ensure safe operation of the Assets and can support prevention of future similar/systemic defects.

Defects can vary in the Risk that they present to the safe operation of the Assets and hence the wider business. To help evaluate this risk we refer to the Risk Matrix in Appendix 1 which forms part of the board approved Enterprise-Wide Risk Management Framework. It is important to be familiar with, and refer to, Pacific Blue's Risk Matrix when considering raising a Defect Report to help establish the Risk Rating the Defect poses to Pacific Blue's business.

The rationale around management of Defects/Risk associated with Defects is:

- The Higher the Risk Rating the Higher the level of Review/Approval required.
- The Risk is managed by those best placed to do so.

Examples of defects include: damage to mechanical equipment such as towers, blades, drive train components and hydraulics, damage to electrical equipment such as sensors, transformers, cabling, switchgear, etc. Minor defects such as paint scratches, minor corrosion of ancillary plant, leaks, etc. should not rate as a risk (on the assumption they are picked up early) and hence should be raised as a Task on the Computerised Maintenance Management System (CMMS), with the aim to be rectified in the earliest convenient time possible if needed.

2. Scope

The purpose of this procedure is to define the defect concept across PB Operations, including clear guidelines to report them and to manage them in alignment with the Enterprise Risk Management Framework of Pacific Blue, and the Generation Decision-Making Procedure (GDMP).

3. Definitions

Term	Definition/Abbreviations
Asset	A piece of fixed or mobile equipment of value
Defect	A defect is any fault in the design, function or qualitative characteristic of an item in operation which differs from the specification, the drawing or recognised standard of good workmanship for that item other than that classified as 'fair wear and tear' within manufacturer's limits and that effects operational functionality or performance.
EWRMF	Enterprise-Wide Risk Management Framework

Significant Defects	Defects with a risk rating of High or Extreme according to PB EWRMF
Non-Significant Defects	Defects with a risk rating of Low or Medium according to PB EWRMF
Failure	A Failure is a substandard condition of a component or asset that causes the plant to breakdown or trip. Immediate repair is needed to restore the plant to operation
GDMP	Generation Decision-Making Procedrue
LCM	Lifecycle Cost Model
CMMS	Computerized Maintenance Management System
PB	Pacific Blue Australia

4. References

PB.OPS.07.005 Generation Decision-Making Procedrue

PB.OPS.09.005 Maintenance Management Procedure

5. Approvals Required to Operate Assets under Defects

As soon as a defect is identified on site in any of the assets within the PB operating fleet, a thorough risk assessment should be conducted to thoroughly review the risk rating of the defect (Appendix A).

5.1 Outsourced assets:

Contractors need to conduct risk assessment with actions recommended for PB approval.

5.2 In-housed assets:

Based on this risk review, a definition of "Significant" or "Non-Significant" event should then be allocated to the defect to facilitate its review in accordance with the current GDMP of PB.

Depending if the defect can be defined as "Significant" or "Non-Significant", and also depending if the underlying asset impacted by the defect is Critical or Not Critical (GDMP Annex 1.1), different approvals levels will be required to operate the asset under the respective defect. Supervisors and Regional Managers are responsible for ensuring that the proper approval levels have been used when continue operating assets in the presence of high-risk defects.

6. Defect Reporting Procedure

6.1 Outsourced Assets:

1- Raise a Defect Reporting Form

Contractor should refer to the Risk Matrix to determine if the proposed Defect risk rating is low and hence dose Not require a Defect Report to be raised.

Otherwise, Defect Reporting Form (Appendix C or Contractors' equivalent Form) is required to be completed with as much information including any action/s that have been undertaken and contractors' engineering/HSE/Management review/endorsement. Contractors should provide the completed Defect Reporting Form to PB Wind Contract Manger for review.

2- Wind Contract Manager Review

After received the Defect Reporting Form from Contractors, Wind Contract Manager needs to review and initiate the Defect Reporting as per section 6.2.

6.2 In-housed Assets:

The basic steps in the Pacific Blue initiated Defect Reporting process are shown below. It is structured to ensure a staged approval process which is graphically represented in Appendix B.

1- Raise a Defect Reporting Form

Initiator should refer to the Risk Matrix, to determine if the proposed Defect risk rating is Low and hence does NOT require a Defect Report to be raised.

Ensure the Defect Reporting Form is completed with as much information including any action/s that have been undertaken to date to minimise potential Rejection from subsequent reviewers

Recommendations from the originator on future action/s should also be included.

2- Supervisor (Regional Services Manager/Contract Manger) Review

Assess impacts, actions and the current unit status. Any additional supervisor actions/comments to be included.

Supervisor to review Risk Rating, the need for a Root Cause Analysis and approve.

Refer to GDMP procedure as to who can endorse/approve a change.

3- Engineer (Senior Asset Engineer) Review

As per their respective discipline's defect actions and future actions should be reviewed for soundness against engineering principles. Further support maybe sought through Subject Matter Experts (SME's) before rejecting/endorsing. The need for a Root Cause Analysis (RCA) should also be done.

Note that under the *Professional Engineers Registration Act 2019* that from July 2021 this engineering review stage may be defined under the definition of "*professional engineering services*" in which case it can only be performed by a registered professional engineer within their registered "*area of engineering*".

Refer to GDMP procedure as to who can endorse/approve a change.

4- Executive Manager Asset Management (EMAM) and/or Production Manager (PM) Review

Subject to the Defect 'Classification' and if it is impacting a 'Critical' Asset this step will either require the Production Manager to provide 'Backup' or 'Joint' endorsement/approval.

Refer to GDMP procedure as to who can endorse/approve a change.

5- General Manger Generation (GMG) Review

Subject to the Defect continuing to be classified as both

1. Critical, and
2. Significant (Extreme and High 'Post' Risk ONLY)

this step will be directed to the GMG for review.

Refer to GDMP procedure as to who can endorse/approve a change.

6- Chief Executive Officer (CEO) Review

Subject to the Defect continuing to be classified as both

1. Critical, and
2. Significant (Extreme and High 'Post' Risk ONLY), and
3. The Risk Consequence is rated as 'Catastrophic',

the defect information will be directed to the CEO for review.

Refer to GDMP procedure as to who can endorse/approve a change.

7- Initiated

Once the Defect form has made it through the review stages it can be commenced.

Note that this review process may not cover all site/task specific documentation such as SWMS/JSA's, Permits, Instructions etc which may still need to be reviewed prior to the task.

8- Completed

Defect status is to be reviewed through scheduled meetings and remain active until all follow-on actions are completed and the defect is resolved.

The Defect form can then be edited to 'Mark As Completed'.

Appendix A – Risk Matrix

Table 1: Risk Likelihood Ratings

Rating	Criteria
Frequent	Is expected to occur in most circumstances Risk has more than 75% chance of occurring Will occur within the next 6 months
Likely	Will probably occur in most circumstances Risk has 50-74% chance of occurring Will occur within 18 months
Possible	Might occur at some time Risk has 25-49% chance of occurring Will occur within 36 months
Unlikely	Could occur at some time Risk has less than 25% chance of occurring Will occur within 54 months
Rare	May occur only in exceptional circumstances Not likely to occur within next 5 years

Table 2: Risk Consequence Ratings

Rating	Financial Impact	Operations	Development Construction	Legal Compliance	Reputation	Environment Community	Health & Safety
Catastrophic	▪ Negative Financial Impact is: **EBITDA: > $20M** **and/or** **EV: > $200M**	▪ Significant reduction in group operations output: **> 30% pa** ▪ Serious damage to asset/s: **> 6 months loss of service**	▪ Significant development / construction delays: **> 12 months**	▪ Significant litigation or breach of regulation with damages / costs: **> $10M** ▪ Jailing of Director or Officer ▪ Court or Regulator imposed fine: **> $1M** ▪ Class action	▪ Significant / irreparable damage to Pacific Hydro reputation ▪ Requires PHPL Board attention ▪ Loss of Social Licence to Operate and ability to extend existing project lifecycle	▪ Significant environmental damage or long term impact resulting in costs: **> $10M** ▪ Significant breach of regulation with imposed fine: **> $1M** ▪ Significant breach leading to intrusive / restrictive regulation or moratorium ▪ Community outrage and/or significant media outcry with national / international coverage	▪ Fatality ▪ Lost time injury (LTI) resulting in permanent disability
Major	▪ Negative Financial Impact is: **EBITDA: $10M - $20M** **and/or** **EV: $100M - $200M**	▪ Major reduction in group operations output: **15% - 30% pa** ▪ Major damage to asset/s: **1 - 6 months loss of service**	▪ Major development / construction delays: **6 - 12 months**	▪ Major litigation or breach of regulation with damages / costs: **$2M - $10M** ▪ Court or Regulator imposed fine: **$0.5M - $1M**	▪ Major damage to Pacific Hydro reputation ▪ Requires CEO & CFO attention ▪ Social Licence to Operate under threat impacting ability to extend project lifecycle	▪ Major environmental damage or long term impact resulting in costs: **$2M - $10M** ▪ Major breach of regulation with imposed fine: **$0.5M - $1M** ▪ High-profile community concerns and/or heightened media attention ▪ Increased calls for more intrusive regulation	▪ Lost time injury (LTI) resulting in inability to work for > 30 days
Moderate	▪ Negative Financial Impact is: **EBITDA: $2M - $10M** **and/or** **EV: $20M - $100M**	▪ Moderate reduction in group operations output: **3% - 15% pa** ▪ Damage to asset/s with no loss of service ▪ Fines and penalties by regulators	▪ Moderate development / construction delays: **3 - 6 months** ▪ Fines and penalties by regulators and/or contractors	▪ Moderate litigation or breach of regulation with damages / costs: **$0.5M - $2M** ▪ Court or Regulator imposed fine: **$0.1M - $0.5M**	▪ Moderate damage to Pacific Hydro reputation ▪ Requires GM attention	▪ Moderate environmental damage or long term impact resulting in costs: **$0.5M - $2M** ▪ Moderate breach of regulation with imposed fine: **$0.1M - $0.5M** ▪ Medium term community impact that attracts local and national media attention	▪ Lost time injury (LTI) resulting in inability to work for 1 - 30 days
Minor	▪ Negative Financial Impact is: **EBITDA: $1M - $2M** **and/or** **EV: $5M - $20M**	▪ Minor reduction in group operations output: **1% - 3% pa** ▪ Censure by regulators	▪ Minor development / construction delays: **1-3 months** ▪ Censure by regulators	▪ Minor litigation or breach of regulation with damages / costs: **< $0.5M** ▪ Court or Regulator imposed fine: **< $0.1M**	▪ Minor damage to Pacific Hydro reputation ▪ Requires EM attention	▪ Minor environmental damage or long term impact resulting in costs: **< $0.5M** ▪ Minor breach of regulation with imposed fine: **< $0.1M** ▪ Local community complaints that attracts local media attention	▪ Medical treatment injury (MTI) or first aid treatment injury
Insignificant	▪ Negative Financial Impact is: **EBITDA: < $1M** **and/or** **EV: < $5M**	▪ Negligible group operational impact ▪ No loss of service ▪ Normal repairs to asset/s	▪ Negligible development / construction impact	▪ Negligible (immaterial) legal issues, non-compliances and breaches of regulation / contracts	▪ Negligible impact ▪ Reputation intact	▪ No lasting detrimental effect on the environment ▪ Negligible community impact - short term inconvenience	▪ No injury ▪ No review required

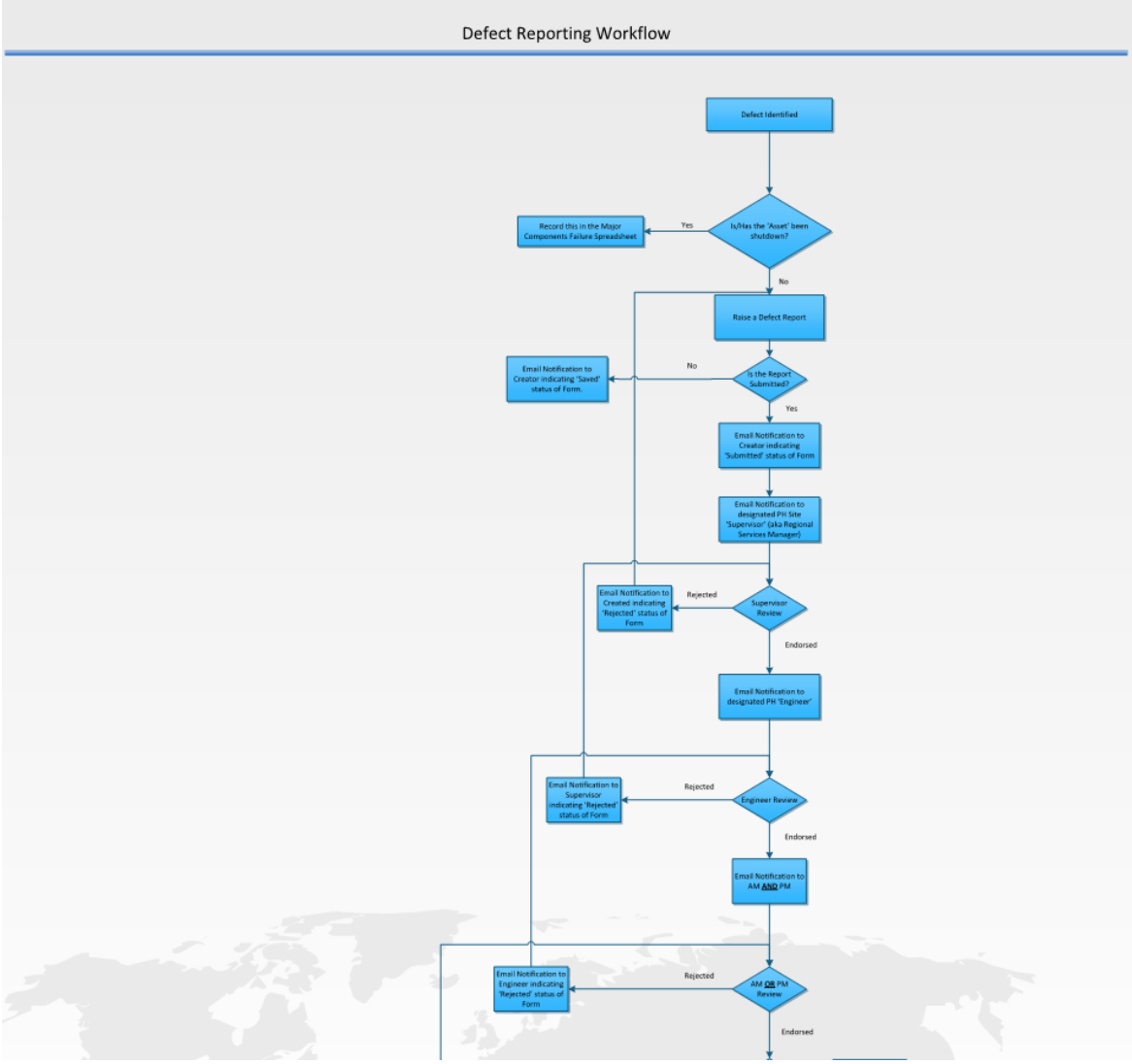
Figure 1: Risk Assessment Matrix

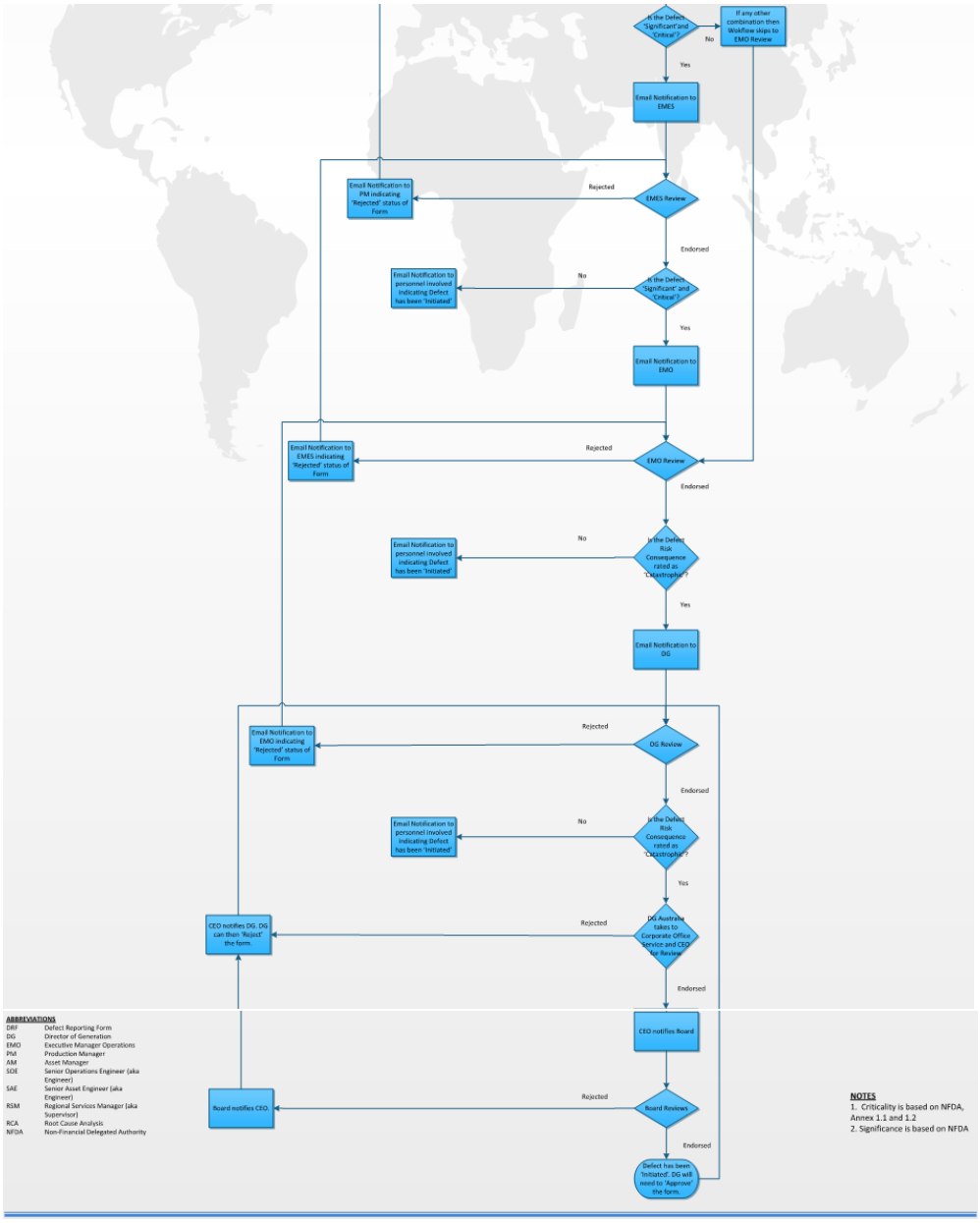
Consequence / Likelihood	Catastrophic	Major	Moderate	Minor	Insignificant
Frequent	Extreme 25.00	Extreme 24.00	Extreme 22.00	High 19.00	Medium 11.00
Likely	Extreme 23.00	Extreme 21.00	High 18.00	High 15.00	Medium 10.00
Possible	Extreme 20.00	High 17.00	High 14.00	Medium 9.00	Low 5.00
Unlikely	High 16.00	High 13.00	Medium 8.00	Low 4.00	Low 3.00
Rare	High 12.00	Medium 7.00	Medium 6.00	Low 2.00	Low 1.00

An example of determining the Level of Risk is provided below:

Risk	Likelihood	Consequence	Level of Risk
Risk 1	Frequent	Major	***Extreme***
Risk 2	Likely	Moderate	***High***
Risk 3	Possible	Minor	***Medium***
Risk 4	Unlikely	Insignificant	***Low***

Appendix B – Defect Reporting Workflow


Defect Reporting Workflow
Defect Identified
Is/Has the 'Asset' been shutdown?
Yes
Record this in the Major Components Failure Spreadsheet
No
Raise a Defect Report
Is the Report Submitted?
No
Email Notification to Creator indicating 'Saved' status of Form.
Yes
Email Notification to Creator indicating 'Submitted' status of Form
Email Notification to designated PH Site 'Supervisor' (aka Regional Services Manager)
Supervisor Review
Rejected
Email Notification to Created indicating 'Rejected' status of Form
Endorsed
Email Notification to designated PH 'Engineer'
Engineer Review
Rejected
Email Notification to Supervisor indicating 'Rejected' status of Form
Endorsed
Email Notification to AM AND PM
AM OR PM Review
Rejected
Email Notification to Engineer indicating 'Rejected' status of Form
Endorsed


Is the Defect 'Significant' and 'Critical'?
No
If any other combination then Workflow skips to EMO Review
Yes
Email Notification to EMES
EMES Review
Rejected
Email Notification to PM indicating 'Rejected' status of Form
Endorsed
Is the Defect 'Significant' and 'Critical'?
No
Email Notification to personnel involved indicating Defect has been 'Initiated'
Yes
Email Notification to EMO
EMO Review
Rejected
Email Notification to EMES indicating 'Rejected' status of Form
Endorsed
Is the Defect Risk Consequence rated as 'Catastrophic'?
No
Email Notification to personnel involved indicating Defect has been 'Initiated'
Yes
Email Notification to DG
DG Review
Rejected
Email Notification to EMO indicating 'Rejected' status of Form
Endorsed
Is the Defect Risk Consequence rated as 'Catastrophic'?
No
Email Notification to personnel involved indicating Defect has been 'Initiated'
Yes
DG Australia takes to Corporate Office Service and CEO for Review
Rejected
CEO notifies DG. DG can then 'Reject' the form
Endorsed
CEO notifies Board
Board Reviews
Rejected
Board notifies CEO.
Endorsed
Defect has been 'Initiated'. DG will need to 'Approve' the form.
ABBREVIATIONS
DRF Defect Reporting Form
DG Director of Generation
EMO Executive Manager Operations
PM Production Manager
AM Asset Manager
SOE Senior Operations Engineer (aka Engineer)
SAE Senior Asset Engineer (aka Engineer)
RSM Regional Services Manager (aka Supervisor)
RCA Root Cause Analysis
NFDA Non-Financial Delegated Authority
NOTES
1. Criticality is based on NFDA, Annex 1.1 and 1.2
2. Significance is based on NFDA

Appendix L. Defect Reporting Form

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Appendix C – Defect Reporting Form (for outsourced assets)

Part 1 Define Defect Details		
Short Description:		**Register No:**
Site:	**Unit Number:**	**Defected Asset:**
Event Date:	**Report Date:**	**CMMS Number:**

Current Status:

☐ Temporarily Operating: Operate until ..... ☐ Shutdown

Current Status Comments:

.....

.....

Risk Assessment (Refer Appendix A):

Pre/Inherent	**Post/Residual**
Consequence	Consequence:
Likelihood:	Likelihood:
Risk Rating:	Risk Rating:

Consequence Type:

☐ Health & Safety ☐ Environment & Community ☐ Financial

☐ Operations ☐ Development Construction ☐ Legal Compliance

☐ Reputation ☐ Other.....

Consequence Description:

Defect Classification:

☐ Mechanical ☐ Electrical ☐ Software ☐ Procedure ☐ Control

☐ Other.....

Defect Cause:

☐ Design ☐ Manufacture ☐ Installation ☐ Environment ☐ Human Factors

☐ Fatigue ☐ Corrosion ☐ End of life ☐ Inadequate Maintenance

☐ Other.....

Defect Full Description:

Warranty Defect: ☐ Yes ☐ No

Observed Defect Frequency:

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Root Cause Analysis

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List of Attachments Supporting Defect Reporting:

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Originator Details

Name……**Signature**…… **Date** ……

Part 2 Actions

Initial Action **Date:** **Responsible Name:**

Description:

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Further Actions	Target Date:	Responsible Name:	Completed Date:
Description:			

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Part 3 Review and Endorsement

Engineering Review and Comments:

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Reviewer Name: ……. Signature……. Date: ……

HSE Review and Comments:

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Reviewer Name: ……. Signature……. Date: ……

Management Endorsement:
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……..……
……..……
Name: ……. Signature……. Date: ……

Appendix D: Electronic Defect Reporting Form:

Links to the Defect Reporting Form are located at:

- Operations Dashboard under the 'Forms' field
- Operation and Maintenance Portals http://nexo.pacifichydro.com.au/sites/ausops/Pages/RMS-Operations-and-Maintenance-Portal.aspx

Appendix M. PHA.OPS.09.010 Root Cause Analysis Report

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Root Cause Analysis (RCA)

Site:	Unit No:	Report Date:	CMMS Task #:(If applicable)

Defect Report Request Number (eg, DRF_01_01_2020_12_00_00_PM):(if applicable)

Observed Problem Frequency: (To be checked against all previous RCA's and Defect Reports)

☐ First time ☐ 2-5 ☐ 5-10 ☐ 10-15 ☐ 15-25

Brief Description of Event/Problem: (If part of Defect Report then refer to Defect Report Form)

- ……
  ……
- ……
  ……

Impact/s on People, Environment, Business:

- ……
  ……
- ……
  ……

Root Cause Summary: (include RCA methodology used)

Action/s to take: (If any)	Name:	Date:
• ……	……	……
• ……	……	……
• ……	……	……

Analysis Members:

……

Analysis Lead Member:

Name: ..... Signature..... Date: .....

Appendix N. PHA.HSE.09.014 Contractor Performance Evaluation

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HSE Contractor Performance Evaluation

Contractor:		**Single Project / Annual Review:**	
Job Reference:		**Assessed by:**	
Location:		**Date of Evaluation:**	

Safety Performance

Did the contractor have any work injuries on site during the period of the contract / last 12 months? If YES, give details.	YES / NO
Was the contractor involved in any safety, environmental or other incidents? If YES, give details.	YES / NO

Safety Management and Standards

Poor = 1 Satisfactory = 2 Good = 3 Very Good = 4 Excellent = 5

	1	2	3	4	5
Rate the contractors ability to prevent injuries & achieve a goal of zero injuries and incidents					
Rate the adequacy of the contractor's safety management system					
Rate the adequacy of the contractor's safety auditing and inspections					
Rate the contractor's safety performance					
How good was the housekeeping and orderliness?					
Rate the safety attitude and cooperation of the contractor's supervisors.					
Rate the safety attitude and cooperation of the contractor's employees e.g. wearing PPE, barricading					
Rate the planning of safety during the contract. Was it positive and proactive? Toolbox Talks etc					
Rate the quality of the contractor risk assessments					

DRAFT

Comments on overall safety performance:

Contract

Poor = 1 Satisfactory = 2 Good = 3 Very Good = 4 Excellent = 5

	1	2	3	4	5
How well were requirements understood, incl. safety					
How responsive was the contractor to requests?					
How easy was communication (fax, email, etc.)?					

Comments:

HSE Work Performance

Poor = 1 Satisfactory = 2 Good = 3 Very Good = 4 Excellent = 5

	1	2	3	4	5
Was all the work completed safely on time?					
How prompt & complete was the HSE work documentation?					
Did the finished work meet the contract HSE specifications?					
How well was the contract HSE 'self-managed'?					

Comments on contract award:

Note on consultation with the Project Manager add to the Approved Contractor List. Yes/No

Overall, would you like to use this contractor again? YES / NO

Recommend: a) Stay on Approved Contractors List ☐ or
b) Remove from Approved Contractors List ☐
c) Need for further Dialogue re safety issues ☐