

# Appendix G

Environmental Management Plan





# Powerlink – Environmental Management Plan

## 1. Project Details

### 1.1 Project Number & Name

CU.00273 Meandu Mine Line Relocation

Feeder F831 Tarong - Middle Ridge

### 1.2 Powerlink Functional Location

TBA

## 2. Document Control

Revision	Date	Author	Approver	Summary of Changes
A	19/12/2022	Russell McKenna	Brian Gover	DRAFT



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### 3. Introduction

#### 3.1 Purpose

This document provides the required standard operational controls to be implemented to meet Powerlink's environmental performance criteria.

#### 3.2 Scope

The Specification applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies).

Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of this Environmental Management Plan (EMP).

This EMP provides the operational planning and control requirements for Powerlink's [Environmental Management System Framework](#). Powerlink's Environmental Management System contains the process for reporting environmental related low level incidents (refer to [Environmental Event Classification Matrix](#)) into PQSwitch (Powerlink's HSE reporting database). Major incidents are managed through the [Environmental and Cultural Heritage Emergency Management Plan](#).

#### 3.3 References

Document reference	Document title
<a href="#">STM-ID&amp;TS-FRA-A2444613</a>	Cultural Heritage Management Framework
<a href="#">A1041789</a>	Environmental Legislation Register
<a href="#">BUR-SR&amp;CS-PLN-A515952</a>	Powerlink - Environmental and Cultural Heritage Emergency Management Plan
<a href="#">ENV-SR&amp;CS-CKL-A2280045</a>	Powerlink – Environmental Event Classification Matrix
<a href="#">ENV-SR&amp;CS-FRA-A1017822</a>	Powerlink - Environmental Management System Framework
<a href="#">ENV-SR&amp;CS-PRO-A1870869</a>	Powerlink - Environmental Risk Assessment Procedure
<a href="#">ENV-SR&amp;CS-PRO-A2067575</a>	Powerlink - Environmental Training Programme Procedure
<a href="#">WHS-P&amp;C-FRA-A2108115</a>	SMS00 Safety Management System
<a href="#">WHS-P&amp;C-STD-A2135464</a>	SMS05 Training and Competency

#### 3.4 Defined Terms

Term	Definition
EAR	Environmental Assessment Report (EAR): A formal planning process that involves undertaking a detailed assessment to identify and measure the environmental, social and economic impacts that may occur as a result of a development. This includes consultation with stakeholders and developing proposals for avoiding or reducing adverse impacts.
EMS	Environmental Management System
Environmental Harm	An adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and includes environmental nuisance.



Term	Definition
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EWP	Environmental Work Plans
HSE	Health Safety and Environment
LAP	Land Access Protocol
LMS	Learning Management System
PQ Switch	HSE IT System for recording events/incidents and associated corrective actions.
SMS	Safety Management System

### 3.5 Roles and Responsibilities

Who	What
Powerlink Project Manager	<p>Approves the EMP and any revisions.</p> <p>Responsible for ensuring Powerlink project personnel receive environmental inductions and awareness training and inductions outlined in the EMP.</p> <p>Ensures the EMP is received by the nominated Contractor/s and ensures that implementation of the controls in the EMP are adhered to through a verification and compliance plan.</p> <p>Notifies Supervisor/ Manager of any environmental events relating to the project, and that they are investigated at the appropriate level and corrective/ preventative actions implemented to prevent reoccurrence.</p>
Powerlink Environmental Representative	<p>Environmental specialist responsible for interpreting and promoting awareness and understanding the requirements of this EMP.</p> <p>Provide the project team with project specific environmental advice and the required application of mitigation measures in this EMP.</p> <p>Facilitate the development of the project specific HSE verification and compliance plan to monitor the Contractors.</p> <p>Assist in verification of Contractor compliance against the EMP.</p> <p>Ensure any permits/approvals/licenses are obtained in accordance with the EMP.</p> <p>Undertake investigations of environmental incidents when required.</p> <p>Ensure that all environmental items are closed out prior to completion of the project.</p>
Powerlink Employees / Contractors	<p>Undertake works in accordance with the documented EMP requirements.</p> <p>Attend and actively participate in inductions and project training requirements.</p> <p>Report environmental events to Supervisor as soon as possible.</p> <p>Participate in investigations if requested, including the implementation of corrective/ preventative actions as required.</p>

### 3.6 Monitoring and Compliance

Monitoring and compliance to this EMP will be undertaken by the Powerlink Project Manager, Powerlink Environmental Representative or other nominated Powerlink personnel associated with the project. Sections of this EMP may also be included for review within the Powerlink Health Safety and Environmental Audit Program.

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### 3.7 Approval Commitments

Any commitments identified within an Environmental Assessment Report (EAR), Referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), or any other approval process and resultant conditions, shall be followed and undertaken. Commitments shall be documented within Powerlink's Centralised Document Management System for Asset Specific (Functional Location) Environmental Information for referencing purposes, along with any relevant geospatial data recording.

### 3.8 Cultural Heritage

Management of Powerlink's cultural heritage related risk is governed by ID&TS [Cultural Heritage Management Framework](#). This includes Aboriginal and other cultural heritage.

Assessment of risk posed by activities conducted by Powerlink staff, contractors and maintenance service providers is to be made by Powerlink's cultural heritage practitioners prior to the activity. Cultural heritage constraints are documented within PQ Connect, Environmental Work Plans and Cultural Heritage Implementation Documents (CHIDs).

### 3.9 Land Access Protocol (LAP)

This EMP shall be used in conjunction with Powerlink's [Land Access Protocol](#) (LAP). The LAP contains the guiding principles and commitments for land access which underpin Powerlink's relationship with landholders and our access to and use of land. A copy of the LAP is available from Powerlink's internet web site.

### 3.10 Environmental Work Plans (EWPs)

Environmental Work Plans (EWPs) provide a geospatial representation of key land and water based data sets which are of relevance to Powerlink's assets. EWPs shall be used by Powerlink staff, contractors, relevant sub-contractors and relevant Maintenance Service Providers for the identification of key environmental features and/or constraints which have been highlighted to enable works to be undertaken on or in association with a Powerlink asset.

### 3.11 Register for Asset Specific (Functional Location) Environmental Information

Powerlink continues to develop a centralised system that contains functional location environmental relevant information (Objective reference to Site Folder – Environmental Information). This register is used by Powerlink as a key resource for any site specific relevant environmental information – including:

- Acquisition details
- Easement Terms and Conditions
- Permits/Approvals/Licences
- EWP Objective Specific References (if available)
- Biosecurity
- Erosion and Sediment Control
- Wildlife Interactions
- Contaminated Material and Waste
- Environmental Amenity

### 3.12 Health Safety Environmental Management System (HSEMS)

Powerlink's HSEMS framework define objectives and key requirements necessary to achieve the Health, Safety and Environment Policy objectives.

### 3.13 Stakeholder Management – PQ Connect

PQConnect provides a corporate wide stakeholder management system or a single point of truth for all information captured through stakeholder engagement and complaints management processes. It provides a mechanism to track interactions with stakeholders and highlights constraints or commitments made by Powerlink. PQConnect

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links with other existing Powerlink systems including PQ Maps which provides the mechanism to produce geospatial EWP's as referenced in Section 3.10.

### 3.14 Training and Competency – Environmental

Powerlink staff or Contractors undertaking activities that have an environmental impact will have an appropriate competency matrix which includes specific environment related competencies.

Powerlink staff training records are maintained in the Learning Management System (LMS). Each module, whether it is online or whether it is instructor-led, is allocated a unique course code in the LMS for recording purposes. Details of enrolment and completion status are maintained in the LMS for all employees, contingents/labour hire and contractors. Contractors may utilise a comparable system through evidenced auditable results provided to Powerlink.

### 3.15 Environmental Risk Assessment

Environmental risk assessments shall be undertaken in accordance with Powerlink's [Environmental Risk Assessment Procedure](#), which incorporates Powerlink's corporate risk process and associated risk matrix. Risk assessments will be undertaken and documented prior to works in order to identify the relevant environmental issues that require control measures for itemising within contract documents or relevant specification documents.

### 3.16 Legislative Compliance

Powerlink activities shall be undertaken in accordance with all relevant federal, state, and local government legislation. This key legislation has been identified within Powerlink's [Environmental Legislation Register](#).

An assessment of all environmental and planning approval requirements and other legislative requirements relevant to the activities is to be carried by Powerlink staff, contractors and maintenance service providers prior to the commencing the activity. There may also be existing approvals, or exemptions, which are subject to conditions. Some of the key potential requirements are identified in this EMP.

Applicable legislative requirements shall be identified within subordinate documentation or as a part of any relevant contract specification.

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## Appendix A - Biosecurity

### 1. Purpose

To set the standard for activities undertaken by or on behalf of Powerlink Queensland which may introduce the risk of spreading or introducing biosecurity matter (pests, weeds, diseases, pathogens, contaminants).

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the specification.

### Performance Criteria

**B-PC1** Discharging Powerlink's "[general biosecurity obligation](#)" as defined under the [Biosecurity Act 2014](#).

### General Requirements

- BIO1** The minimum requirements for discharging the "general biosecurity obligation" associated with ongoing "business as usual" works includes but is not limited to:
- (a) Implement the requirements of the project specific Biosecurity measures as per Appendix A - Biosecurity.
  - (b) Comply with any land access requirements (e.g. [cleandown](#) before entry) documented within EWP's. Conflicts with data represented shall be referred to the relevant Powerlink HSE representative for clarification.
  - (c) Training Requirements:
    - (i) Powerlink staff:
      - (a) Staff travelling into the field must have completed Environmental General Awareness training Level 2.
      - (b) Staff required to self-certify or certify other vehicles, plant, equipment and machinery ([VPEM](#)) using statutory declarations or other formal certification systems must have the following qualification, AHC BIO201 Inspect and clean machinery for plant, animal and soil material (or an equivalent evidentiary competency and experience that meets the proceeding stated qualification). These certifying activities typically generate [Biosecurity Certificate](#) documents.
    - (ii) Contractors/Consultants:
      - (a) All Contractors/consultants working in the field must receive an induction regarding biosecurity matters and management requirements for the project/work on which they are working on.
      - (b) Contractors and consultants required to self-certify or certify other vehicles, plant, equipment and machinery (VPEM) using statutory declarations or other formal certification systems must have the following qualification, AHC BIO201 Inspect and clean machinery for plant, animal and soil material (or an equivalent evidentiary competency and experience that meets the proceeding stated qualification). Evidence of the qualification or verification of competency must be provided to Powerlink.
  - (d) Cleandown facilities are to be constructed in accordance with Powerlink drawings ([A1-H-154843-001 to 004](#)). Agreement from the landholder for single temporary or "one off" installations (if required) shall be selected at the edge, or nearby to any areas where weeds or pathogens need to be

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contained; ensure runoff will not enter any watercourse or waterbody; avoid sensitive vegetation; and select locations which gently drain away from the cleandown location. Cleandown sites will be clearly marked in the field and scheduled for weed monitoring.

- (e) Cleandown of VPEM and appropriate records must be completed before arriving in a new geographical location (i.e. between Northern, Central, and Southern Queensland for a new project or for a maintenance contract). It is important that cleandowns be initiated within the same area as the exposure to the biosecurity matter, prior to departure rather than upon arrival at a different geographical location or clean area.
- (f) If VPEM leave the Project area, they must be re-certified using a new Biosecurity Certificate document when arriving back within the project area.
- (g) Cleandown records are to be kept for a minimum of 7 years. Contractors working on behalf of Powerlink are required to periodically submit biosecurity records (e.g. Biosecurity Certificate documents, VPEM cleandown logbooks) as defined by the works under contract and no later than at completion of the works under contract.
- (h) Undertake cleandowns as per the Queensland Government's "[Queensland checklist for cleandown procedures](#)".
- (i) Vehicle journey planning shall be undertaken, as far as practicable, in order to visit biosecurity free areas first, before travelling to areas affected by biosecurity matters.
- (j) Any hire vehicle required for work where biosecurity management is an issue, shall be accompanied with a current Biosecurity Hygiene Declaration document at the nominated vehicle collection date and time. A visual inspection shall be undertaken on the hire vehicle to ensure biosecurity hygiene requirements.
- (k) Avoid or minimise travel through areas heavily affected by biosecurity matters wherever possible.
- (l) If areas containing biosecurity matters (that are of high risk of spreading) are traversed, a cleandown is to be completed upon leaving the area and subsequent record completed, based on the biosecurity risk assessment outcome.
- (m) Established roads and tracks will be utilised where practicable, with slashing and gravelling to be considered in areas of high volume traffic.
- (n) Ground disturbance and removal of native or pastoral ground cover is kept to a minimum.
- (o) Biosecurity Certificates shall be provided for all high risk material (i.e. sand, soil, mulch etc.), from suppliers of these products (if available). Quantities of soil/gravel obtained from a landholders borrow pit shall have a self-certifying Biosecurity Certificate (excluding movement of material within the same property).
- (p) Any loads of plant material or soil (that may contain biosecurity matter) are covered during transport.
- (q) All personnel, VPEM to be cleaned and disinfected of pathogens upon exiting known pathogen risk areas (e.g. Panama disease tropical race 4 – fungus).
- (r) Participate as required in the Queensland Government Biosecurity requirements for managing emergency situations.
- (s) Inspect work areas for new outbreaks as required.

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- (t) Powerlink will monitor current and previous cleanup sites for a minimum of 2 cycles after the site was last used as outlined in the [Land Asset Methodology Framework](#).
- (u) Biosecurity data (weed species and distribution) to be collected commensurate with the level of risk. Information will also be uploaded into Powerlink’s spatial system as per [Spatial Services Data Capture Standard](#) and any relevant SAP data inputs (i.e. present or not present), by the Powerlink Division responsible for the activity within three calendar months.
- (v) Appropriate disposal of material potentially contaminated with pest plant materials and diseases in accordance with *Biosecurity Act 2014* requirements.

**BIO2** For the Project, specific Biosecurity Zones will be developed based upon collected biosecurity information. This process shall include but is not limited to:

- (a) Consultation with landholder/s to identify and communicate:
  - (i) Any known biosecurity matters that should be considered prior to entry.
  - (ii) Any biosecurity matters that Powerlink has identified on their property.
  - (iii) Gauge concerns in relation to biosecurity matters
    - Weeds/pests/pathogens that are currently present on the property
    - Which weeds/pests/pathogens are being actively managed
    - Weeds/pests/pathogens of concern in region (not currently on property)
    - Other biosecurity control measures currently in place on property.
- (b) Establish site access requirements with landholders (Generic site access requirements are defined in Appendix A - Biosecurity).
- (c) Ensure all information from landholder consultation relevant to biosecurity management is appropriately recorded (PQ Connect and spatial system) and communicated to relevant Powerlink staff.
- (d) Complete initial weed surveys for projects involving the complete installation of new assets or complete rebuild of an existing asset requiring new access tracks during an appropriate time of the year in order to capture biosecurity data (weed species and distribution) in accordance with [Powerlink Spatial Services Data Capture Standard](#). Targeted survey area shall include relevant easement areas, immediate adjoining areas and associated access track routes. All captured data is to be uploaded into Powerlink’s spatial system, by the Powerlink Division responsible for the activity within 3 months of completion of the project.
- (e) Consider relevant industry biosecurity management guidelines.
- (f) Data collected during landholder discussions (from Clause BIO2 (a) above) and weed surveys will facilitate or provide input into the biosecurity risk assessment process including:
  - (i) The consequence or degree of harm that may result from the hazard;
  - (ii) The likelihood of the hazard or risk occurring;
  - (iii) The timeframe (how much warning and duration of threat);
  - (iv) What the person knows or ought reasonably to know about the hazard or risk;
  - (v) The availability and suitability of ways to minimise the risk.
  - (vi) Relevant industry, community, and NRM groups for how cleanup locations will link in with any broader biosecurity management strategies.

The outcome of the risk assessment process should provide the location, frequency, type and longevity (of cleanup facility and whether temporary or permanent) and method of cleanup (e.g. brush and vacuum, high pressure air, high pressure low volume water, low pressure high volume water, disinfection wash or spray).

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- (g) Temporary or Permanent Cleandown facility selection and site location selection shall consider:
- (i) Cleandown sites will be located in the following preferential order (in consultation with the relevant stakeholders):
    1. Utilise existing commercial cleandown facilities
    2. On Powerlink owned land
    3. On easement
    4. On road reserve
    5. On existing and agreed access (off easement on private property)
  - (ii) Cleandown sites will not be located on a clean property (with the exception of a Powerlink owned property), but rather on the way out of a property affected by a biosecurity matter.
  - (iii) Cleandown sites will not be located in environmentally sensitive areas (as defined by the [Environmental Protection Act 1994](#)), unless agreed to by the nominated Regulator (e.g. a temporary cleandown facility in a National Park).
  - (iv) Cleandown sites will be located as close as possible (based on the risk assessment noted in BIO2 Clause (f)) to the infested area to prevent further weed and pathogen spread.
  - (v) Runoff will be managed to ensure that sediment, grease, oil and viable plant material does not pollute waterways.
  - (vi) Cleandown equipment shall be maintained in a serviceable and usable condition.
  - (vii) Cleandown sites will be recorded in accordance with [Spatial Services Data Capture Standard](#) and data required for SAP (i.e. permanent cleandown locations only).
  - (viii) Temporary cleandown sites will be decommissioned at the end of the project, with geofabric and contaminated materials disposed of at a licensed disposal facility and the site rehabilitated to meet 70% ground cover.

**BIO3** Biosecurity measures will be developed to support construction and operation of the Project and to achieve Powerlink's general biosecurity obligation under the *Biosecurity Act 2014*. The biosecurity measures will include the following.

- (a) Alignment with key national, state and local biosecurity priorities.
- (b) Incorporation of the Biosecurity Zones.
- (c) Clean down protocols, including accepted methodology for any vehicles, plant, equipment or machinery entering site.
- (d) Nominated permanent and temporary cleandown locations within or in the vicinity of the Project area.
- (e) Known WoNS, Restricted, Invasive or Regionally Declared weeds identified in the Project area.
- (f) Identification of the origin of high risk construction materials, machinery and equipment and treatment where required to mitigate introduction of weed species.
- (g) Management methods to control spread of weeds considered to be Restricted Matters in keeping with regional management practice or Queensland Department of Agriculture and Fisheries pest control prescriptions.
- (h) Promotion of awareness of weed management, by inclusion of weed issues, pictures and procedures into the Project's site induction program.
- (i) Collaboration with Landholders on any existing property specific integrated pest management or biosecurity management plans.
- (j) Weed monitoring during construction and operation to identify any new incidence of weeds.

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**Supportive Information**

Document reference	Document title
External Document	<a href="#">Queensland checklist for clean down procedures</a>
HSE-PRO-A2948323	Powerlink – Biosecurity Management Procedure
<a href="#">ASM-I&amp;P-FRA-A968358</a>	Powerlink – Land Asset Methodology Framework
A1-H-154843-001 to 004	Powerlink Washdown Facility Drawings (available through SPF only)
<a href="#">ASM-ID&amp;TS-STD-A2062902</a>	Spatial Services Data Capture Standard
<a href="#">AM-STA-0784</a>	Transmission Line Access Tracks Standard

Term	Definition
Biosecurity Certificate	A document issued identifying whether the stated biosecurity matter or thing is free of prohibited matter or biosecurity matter or confirms the biosecurity matter or thing is from a stated place, meets specified requirements, is in a stated condition or has been appropriately treated.
Biosecurity measures	Document or process that outlines biosecurity measures and management requirements.
Biosecurity Matter	Is a living thing, other than a human or part of a human; or a pathogenic agent that can cause disease in a living thing, other than a human, or in a human, by the transmission of the pathogenic agent from the animal to the human; or a disease; or a contaminant.
Clean Down	All exposed areas of the vehicle are cleaned using compressed air, vacuum, brush or a high pressure water spray. All reasonable effort must be made to ensure that both the operator and the vehicle, toolboxes and equipment are free of contaminants prior to leaving an area.
Early Access Protocols	Requirements for access onto a property prior to development of biosecurity measures
EWP	Environmental Work Plans
GBO	General Biosecurity Obligation – individuals and organisations whose activities pose a biosecurity risk must: <ul style="list-style-type: none"> <li>take all reasonable and practical steps to prevent or minimise each biosecurity risk;</li> <li>minimise the likelihood of causing a 'biosecurity event', and limit the consequences if such an event is caused; and</li> <li>prevent or minimise the harmful effects a risk could have, and not do anything that might make any harmful effects worse.</li> </ul>
MSP	Maintenance Service Providers
SAP	Systems Applications and Products – Software Program.
Visual Inspection	A visual inspection of the vehicle is made, including the radiator, wheel wells, running boards and particularly the carpets, floor mats and seats within the cab. If vegetative matter is found or cannot easily be removed a vehicle clean down is required.
VPEM	Vehicles, plant, equipment and machinery.



## Appendix B - Agricultural Chemicals

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the specification.

### Performance Criteria

**AC-PC1** *No unauthorised distribution of agricultural chemicals.*

**AC-PC2** *No complaints received regarding use of agricultural chemicals.*

### General Requirements

**AC1** All ground distribution of chemicals to occur in accordance with the following:

- (a) Operation of distribution equipment is carried out by (or supervised by) the holder of a commercial operator's license or under the authority of a licenced ground distribution contractor.
- (b) Distribution in a hazardous area is carried out in accordance with a [Hazardous Area Distribution Permit](#) and the prescribed conditions for the hazardous area. Refer to the [Agricultural Chemicals Distribution Control Act 1966](#) for more information.
- (c) Liaise with and notify landholders prior to the use of chemicals (to control weeds) on properties.
- (d) All methods and rates of chemical application must comply with label conditions (or a permit for off label use). Refer to the [Australian Pesticides and Veterinary Medicines Authority](#) for more information.
- (e) Make and keep records for each and every ground distribution of chemicals in accordance with section 26 of the [Agricultural Chemicals Distribution Control Act 1966](#). Submit records to Powerlink at the completion of works under contract. Keep records for a period of 2 years after such distribution.
- (f) Report any damage to stock as a result of chemical distribution to Powerlink within 2 days.
- (g) Report any damage to crops as a result of chemical distribution to Powerlink within 14 days.

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## Appendix C - Erosion and Sediment Control

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**ESC-PC1** *Site stable with no uncontrolled sediment leaving the work site, asset location or supporting infrastructure.*

**ESC-PC2** *No deterioration in water quality in water bodies caused by sedimentation from work.*

### General Requirements

**ESC1** For soil disturbance works, erosion and sediment risk control measures shall give consideration to:

- (a) Soil disturbance activities are to be managed in accordance with [IECA Best Practice Erosion and Sediment Control Guidelines](#) 2008.
- (b) Assessment of site (i.e. upslope catchment and downslope receiving environment, time of the year – expected rainfall, soil type, slope);
- (c) Ability to divert upslope stormwater/runoff to minimise erosion;
- (d) Minimise ground disturbance and retain ground cover to reduce potential erosion surface area;
- (e) Prior to soil disturbance, develop and/or implement an Erosion and Sediment Control Plan (ESCP).
- (f) Undertake progressive rehabilitation of disturbed areas as soon as practicable to establish ground cover.
- (g) Site rehabilitation to achieve a minimum 70% ground cover to disturbed areas;
- (h) Prior to soil disturbance, identify environmental values and water quality objectives of the receiving waters. Utilise regional water quality objectives where available. Where no regional water quality objectives have been established, baseline water quality data (pH and NTU) to be collected from receiving waters (upstream and downstream of works). Where this baseline water quality data cannot be collected, the following nominated targets shall be used:
  - Turbidity less than 75 NTU
  - pH 6.5 – 8.5
  - Dissolved oxygen  $\geq$  6.5 mg/L
  - No visible debris or hydrocarbons.
- (i) Where soil disturbance has taken place, undertake visual assessments for the presence and effectiveness of erosion and sediment control structures and measures, particular preceding significant rainfall events (within 24 hours of expected rainfall while the site is unstable, weekly inspections when rainfall is not expected or the site is stable). Records of this monitoring will be available on site for inspection.
- (j) Access track works shall be managed by clause ESC2.

**ESC2** Access tracks to be installed in accordance with [Transmission Line Access Work Instruction](#) and any relevant technical specification requirements.

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- ESC3** Minimise ground cover and soil disturbance in erosion prone and steeply sloping areas during clearing activities. Determine appropriate clearing methods for moderate to high erosion prone and steep areas so that the clearing methods minimise soil disturbance and potential for soil loss.
- ESC4** A dewatering method is to be prepared and implemented, taking into consideration site conditions. At a minimum - Dewatering of foundations or pits shall be dewatered through a filtration mechanism (i.e. sediment filtration device) with nil sediment discharge off site. Dewatering records are mandatory for sediment basin management. Records of dewatering of a sediment basin must contain the type and quantity of flocculating agent applied, pH of water immediately prior to release, turbidity (NTU) of water immediately prior to release, volume of water released, location of release, date and time, and will be available on site for inspection.
- ESC5** Concrete washout pits are to be established on site for the washing of concrete tools and agitator truck chutes. This washout pit will be installed such that runoff from areas outside the pit is not allowed to enter the pit and contaminated water will not discharge from the pit in a rainfall event. The washout pit will be placed on the ESCP, communicated to concrete truck drivers and also be fenced using temporary bunting or covered when not in use to prevent access by the public and or domestic/native animals. The concrete washout pit will be removed at the completion of works.
- ESC6** Ensure that any excavation or placing fill in a waterway is carried out in accordance with the [Riverine Protection Permit Exemption Requirements](#) (WSS/2013/726) or is otherwise authorised under relevant legislation.
- ESC7** Ensure that any taking of water for the purpose of constructing or maintaining infrastructure is carried out in accordance with the [Exemption requirements for constructing authorities for the take of water without a water entitlement](#) (WSS/2013/666) or is otherwise authorised under a water entitlement.
- ESC8** Records of sourced water to be made available on site, for inspection.
- ESC9** Any areas required for stockpiling must have topsoil stripped (100 mm depth) prior to placement of any stockpile material to ensure suitable material is available for rehabilitation.

**Supportive Information**

Document reference	Document title
External Document	<a href="#">IECA Best Practice Erosion and Sediment Control Guidelines 2008</a>
External Document	<a href="#">Exemption requirements for construction authorities for the take of water without a water entitlement (WSS/2013/666)</a>
External Document	<a href="#">Riverine protection permit exemption requirements (WSS/2013/726)</a>
<a href="#">ASM-I&amp;P-WKI-A576805</a>	Powerlink – Transmission Line Access – Work Instruction
<a href="#">AM-STA-0784</a>	Transmission Line Access Tracks Standard



## Appendix D - Wildlife Interactions

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**WI-PC1** *No unauthorised impacts on protected animals.*

**WI-PC2** *Minimise impacts on wildlife and breeding places from construction, operation, decommissioning and maintenance activities.*

### General Requirements

- WL1** Suitably qualified fauna spotter catchers must be engaged to undertake pre-clearance habitat searches and be present during vegetation clearing activities to minimise fauna harm.
- WL2** Powerlink will issue an EWP providing clear guidance on no-go zones, sensitive vegetation and habitat (such as identified nests) areas to be cleared and retained, methods for clearing and other relevant environmental protection matters.
- WL3** Obtain approvals or permits for construction activities and for species to which the Damage Mitigation Permit do not apply.
- WL4** Obtain a project specific approved Species Management Program (SMP) from DES for tampering with animal breeding places "low risk of impacts" for Least Concern animals (excluding Special Least Concern or colonial breeders).
- WL5** Obtain a project specific approved SMP from DES for tampering with animal breeding places "high risk of impacts" for all other protected animals including Special Least Concern animals and colonial breeders. Include identified species specific information for the approval.
- WL6** Any disturbance to wildlife and [breeding places](#) during maintenance is to occur in accordance with relevant permits.
- WL7** Pre-clearance habitat surveys will be undertaken immediately prior to clearing to identify any active breeding places and where possible relocate fauna to an undisturbed location. Pre-clearance surveys shall also identify shelters and breeding places potentially utilised by Least Concern species, colonial breeders and conservation significant fauna for inspection and consideration by fauna spotter catchers during clearing works.
- WL8** Injured, sick or dead vertebrate fauna identified during the project construction phase will be recorded by the fauna spotter catcher and notified to the Powerlink HSE Representative.
- WL9** Record habitat features and retain, where practical, and in accordance with [Powerlink – Vegetation Control Standard](#), ensuring that the habitat features will not impact on the safe and reliable operation of the asset.
- WL10** Habitat features such as felled trees and logs will be considered for relocation to other areas where practical to provide microhabitat for fauna.

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- WL11** Assessment, disturbance or clearing of any habitat features (i.e. trees containing hollows, hollow logs, nests, other breeding places) will require a suitably qualified and experienced person (as defined by DES – e.g. [Rehabilitation Permit](#)) for any relocations. Clearing is to be undertaken in a staged and sequential manner, away from harmful environments such as roads.
- WL12** Identify where water crossings may need to be constructed or upgraded and assess against the Department of Agriculture and Fisheries, Accepted Development Requirements for Operational Work that is Constructing or Raising Waterway Barrier Works. Obtain any permits required outside of these codes. Construct and/or upgrade water crossings in accordance with codes and/or permit conditions. Additional guidance can be sourced from [Powerlink – Transmission Line Access](#).
- WL13** Potential bird strike areas identified will be evaluated by environmental specialist to determine if and where installation of diverters is required. Any spans on which diverters are installed will be recorded in SAP.
- WL14** Fauna friendly anti-climbing barriers are to be installed on towers where wildlife interactions have been identified or are likely (e.g. Riparian zones). Records of fauna friendly anti-climbing barriers will be recorded in SAP.
- WL15** Implement measures to recover and arrange rehabilitation with an authorised carer for injured or orphaned native animals unavoidably impacted by clearing and/or construction activities. Identify local wildlife carers and wildlife associations, who may be able to provide wildlife services if required.
- WL16** Prohibit domestic pets and animals on site during works.
- WL17** Restrict vehicles to approved and mapped access tracks and only those vehicles required for the safe, efficient and essential construction activities will be allowed in the work area.

**Supportive Information**

Document reference	Document title
External Document	<a href="#">Accepted Development Requirements for operational works that is constructing or raising waterway barrier works</a>
External Document	<a href="#">Exemption requirements for the taking of water without a water entitlement under the Water Regulation 2002 (WSS/2013/666)</a>
External Document	<a href="#">Accepted Development Requirements for operational work that is the removal, destruction or damage of marine plants</a>
External Document	<a href="#">Riverine protection permit exemption requirements (WSS/2013/726)</a>
<a href="#">ASM-I&amp;P-FRA-A968358</a>	Powerlink – Land Asset Methodology Framework
<a href="#">ASM-I&amp;P-GDL-A588122</a>	Powerlink – Management of Hazardous Marginal Trees Guideline
<a href="#">ASM-I&amp;P-WKI-A576805</a>	Powerlink – Transmission Line Access – Work Instruction
<a href="#">ASM-I&amp;P-STD-A462935</a>	Powerlink – Vegetation Control Standard

Term	Definition
Breeding Place	A bower, burrow, cave, hollow, nest or other thing that is commonly used by an animal to incubate or rear the animal's offspring.

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## Appendix E - Koala Habitat

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**KH-PC1** *To avoid, minimise and mitigate impacts on koalas and koala habitat.*

### General Requirements

- KH1** Remove the minimum number of trees required, to the extent practicable and to maintain safe and reliable operation of the asset in accordance with [Powerlink - Vegetation Control Standard](#).
- KH2** Retain medium sized understorey native species (*Banksia, Acacia, & Melaleuca*), consistent with the safe and reliable operation of the asset.
- KH3** Sequential clearing (or staged clearing) of vegetation to provide sufficient time and space to allow any koala residing in a tree to move to alternative habitat (on its own accord) without harm. Ensure not more than the following is cleared in any one stage:
- For a clearing site with an area of 6 ha or less – 50 % of the site's area;
  - For a clearing site with an area of more than 6 ha – 3 ha or 3 % of the site's area, whichever is the greater.
- KH4** The direction of sequential clearing should, where possible be away from threatening processes or hostile environments and towards any retained vegetation or habitat links, ensuring:
- Koalas are not pressured through loss of habitat, to cross roads or move through developed or disturbed areas;
  - Koalas are not left occupying an 'island' of habitat between hostile environments, such as a road and cleared area;
  - Koalas can safely leave the site of clearing and relocate to adjacent habitat.
- KH5** If an individual is found prior to or during clearing activities, it must not be forcibly relocated. Any tree that has a koala present, as well as any tree with its crown overlapping that tree, must not be removed and remain in place until the koala vacates the tree of its own accord.
- KH6** Commission a suitably qualified and/or experienced spotter catcher or ecologist to provide advice and recommendations for koala habitat and koala management where impacts on koala or non-juvenile koala habitat trees have been identified as potentially significant.
- KH7** Known koala habitat to be marked up on EWP maps and temporary or permanent 'no go zones' are to be clearly signposted and delineated (using visible marking tape or the like) to ensure that there is no unauthorised clearing or damage of koala habitat.
- KH8** Safeguard koalas from dangerous equipment and works using koala exclusion fencing.

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- KH9** New clearing plans (e. EWP maps) are to be prepared showing the proposed extent of clearing required prior to the commencement of site works.
- KH10** Where possible, preferentially utilise a fella-buncher or excavator with grab tool to minimise impacts to other non-juvenile koala habitat trees, and where not possible and for selective hand-clearing ensure that trees and shrubs being cleared fall towards the centre of the area to be cleared, to prevent incidental damage to non-juvenile koala habitat trees to be retained (those outside the delineated clearing area).
- KH11** Cover excavations installed in or within 250 m of koala habitat areas. Covers are to be installed where exclusion fencing has not been erected.
- KH12** Clearing of trees is carried out in a way that ensures habitat links are maintained within the clearing site and adjacent areas.

### Supportive Information

Document reference	Document title
<a href="#">ASM-I&amp;P-STD-A462935</a>	Powerlink – Vegetation Control Standard

Term	Definition
Unauthorised Clearing	Clearing that is not authorised at law or that is undertaken contrary to any Powerlink written undertakings. For further information see the <a href="#">Powerlink – Complex Environmental Regulatory Framework Guideline</a> .

## Appendix F - Vegetation Management

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**VM-PC10**      *No unauthorised clearing of native vegetation or plants.*

**VM-PC11**      *Minimise disturbance of vegetation, consistent with safe and reliable operation of the assets.*

### General Requirements

- VM1** Prior to commencing clearing assess all proposed vegetation clearing to determine if any approvals or permits are required, including for native vegetation, EVNT plants, and species and ecosystems listed under the [Environmental Protection and Biodiversity Conservation Act 1999](#) (EPBC) and *Nature Conservation Act 1992* (NC Act). Assessment is to be undertaken by a suitably qualified person. Do not clear or cause damage to vegetation prior to assessing its significance and applicable approval requirements.
- VM2** Prior to commencing clearing, obtain any required approvals and permits. Comply with the conditions and undertakings of approvals and permits (or exemption requirements) as well as the following (in order of hierarchy):
- (a) Any relevant technical specification
  - (b) [Powerlink – Vegetation Control Standard](#)
  - (c) [Powerlink – Management of Hazardous Marginal Trees Guideline](#)
- VM3** An EWP will be developed prior to any clearing to clearly communicate vegetation of significance (e.g. habitat, protected plants etc.), no-go zones, areas to retain and clearing types to be employed. The EWP must be available on site during clearing activities.
- VM4** Prior to commencing clearing, areas shall be identified and marked appropriately on site to ensure that disturbance will not occur in unauthorised areas. The extent of clearing (work area) shall be clearly marked on site using high visibility barriers or taping to ensure that clearing shall not occur in areas to be preserved. The marked up limits of clearing shall be maintained for at least the duration of clearing and earthworks.
- VM5** Vegetation clearing is to be conducted in a staged approach (i.e. vegetation assessment; fauna assessment and/or removal or relocation; vegetation removal; soil surface stabilisation; revegetation) so that the minimum area of ground is exposed at any one time.
- VM6** Dispose of felled timber in consultation with the landowner and occupier. Vegetation residues should not impact on downstream water flow or quality or the easement land use. Vegetation is not to be placed where it may increase any fire hazard and impact on the Powerlink Assets in the event of a fire.
- VM7** Obtain any required permits for burning cleared vegetation from the local fire warden and/or local council, and Powerlink. Permits must be obtained and provided to Powerlink for review prior to any burning.



- VM8** Workers will be made aware of vegetation management requirements in induction training, EWPs and through work instructions.
- VM9** The felling of large trees that may cause damage to protective bank vegetation may be stem injected and left standing providing there are no additional safety risks.
- VM10** Where located near watercourses, stockpiles will be made on the downstream side of the centre line of the transmission line. Stockpiles will have gaps between them of sufficient width to permit the safe passage of stock and vehicles. Such gaps will be spaced at no more than 50 m intervals.
- VM11** The stockpiled material will be located at least 50 m clear of all drains, watercourses or their flood banks so as to prevent any obstruction to water flow and 10 m clear of standing timber, scrub or undergrowth, or as directed.

### Supportive Information

Document reference	Document title
<a href="#">ASM-I&amp;P-GDL-A588122</a>	Powerlink – Management of Hazardous Marginal Trees Guideline
<a href="#">ASM-I&amp;P-STD-A462955</a>	Powerlink – Vegetation Control Standard

Term	Definition
EVNT	Endangered, Vulnerable and Near Threatened Species of Flora or Fauna under the <a href="#">Nature Conservation Act 1992</a> .
Unauthorised Clearing	Clearing that is not authorised at law or that is undertaken contrary to any Powerlink written undertakings. For further information see the <a href="#">Powerlink – Complex Environmental Regulatory Framework Guideline</a> .

## Appendix G – Acid Sulphate Soils

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**ASS-PC1** *No release of contaminants from the oxidisation of acid sulphate soils (ASS) outside the work area or into any sensitive receiving environments.*

### General Requirements

**ASS1** Prior to any soil excavation work in high risk areas (below 5 m AHD) undertake investigations in accordance with the [Queensland Acid Sulphate Soils Technical Manual](#) to determine the presence of ASS for any new greenfield project developments.

**ASS2** Where [ASS](#) has been identified and confirmed, an ASS Management Plan is to be developed in accordance with the Queensland Acid Sulphate Soils Technical Manual.

**ASS3** Runoff from stockpiles of acid sulphate soil and exposed groundwater potentially contaminated by acid sulphate soils shall be contained and managed within the boundary of the Site and treated to acceptable levels before discharge offsite. Stockpiling of untreated acid sulphate soil material should be minimised. Where excavated material cannot be reburied within 8 hours, treatment pad must be installed. Treatment pads should comprise of an impermeable layer (e.g. double skinned black plastic or compacted clay layer 0.3 m to 0.5 m deep) and covered with a guard layer of aglime (at a rate of 5 kg lime/m<sup>3</sup>). Treatment pads should be bunded or install trenches or catchpits to contain stormwater runoff. Catchpits and trenches need to be limed at a rate of 5 kg/m<sup>3</sup> and shall be remediated upon completion of works.

**ASS4** Where ASS is present, all soil disturbance work to occur in accordance with the ASS Management Plan.

**ASS5** All staff and contractors undertaking soil disturbing work in high risk areas must complete a detailed ASS specific induction or awareness training on the identification and management of ASS.

### Supportive Information

Document reference	Document title
External Document	<a href="#">Queensland Acid Sulphate Soils Technical Manual</a>

Term	Definition
Acid Sulphate Soils (ASS)	Naturally occurring soils, sediments or organic substrates that are formed under waterlogged conditions. These soils contain iron sulphide minerals (predominately as the mineral pyrite) or their oxidation products.

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## Appendix H – Contaminated Land

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**CL-PC1**      *Manage existing [land contamination](#).*

**CL-PC2**      *No unauthorised transport or disposal of contaminated land.*

### General Requirements

- CL1**      Prior to acquisition of land parcels (including parcels where easements are proposed for acquisition) or completion of an environmental impact assessment, undertake a search of the [EMR](#) and [CLR](#).
- CL2**      Prior to undertaking soil disturbing work at a Powerlink owned site or site where Powerlink assets are present on land parcels owned by others (e.g. Energex, Ergon, Queensland Rail), a review of the EMR and CLR listing will be undertaken (i.e. refer to SmartClient contaminated geospatial layer as supplied by DES) for a contamination status. If listed on the EMR or CLR, refer the site information onto the relevant HSE representative for further advice (e.g. Powerlink land parcels may have an existing contaminated Site Management Plan issued by DES – copies which can be found in the Sites folder within Objective). If no record of an EMR or CLR listing is found and contamination has been discovered during site works, refer to Clause CL7 below for management actions.
- CL3**      Geotechnical investigations are undertaken prior to construction which will include an assessment for the presence of any unforeseen actual or potential contamination prior to excavation or other earthworks for sites listed on the EMR or where suspected contamination exists. Should contamination be confirmed, on-site remediation of contaminated soil is considered best practice, with removal of contaminated soil for treatment or disposal off-site only to be carried out when that option is not practicable.
- CL4**      Soil sampling and analysis must be in accordance with [AS4482.1-2005 Guide to the investigation and sampling of sites with Potentially Contaminated Soil – Part 1: Non-volatile and semi-volatile compounds](#).
- CL5**      In situ soil samples are to be collected prior to excavation from the nominated excavation works area, at a frequency of either 1:10 metres for trenches or 1:100 m<sup>2</sup> for non-trench areas. Where in situ soil sampling is not possible, soil stockpile sampling is to be undertaken at a rate of 1:25 m<sup>3</sup> up to 500 m<sup>3</sup>, and 1:50 m<sup>3</sup> for soil quantities greater than 500 m<sup>3</sup>.
- CL6**      All soil samples will be analysed for the following:
- pH
  - Heavy metals (Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Zinc and Mercury) – total and TCLP
  - Total recoverable hydrocarbons (TRH)
  - Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene (BTEXN)
  - Polycyclic aromatic hydrocarbons (PAHs)
  - Asbestos presence

If the substation is > 25 years old, samples will also be analysed for:

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- Polychlorinated biphenyls (PCBs)
- Organochlorine pesticides (OCPs)
- Organophosphorus pesticides (OPPs)

At least one soil sample will also be analysed for cation exchange capacity (CEC); clay content (% clay); and total organic carbon content (TOC). This sample should be at least 500g to enable clay content analysis to be completed.

Analysis for additional potential contaminants may be required based on the EMR/CLR listing specific details. If the site is listed on the EMR/CLR refer to the HSE Representative.

- CL7** If evidence of contaminated land or a contamination source is identified during work (such as oil staining, buried asbestos sheeting, surrounding previous land use or previous land use of herbicides or pesticides), soil sampling, investigation, and/or notification will be required in accordance with CL4, CL5 and CL6.
- CL8** If soil analysis identifies a contaminant that exceeds the residential contaminated land thresholds and the site is not on the EMR or CLR, or the existing listing does not cover the land parcel for the contaminant identified, the HSE Representative shall be notified. Formal notification of certain events involving contaminated land to DES will be required by the General Manager HSE (or nominated representative) as per the timelines identified within the DES [Guideline – The duty to notify for contaminated land](#). (Refer to DES’s – [Guideline – Listing and removing land on the land registers](#) for more information).
- CL9** If contamination is present above the contaminated land thresholds for the land use (e.g. Industrial or Commercial) and a potential HSE risk to site users has been identified, a combined Stage 1 Preliminary Site Investigation and Stage 2 Detailed Site Investigation in accordance with [National Environment Protection \(Assessment of Site Contamination\) Measure](#) is required by a suitably qualified person (SQP) as defined in the [Environmental Protection Act 1994](#).
- CL10** Prior to the transport or disposal of “contaminated land” (as defined in the [Environmental Protection Act 1994](#)) from a property listed on the EMR or CLR obtain a [Soil Disposal Permit](#). Before making an application for a Soil Disposal Permit, consult with Powerlink’s HSE representative. Soil Disposal permits are only issued for the removal of contaminated soil to licenced waste disposal or treatment facilities that are able to receive the soil. Written acceptance from the owners of licenced waste disposal or treatment facility where the soil is to be received must be obtained prior to disposal and made available to Powerlink upon request.
- CL11** If sites are listed on the EMR or CLR and have an attached documented Site Management Plan issued under the [Environmental Protection Act 1994](#), compliance with the conditions of the Site Management Plan is required.

**Supportive Information**

Document reference	Document title
External Document	AS4482.1 – 2005 Guide to the investigation and sampling of sites with potentially contaminated soil – Part 1: Non-volatile and semi-volatile compounds (refer to <a href="#">Standards Australia</a> )
<a href="#">ASM-ID&amp;TS-STD-A2062902</a>	Spatial Services Data Capture Standard

Term	Definition
CLR	<a href="#">Contaminated Land Register</a>
Contaminated Soil	Soil with concentrations exceeding the Residential criteria levels as defined in Schedule B1 of the <a href="#">National Environment Protection (Assessment of Site Contamination) Measure 1999</a> (as amended in 2013).

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Term	Definition
EMR	<a href="#">Environmental Management Register</a>
SQP	Suitably Qualified Person - A suitably qualified person with qualifications and experience relevant to the work being undertaken and be a demonstrated current member of a professional organisation prescribed under Schedule 8 of the <a href="#">Environmental Protection Regulation 2008</a> .



## Appendix I – Waste Management

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**WM-PC1** *No uncontrolled release of waste to the environment.*

**WM-PC2** *Regulated and trackable waste managed in accordance with legislative requirements.*

### General Requirements

**WM1** Develop and implement a Waste Management Plan appropriate to the associated activity, nature and scale of the project.

**WM2** A documented Waste Management Plan must specify the following:

- (a) Preference of waste management in the following order – Avoid or reduce, reuse, recycle, recover, treat and dispose;
- (b) How each waste stream is to be stored, transported and disposed of;
- (c) Estimated quantities of waste from each waste stream;
- (d) Details of waste transport companies to be utilised and copies of any relevant licenses;
- (e) Details of waste disposal facilities to be utilised and copies of any relevant licenses and waste acceptance criteria.

**WM3** Waste awaiting collection is to be left in a tidy and secure manner such that it does not impact on stock, landholders, or adjacent landholder activities or have the potential to be windblown.

**WM4** Prohibit the discard of cigarette butts and other litter to ground or water body.

**WM5** All regulated and trackable waste to be managed in accordance with [Powerlink Waste Management Procedure](#) and [Powerlink Regulated and Trackable Waste Management Procedure](#).

**WM6** Concrete waste below oil filled equipment shall be:

- (a) Visually inspected for any evidence of hydrocarbon staining. Evidence of inspection (photos) must be recorded;
- (b) If there is no evidence of hydrocarbon staining, concrete is to be disposed of through the general construction waste stream;
- (c) If the concrete contains evidence of hydrocarbon staining, the affected areas must be tested for contaminants prior to disposal from site. Test results are to be submitted for the Powerlink Environmental Representative to review prior to removal from site;
- (d) If testing is positive for hazardous contaminants, the concrete is to be disposed of as regulated/trackable waste.

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- WM7** Uncontaminated excess spoil will be reused as fill around site or to construct ancillary infrastructure (e.g. access tracks, where material is suitable) or reinstatement of eroded areas. Surplus clean fill material will be removed from site and appropriately disposed, if unable to be reused.
- WM8** In accordance with the waste management hierarchy, waste materials will be segregated during handling and storage on-site.
- WM9** In accordance with the *Waste Reduction and Recycling Act 2011*, single use plastic bags will not be used during the Project.
- WM10** Where practical, Project components should be supplied to the sites with minimal excess packaging. This practice reduces on-site waste generation
- WM11** Soil and/or geofabric material contaminated with Biosecurity Matters from cleaning vehicles, plant, equipment and machinery to be disposed at a licensed facility.
- WM12** Putrescibles waste will be sorted in closed waste containers to prevent the attraction and breeding of pest and disease vectors such as flies and rodents.
- WM13** Contractors shall obtain and submit all disposal receipts to Powerlink HSE Representative within 7 days of waste being disposed of from site.
- WM14** Excavated soil material will be reused where possible and any contaminated material unable to be remediated must be disposed of by an appropriately licensed waste contractor to a license waste facility. A disposal permit is required to remove contaminated soil for treatment or disposal from land listed on EMR or CLR.

**Supportive Information**

Document reference	Document title
HSE-PRO- <a href="#">A2948346</a>	Powerlink Waste Management Procedure
HSE-PRO-A2960245	Powerlink Regulated and trackable Waste Management Procedure
HSE-PLN-A2960197	Powerlink - Waste Management Plan



## Appendix J – Hazardous Materials

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**HM-PC1** *No contamination of land or water as a result of a spill or release of hazardous material.*

### General Requirements

- HM1** Hazardous materials stored and handled in accordance with *AS1940:2017 The storage and handling of flammable and combustible liquids* and *AS3780:2008 The storage and handling of corrosive substances*.
- HM2** [Safety Data Sheets \(SDS\)](#) shall be available for each chemical present on site. SDS will be available in a central location that is easily accessible by all site personnel.
- HM3** Develop an Emergency Response Plan (it will include procedures to ensure the correct storage, handling and transport of hazardous materials, and proposed response to accidental spills and contamination incidences).
- HM4** All staff and contractors interacting with hazardous materials will be required to have training in the emergency management of spills. Evidence of this training will be recorded and maintained. Refresher training will be undertaken at least every three years.
- HM5** Ensure materials and equipment (spill kit) required to respond to a hazardous spill are available at all times when hazardous materials are being used, transported, loaded or unloaded.
- HM6** Temporary drive-in bunding to be used on site (when self bunded or double skinned tanks are not available) when large volumes of oil are being decanted or handled outside of a permanent bunded area. A suitably sized spill kit will be available for any spills associated with hose or pipe fittings.
- HM7** Spill kits to be kept at the work area and monitored for restocking regularly. All machinery and vehicles carrying additional fuel/oil/diesel over 20 L to be equipped with a spill kit at all times.
- HM8** All spills to be managed as follows:
1. Full protective clothing and equipment shall be worn when managing a spill;
  2. Assess spill (extent and potential to migrate offsite, fire hazard potential, type and volume);
  3. Isolate the spill (prevent further spillage, block drains, prevent access to the area);
  4. Notification of the spill;
  5. Clean up and remediation;
  6. Restock spill kit.
- HM9** All wastes from the clean-up process shall be disposed of safely and in accordance with legislative requirements.
- HM10** No storage of superfluous material within a bund wall enclosure.

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- HM11** Prohibit the refuelling of vehicles and machinery within 100 m of a watercourse or open drain and when possible all refuelling will be off-site at an approved refuelling station.
- HM12** Testing for the presence of asbestos, lead, chromium or PCB's on assets that may reasonably be expected to contain these hazardous substances, must be undertaken prior commencing disturbing works. Regulated and trackable waste must be removed or managed in accordance with Appendix I – Waste Management.

**Supportive Information**

Document reference	Document title
External Document	AS1940 – 2004 The storage and handling of flammable and combustible liquids (refer to <a href="#">Standards Australia</a> )
External Document	AS3780 – 2008 The storage and handling of corrosive substances (refer to <a href="#">Standards Australia</a> )
External Document	<a href="#">Identifying and managing equipment containing polychlorinated biphenyls (PCBs) – Department of Environment and Heritage Protection – Waste Management Guideline (ESR/2016/1939)</a>

Term	Definition
Oil Containment System	Bunding and separator system design around a transformer to capture oil releases.
SAP	Systems Applications and Products – Software Program.
Safety Data Sheet (SDS)	Document that contains information on the potential health effects of exposure to chemicals, or other potentially dangerous substances, and on safe working procedures when handling chemical products.



## Appendix K – Air Quality

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**AQ-PC1** *To operate vehicles and machinery in a proper and efficient manner to minimise emissions, including dust, associated with construction and maintenance activities (i.e. both on-site and vehicles transporting materials to and from the site).*

**AQ-PC2** *No complaints regarding air quality or dust nuisance.*

### General Requirements

- AQ1** Restrict vehicle travelling speed (<40 km/hr) on unsealed, off road access tracks. Vehicle speeds will be further reduced on unsealed access tracks during dry, windy weather, to a speed whereby visible dust emanating from soil type interaction is minimised.
- AQ2** Ensure all vehicles and machinery are fitted with appropriate exhaust systems and devices. Such devices will be maintained in good working order, in accordance with the manufacturer's recommendations and the Commonwealth Department of Infrastructure and Regional Development, Australian Design Rules for Vehicle Emissions.
- AQ3** Turn off vehicles and equipment when not in use.
- AQ4** Apply dust suppressants or watering to work areas, stockpiles and access tracks on an as required basis to prevent dust nuisance. Obtain approval from Powerlink HSE Representative prior to application of dust suppressants other than water. Ensure that any taking of water for the purpose of constructing or maintaining infrastructure is carried out in accordance with the [Exemption requirements for the taking of water without a water entitlement under the Water Regulation 2002 – WSS/2013/666](#) or is otherwise authorised under a water entitlement.
- AQ5** Restrict vehicles to approved and mapped access tracks and only those vehicles required for the safe, efficient and essential construction activities will be allowed in the work area.
- AQ6** Cover all loose loads for transport to and from the work site.
- AQ7** Schedule dust generating activities in proximity to dust sensitive locations (e.g. residences or spray shop), when possible, to minimise dust nuisance at the sensitive receptors. Consideration shall be given to local site conditions, including soil type, rainfall, wind speed and direction, proximity to receptors and duration of the activity.
- AQ8** In dust sensitive locations construct access tracks from materials which are more stable and less likely to turn to bull dust.
- AQ9** Orientate material stockpiles in a direction that reduces exposed surfaces to prevailing winds.
- AQ10** Ensure chipping/ mulching equipment has dust collection devices attached.

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- AQ11** Carry out regular visual surveillance of vehicles, plant and equipment working or moving within proximity to residences or other dust sensitive locations. The surveillance is to determine when actions are required to reduce potential dust nuisance.
- AQ12** Sulphur hexafluoride gas (SF<sub>6</sub>) shall be handled to minimise the potential for loss to atmosphere. SF<sub>6</sub> shall not be intentionally vented to atmosphere. Report any losses of SF<sub>6</sub> gas to Powerlink's PQ Switch incident management system and against the SAP measuring point. Further information of SF<sub>6</sub> is referenced in Powerlink's [SF<sub>6</sub> Gas \(Sulphur Hexafluoride\) Management](#).
- AQ13** Manage SF<sub>6</sub> in accordance with ENA DOC 022-2008 Industry Guideline for SF<sub>6</sub> Management.
- AQ14** Personnel handling SF<sub>6</sub> shall have appropriate experience and training in correct handling and loss prevention.
- AQ15** Limit dust inducing activities on days with high levels of bushfire smoke in the air and if wind is blowing towards receptors.
- AQ16** Avoid or minimise queuing in roadways approaching the worksites or adjacent to other sensitive activities. Minimise queuing of construction vehicles and idling for excessive periods (e.g. more than 5 minutes).

**Supportive Information**

Document reference	Document title
External Document	<a href="#">Commonwealth Department of Infrastructure, Transport, Cities and Regional Development Australian Design Rules for Vehicle Emissions</a>
External Document	<a href="#">Exemption requirements for the taking of water without a water entitlement under the Water Regulation 2002 (WSS/2013/666)</a>
<a href="#">AM-POL-0187</a>	SF <sub>6</sub> Gas (Sulphur Hexafluoride) Management
External Document	ENA DOC 022-2008 Industry Guideline for SF <sub>6</sub> Management



## Appendix L - Noise and Vibration

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**NV-PC1** *No complaints regarding noise nuisance.*

### General Requirements

- NV1** Limit work hours to between 6.30 am to 6.30 pm Monday to Saturday (excluding public holidays) for construction work sites. Work is not to occur outside these hours unless it is in an emergency, due to limited line outages, maintenance activity, or other exceptional circumstances. If work outside these hours is foreseen, the contractor is to notify Powerlink seven days prior to work occurring and a risk assessment is to be undertaken. Noise limits apply under the [Environmental Protection Act 1994](#), however it is not an offence to contravene a noise limit (or to cause a nuisance) where maintaining a facility for an electricity system.
- NV2** Noise limits apply to the use of regulated devices (only between 7am and 7pm Monday to Saturday – excluding public holidays) including: compressors or generators; grass cutters; impact tools; leaf-blowers or mulchers; oxyacetylene burners; electrical, mechanical or pneumatic power tools (chainsaws, drills, sanders, electric grinder, nail gun). Again however, it is not an offence to contravene a noise limit (or to cause a nuisance) where maintaining a facility for an electricity system.
- NV3** Work occurring outside normal working hours, other than work required during an emergency, a limited outage, maintenance activity or other exceptional circumstance will prior to commencement, notify landholders. The following information will be provided:
- An outline of the nature of the work;
  - The potential area that may be impacted and the anticipated level of impact considering the nature of the work;
  - A contact person at Powerlink in the event of a noise complaint.
- An internal Powerlink "Assessment for Working Outside Normal Working Hours on Projects" Form shall document this process and will require formal Powerlink approval.
- NV4** Appropriate plant and equipment to be selected for each task to minimise the noise contributions.
- NV5** Ensure machinery is fitted with appropriate noise attenuation devices and will be maintained in accordance with the manufacturer's recommendations.
- NV6** Shut down any LPG/petrol/diesel powered equipment generating loud, extraneous (unusual) noise until the source of the noise can be identified and rectified.
- NV7** Program loud noise activities to occur at times to minimise noise nuisance to surrounding sensitive receptors. Physical noise barriers such as earth mounds, mobile screens, or noise attenuation devices should be used, where necessary.

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- NV8** Deliver and/or remove materials and equipment to and from the site within the approved hours for construction. All transport vehicles will be in good working order and will avoid using exhaust brakes in built up areas adjacent to the work site.
- NV9** Ensure transport routes to and from the site are located, where possible, to limit the impact of traffic noise on potentially sensitive areas.
- NV10** Where possible, establish new transmission lines and substations away from sensitive receptors.
- NV11** Plant to be turned off when not in use.
- NV12** Plant is to be regularly maintained, and repaired or replaced if it becomes noisier.
- NV13** Site inductions will include information = on the potential adverse impact of reversing alarms and exhaust brakes and the need to minimise their use.
- NV14** Wherever feasible, turning circles to be created at the end points of vehicle work legs, which should allow trucks to turn and avoid the need for reversing.
- NV15** Non-tonal reversing alarms to be used where practicable.

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## Appendix M - Visual Amenity

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**VA-PC1** *Minimise the visual impact of the asset and associated activities adjacent to or within sensitive locations.*

### General Requirements

- VA1** Position structures to minimise vegetation clearing near sensitive locations and retain existing vegetation along road reserves where safe.
- VA2** Worksites to be maintained in a neat and tidy manner.
- VA3** Minimise Powerlink asset light spill over to neighbouring sensitive receptors (without compromising asset security requirements e.g. security lighting).

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## Appendix N – Bushfire

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**BF-PC1** *Eliminate the hazard of bushfires due to project work.*

### General Requirements

- BF1** Fire hazard warnings associated with weather patterns and fire risk are issued by the Bureau of Meteorology and the Queensland Rural Fire Service. Daily checking of fire hazard warnings will be undertaken and construction crews made aware of the fire warnings (e.g. through pre-starts).
- BF2** Procedures guiding the response to emergency and fire situations, and requests from emergency management authorities, will be documented and communicated where applicable to project location.
- BF3** Firefighting equipment must be kept on site when hot works are being undertaken. Personnel must be trained in the use of the equipment.
- BF4** All machinery must have a tested and tagged fire extinguisher available.
- BF5** Burning of vegetation is prohibited, unless a permit is obtained by a local fire authority and Powerlink prior to any burning.
- BF6** Designated smoking areas are to be identified with cigarette butt bins for safe disposal.

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## Appendix O –Transport and Traffic

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**TT-PC1** *To operate vehicles in a proper and efficient manner to minimise impacts on local residents, associated with construction and maintenance activities (i.e. both on-site and vehicles transporting materials to and from the site).*

**TT-PC2** *No complaints relating to transport and traffic from the project.*

### General Requirements

**TT1** Prior to construction a Traffic Management Plan will be prepared to minimise potential impacts

**TT2** Provide advance notification of potential road closures or traffic delays to emergency services and the local community. Any temporary road closures will involve on site traffic management, so that in the event of emergency service vehicles needing to pass through the areas where stringing is occurring, passage will be provided.

**TT3** Apply for appropriate approvals and permits under the *Transport Infrastructure Act 1994* from DTMR for any permanent or temporary access to state control roads, including associated roadworks for access, the transport of over dimensioned equipment and materials on state control roads and for ancillary works and encroachments

**TT4** Consideration where possible during Project planning, to undertake selected construction works likely to cause significant traffic disruption and delay at times of low traffic volumes or at night to minimise localised congestion and potential safety implications

**TT5** Dedicate traffic management personnel for traffic management and safety purposes, particularly when construction works are being conducted close to roads or where lane closures are required.

**TT6** During construction, provide temporary warning signs on the D'Aguilar Highway in the vicinity of the intersection with Tarong Power Station Road. This is to provide road users advanced warning of additional turning vehicles.



## Appendix P – Land Management

### 1. Purpose

This appendix provides the expected standard environmental controls to be implemented to meet Powerlink's environmental performance criteria.

### 2. Scope

The EMP applies to activities carried out by Powerlink, its contractors or representatives. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies). Powerlink and its nominated contractors or representatives will be responsible for implementing the requirements of the EMP.

### Performance Criteria

**LM-PC1** *Minimised impact on land by utilising employing design strategies to use existing infrastructure e.g. access tracks and co-location.*

**TT-PC2** *Rehabilitation reached 70% by project completion.*

### General Requirements

- LM1** Where practicable, existing access tracks will be used for the Project in preference to creating new tracks, with upgrading or extension conducted for the requirements of this Project.
- LM2** Reinstatement will be undertaken progressively during construction, where practicable, and Powerlink will ensure that all disturbed areas impacted from construction are reinstated at the end of the Project.
- LM3** Geotechnical assessments will be undertaken prior to construction to determine the appropriate foundation type for each structure and the substations.
- LM4** Where appropriate, replacement infrastructure will be provided where necessary (new fences and gates, culverts or signage) to mitigate impacts on access and infrastructure to the properties.

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