

APPENDIX A DRAFT TERMS OF REFERENCE

**TERMS OF REFERENCE FOR THE ENVIRONMENTAL ASSESSMENT OF A PROPOSED SUBSTATION
INFRASTRUCTURE DEVELOPMENT**

It is intended that the proponent will seek Ministerial Designation of the development as Community Infrastructure, under the *Integrated Planning Act 1997*.

These Terms of Reference are adapted from the DLGP "Generic Terms of Reference for an Environmental Impact Statement" published in March 2007.

Contents

It is suggested that as far as practical the EIS should follow the same format as the suggested TOR.

PREFACE

1. GENERAL
 - 1.1 Project Proponent
 - 1.2 Project Description
 - 1.3 Objectives and Key Issues of the EIS
 - 1.3.1 Objectives of the EIS
 - 1.3.2 EIS Key Issues
 - 1.4 Cross-reference with the EIS
2. PROJECT IDENTIFICATION AND FEASIBLE ALTERNATIVES
 - 2.1 Project Justification
 - 2.2 Feasible Alternatives
3. PROJECT DESCRIPTION
 - 3.1 Location Details
 - 3.2 Physical Details of Structures
 - 3.3 Construction, Maintenance AND Decommissioning Activities
 - 3.4 Infrastructure Requirements
4. ENVIRONMENTAL VALUES AND MANAGEMENT OF IMPACTS
 - 4.1 Physical Environment
 - 4.1.1 Land
 - 4.1.1.1 Topography / Geomorphology
 - 4.1.1.2 Soils and Geology
 - 4.1.2 Climate and Air Quality
 - 4.1.3 Hydrology
 - 4.1.4 Fire
 - 4.1.5 Waste Management
 - 4.2 Biological Environment
 - 4.2.1 Sensitive Environmental Areas
 - 4.2.2 Flora and Fauna
 - 4.2.2.1 Flora – Description of Existing Environmental Values
 - 4.2.2.2 Fauna – Description of Existing Environmental Values
 - 4.2.2.3 Flora and Fauna Potential Impacts and Mitigation
 - 4.2.2.4 Flora Potential Impacts
 - 4.2.2.5 Flora Mitigation Measures
 - 4.2.2.6 Fauna Potential Impacts
 - 4.2.2.7 Fauna Mitigation Measures
 - 4.3 Socio-Economic Environment
 - 4.3.1 Land Use
 - 4.3.2 Socio-Economic Issues
 - 4.3.3 Noise and Vibration

- 4.3.4 Electric and Magnetic Fields
- 4.3.5 Landscape Character
 - 4.3.5.1 Landscape
 - 4.3.5.2 Visual Amenity
- 4.3.6 Transport Infrastructure, Traffic and Amenity
- 4.3.7 Non-Indigenous Cultural Heritage
- 4.3.8 Aboriginal Cultural Heritage
- 5. TOWN PLANNING AND LEGISLATIVE REQUIREMENTS
 - 5.1 Description of Each Relevant Planning Scheme
 - 5.2 Outcomes Summary
 - 5.3 Description of each State Planning Policy (SPP)
 - 5.4 Effect on Regional Plan or Master Plan, if any
 - 5.5 Description of Nature, Scale and Intensity
- 6. ENVIRONMENTAL MANAGEMENT PLANS
- 7. OTHER APPROVALS AND CONDITIONS
 - 7.1 Federal Legislation
 - 7.2 State Legislation and Permit Requirements
 - 7.3 Local Government Planning, Ordinances and By-Laws
- 8. ENVIRONMENTAL COST-BENEFIT SUMMARY
- 9. POWERLINK'S ENVIRONMENTAL RECORD
- 10. REFERENCES

Attachment 1 – Schedule 2 of the DLGP Guidelines

Attachment 2 – Final TOR

Attachment 3 – Corridor or Substation Site or Communication Site Selection Report/s, if applicable.

Attachment 4 – Development Approvals

Attachment 5 – Study Team

Attachment 6 – Consultation Report

Attachment 7 - Final EIS attachments

PREFACE

The first step in the impact assessment process is the development of Terms of Reference (TOR) for the preparation of an EIS. The process involves the formulation of draft TOR which will be made available to appropriate stakeholders and agencies through targeted consultation. The Consultant will finalise the TOR which will be presented to Powerlink.

The Consultant will prepare a Draft EIS that addresses the TOR. Once the EIS has been prepared to the satisfaction of Powerlink, the Consultant will advertise that the Draft EIS is now available for public comment. At the conclusion of the submission period, the Consultant will hand to Powerlink the Final EIS and recommend a Final substation site.

Upon finalisation of the EIS and Powerlink's approval of the Final substation site, Powerlink will follow the Department of Local Government, Planning, Sport and Recreation "Guidelines about Environmental Assessment and Public Consultation Procedures for Designating Land for Community Infrastructure, Powerlink Manual" starting at Step 4 and commence the designation process. After publicly advertising Powerlink's intention to designate the project and calling for submissions, Powerlink will prepare an Assessment Report evaluating the EIS and other related material, including any properly made submissions received. The Final Assessment Report will include an evaluation of the environmental effects of the proposed development and any related matters and will be forwarded to the Minister for Energy for his / her decision.

Not all sections within the Terms of Reference will be relevant for each project and only the relevant sections should be expanded upon within the EIS. If a section is not relevant, the Terms of Reference will be marked as "not relevant to this project" and the section in the EIS will also state that "this section is not relevant for this project". For further inquiries about the EIS Process in general or for a specific project, please contact:

CONICS

David Carberry

p: +61 7 4632 2511

f: +61 7 4632 2599

PO Box 1185 Toowoomba QLD 4350

Unless specified otherwise, the term environment in these TOR refers to:

- (a) Ecosystems and their constituent parts, including people and communities;
- (b) All natural and physical resources;
- (c) Those qualities and characteristics of locations, places and areas, however large or small, that contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community;
- (d) The social, economic, aesthetic and cultural conditions affecting the matters mentioned in paragraphs (a), (b) and (c) or affected by those matters.

1. INTRODUCTION

1.1 Project Proponent

The Project Proponent is:

Powerlink Queensland
33 Harold Street, Virginia,
PO Box 1193, Virginia, Queensland 4014, Australia
Telephone: (07) 3860 2111, Facsimile: (07) 3860 2100
Website: www.powerlink.com.au

Powerlink Queensland is the registered business name of the Queensland Electricity Transmission Corporation Limited, ABN 82 078 849 233.

1.2 Project Description

Provide a brief description of the project and its location.

1.3 Objectives and Key Issues of the EIS

1.3.1 **Objectives of the EIS**

The objectives of the EIS are as follows:

- A description of the relevant aspects of the existing social, economic, natural and built environment;
- To provide information on the proposal and development process to the community and decision makers;
- To comprehensively identify and evaluate all relevant issues associated with the proposal;
- To identify all potential environmental impacts (across the short, medium and longer term) of the development;
- To recommend construction, operational, maintenance and decommissioning measures required to minimise or compensate for adverse impacts and enhanced benefits;
- To consult with the community and relevant stakeholders in the process of identifying, assessing and responding to the impacts of the proposal;
- To identify all necessary licences, planning and environmental approvals including approval requirements pursuant to the Environment Protection and Biodiversity Conservation Act 1999, Integrated Planning Act 1997, Environmental Protection Act 1994, Vegetation Management Act 1999 and other legislation;
- To provide recommendations on the need for and contents of any environmental management plans and / or operational plans to mitigate adverse effects; and
- To provide an input to the decision-making process, assisting with the determination of whether to accept or modify the proposal, approve it with conditions or carry out further studies.

1.3.2 **EIS Key Issues**

The level of analysis and detail in the EIS shall reflect the level of significance of the impacts. Any and all unknown variables or assumptions made in the assessment must be clearly stated and discussed.

The extent to which the limitations, if any, of available Information may influence the conclusions of the environmental assessment should be discussed. The emphasis shall be on quality and not quantity. Repetition should be avoided wherever possible.

Additional consultation shall be undertaken with other stakeholders, such as property owners and special interest groups, identified through the EIS development process. The EIS is the principal means of ensuring that ecologically sustainable principles are applied in the decision-making process, therefore the EIS shall detail the proposed mitigation measures required to minimise any adverse impact of the proposal and measures to ensure the Project provides the lowest overall environmental, social and economic impacts possible.

When some impacts are not quantifiable, they should be fully described. Safeguards and mitigation measures to ameliorate the impacts, where applicable, should be proposed together with an objective assessment of their effectiveness. Proposals for monitoring of impacts should also be included where appropriate.

A concluding statement at the end of each section of the EIS shall advise if, in the opinion of the consultant, there are any identified reasons why the project should or should not proceed on the chosen Study Area.

The issues to be addressed as part of the EIS can be divided into the following categories:

- Project justification and feasible alternatives;
- Detailed project description; and
- Description of environmental values and management of impacts including mitigation measures, if any.

The EIS will be required to consider in detail relevant issues under each category. In addition, it is essential that the main text of the EIS should address all relevant matters concerning environmental values, impacts on those values and proposed mitigation measures. No relevant matter should be raised for the first time in an appendix or the draft EMP. Other matters that may have to be addressed include those matters covered by the Federal EPBC Act.

If there is a necessity to make use of material that is considered to be of a confidential nature, the Consultant may request that such information remain confidential and not be included in any publicly available document.

The reader should be able to distinguish the EIS as the key environmental document providing advice to decision makers considering approvals for the project.

While the TOR provides guidance on the scope of the EIS studies, it should not be seen as exhaustive or limiting. It is important for Powerlink and its consultants to recognise that there cannot be perfect knowledge in advance of undertaking an EIS or what the EIS studies may find.

If it transpires during the preparation of the EIS that previously unforeseen matters not addressed in the TOR are found to be relevant to the assessment of impacts of the proposal, those matters should be included in the EIS.

When considering whether an impact is or is not significant, the Consultant should take account of both the intensity of the impact and the context in which it would occur.

The EIS is a public document. Its purpose is not only to provide information to regulatory agencies, but also to inform the public of the scope, impacts and mitigation measures of the proposal. Additional technical detail may be provided in appendices. The main text should not assume that a reader would have a prior knowledge of the project. It should not be necessary for the reader to have visited the area to understand the issues involved in the proposal.

In brief, the EIS objectives should be to provide public information on the need for and likely effects of the project, to set out acceptable standards and levels of impacts (both beneficial and adverse) on environmental values, and demonstrate how environmental impacts can be managed through the protection and enhancement of the environmental values. Discussion of options and alternatives and their likely relative environmental management outcomes is a key aspect of the EIS.

The role of the EIS in providing the project's draft EMP should also be discussed, with particular reference to the EMP's role in providing management measures that can be carried over into conditions that would attach to any approval(s), environmental authorities and permits for the project.

1.4 Cross-reference with the EIS

The EIS and the final TOR are to be cross-referenced to ensure that all the relevant issues have been addressed. A summary cross-referencing specific items of the final TOR to the relevant section of the EIS is to be provided. For this reason, it is suggested that as far as practical the EIS should follow the same format as the TOR.

2 PROJECT JUSTIFICATION AND FEASIBLE ALTERNATIVES

2.1 Project Justification

The justification for the project should be described, with particular reference made to the economic and social benefits. The status of the project should be discussed in a regional, State and National context. *

* Powerlink to provide details when issuing a specific project brief

2.2 Feasible Alternatives

This section should describe feasible alternatives, including conceptual, technological and locality alternatives to the project, and discussion of the consequences of not proceeding with the project. Alternatives should be discussed in sufficient detail to enable an understanding of the reasons for preferring certain options and courses of action and rejecting others. Comparative environmental impacts of each alternative should be summarized.

Reasons for selecting the preferred options should include technical, commercial, social and natural environment aspects. In particular, the principals of ecological sustainable development (ESD) and sustainable development should be included. This information is required to assess why the scope of the proposal is as it is and to ensure that the ESD principles and sustainable development aspects have been considered and incorporated during the scoping and planning of the proposal.

3. PROJECT DESCRIPTION

The objective of this section is to describe the project through its lifetime of design, construction, operation and decommissioning. This information is required to allow assessment of all aspects of a proposal including all phases of the proposal. It also allows further assessment of which approvals may be required and how they may be managed through the life of the proposal.

Describe:

- Any existing easements, new easement requirements or land that may need to be purchased;
- The location and type of buildings or structures that may be impacted by the proposal; and
- Construction and maintenance access requirements, including wet weather access.

The various elements of the project should be described in the text and illustrated with maps and diagrams, as required.

3.1 Location Details

Provide an overall locality plan of the Study Area within a State or regional context together with a general description of land uses and the nature of the land affected by the proposed development.

3.2 Physical Details of Structures

Describe the typical form, physical dimensions and construction materials of the structures, insulators, conductors, buildings, transformer bays, busbars, SVCs etc., as appropriate, proposed for the project. Include:

- The approximate location and details of any transposition or transition structures proposed for the development; and
- Structure details and proposed layouts of any infrastructure likely to be associated with access tracks.

3.3 Construction, Maintenance and Decommissioning Activities

Describe:

- Construction stages and equipment used, including anticipated workforce levels;
- Activities relating to the inspection, operation, maintenance and decommissioning of the development including how frequently the operational and maintenance activities would be required, including the provision for regrowth and weed control; and
- The surrender, if any, of the underlying easements.

3.4 Infrastructure Requirements

This section should provide descriptions of any infrastructure that is likely to be impacted by the construction, operation, maintenance and decommissioning of the project. The matters to be considered include such infrastructure as roads, rail, dams and weirs, other power lines and other cables and pipelines for any services (whether underground or above) and telecommunications.

This section should provide descriptions of any infrastructure that is likely to be impacted by the construction, operation, maintenance and decommissioning of the substation site with concept and layout plans, if any, of requirements for constructing, upgrading or relocating all infrastructure in the vicinity of the project area. The matters to be considered include, if any, such infrastructure as roads, other power lines and other cables, wireless technology (e.g. microwave telecommunications), and pipelines for any services (whether underground or above).

The location and owner / custodians of all tenures, reserves, roads and road reserves, railways and rail reserves, stock routes and the like, marine infrastructure covering the affected and adjacent land should be shown on maps of a suitable scale. Indicate locations of gas and water pipelines, power lines and any other easements. Describe the environmental values affected by this infrastructure. In particular, any adverse impacts associated with vegetation clearing for vehicular access and services requirements should be identified.

3.4.1 Energy

The EIS should describe electricity requirements, for the construction and operation phases of the project. The locations of any easements for existing powerlines should be shown on the infrastructure plan.

3.4.2 Water Supply and Storage

The EIS should provide information on water usage by the project, including the quality and quantity of all water to be supplied to and discharged from the site from the various sources and the reliability of those sources. In particular, the proposed and optional sources of water supply should be described.

Determination of potable water demand should be made for the project, including the temporary demands during the construction period. If water storage and / or treatment is proposed on site, for use by the site workforce, then this should be described.

The potential for demands for off-site water, if on-site shortfalls occur, should be considered, along with any subsequent impacts on existing off-site water infrastructure.

3.4.3 Stormwater Drainage

A description should be provided of the proposed stormwater drainage system and the proposed disposal arrangements, including any off-site services. A Stormwater Management Plan should be prepared for the site.

3.4.4 Sewerage

This section should describe, in general terms, the sewerage infrastructure required by the project. Information is required on any on site treatment.

3.4.5 Telecommunications

The EIS should describe the telecommunications requirement of the project where telecommunications sites will be developed and the proposed tenure.

Describe any impacts on existing telecommunications infrastructure (such as optical cables, microwave towers, etc.) and identify the owners of that infrastructure.

4. ENVIRONMENTAL VALUES AND MANAGEMENT OF IMPACTS

The functions of this section are to describe the existing environmental values of the area which may be affected by the proposal, to assess the potential impact of the proposed development on those environmental values, and to develop mitigation measures to minimize those impacts.

When addressing the existing environment describe the physical features of the existing project environment and surrounding areas in sufficient detail to allow the environmental impacts of the proposal to be adequately assessed and to provide a baseline against which predicted and future changes can be measured.

When addressing the potential environmental impacts and mitigation measures, regard should be given to the meaning of “environment” as set out in the Preface. The assessment should include:

- (a) The matters listed in Schedule 2 of the Guidelines (refer Attachment 1);
- (b) Short, long-term and cumulative effects;
- (c) Effects from use and works, during the construction phase, the operational phase and the decommissioning phase of the proposed community infrastructure; and
- (d) On-site and off-site effects. Consideration should be given to the level and type of existing disturbance across the Study Area.

For community infrastructure proposed to be designated well in advance of construction and use, identification and assessment of environmental effects should consider, amongst any other relevant matters, likely changes of use on adjoining and nearby land, and broad parameters of scale, intensity, access and the like.

Paragraphs (a) to (d) are to be specifically addressed in the EIS but only to the extent relevant, including to state that a matter is not relevant. Attachment 1 lists the elements from Schedule 2 of the Guidelines and the specific questions that require answers. The EIS is to address all of these matters and Attachment 1 is to be completed by stating next to the question, either a specific reference where the matter has been discussed within the EIS or state that the matter is not relevant.

Environmental and social factors that need to be considered in the EIS may be grouped for convenience under three headings:

- Physical environment;
- Biological environment;
- Socio-economic environment.

In parallel with or in addition to each of the matters listed in Schedule 2 of the Guidelines, the EIS shall give consideration to each of the matters listed below. In each case, where appropriate, the consideration shall include the environmental value of the matter, the potential impact of the proposed development on that matter and ways in which any adverse effects can be avoided or mitigated. Where appropriate, discussions of each of the matters shall be supported by suitably scaled current mapping illustrating the features and occurrence of the matters under discussion.

4.1 Physical Environment

4.1.1. Land

This section describes the existing environment values of the land area that may be affected by the proposal.

4.1.1.1 Topography / Geomorphology

The topography of the proposal should be detailed with contours at suitable increments, shown with respect to AHD. Significant features of the locality should be included on the maps. Such features would include any locations subsequently referred to in the EIS (e.g. the nearest noise sensitive locations, national or marine parks, sensitive marine ecosystems) that are not included on other maps. Commentary on the maps should be provided highlighting the significant topographical features.

4.1.1.2 Soils and Geology

Provide a description of the geology and geomorphology of the Study Area in sufficient detail to describe the geology of the site in terms of dominant rock types in a regional context. Describe the landforms of the Study Area and surrounding areas including slope and terrain components and an analysis of subsurface and slope stability. Any interesting geomorphological or geological unique features and any associated biological importance shall be described. Describe soil analysis including stability, erodability, contaminants, acid sulphate soils, sodic soils or saline soils and revegetation potential. Describe any likely impacts on soil erosion, siltation, major earth slippage / movement, soil contamination risk and sulfate and saline soils risk.

Describe any known mineral deposits, mines or quarries of commercial significance, including any registered exploration permits within or immediately adjacent to the Study Area. Describe the extent, if any, of any mining tenements with suitable mapping along or adjacent to the Study Area.

4.1.1.3 Land Contamination

The EIS should describe the possible contamination of land from aspects of the project including waste, acid generation from exposed sulfidic material and spills at chemical and fuel storage areas.

The means of preventing land contamination (within the meaning of the *Queensland Environmental Protection Act 1994*) should be addressed. Methods proposed for preventing, recording, containing and

remediating any contaminated land should be outlined. Intentions should be stated concerning the classification (in terms of the Queensland Contaminated Land Register) of land contamination.

A Preliminary Site Investigation (PSI) of the site consistent with the EPA's "Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland" should be undertaken to determine background contamination levels. The results of the PSI should be summarised in the EIS and provided in detail in an appendix.

If the results of the preliminary site investigation indicate potential or actual contamination, a detailed site investigation progressively managed in accordance with the stages outlined in Appendix 5 of the Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland should be undertaken.

The EIS should address management of any existing or potentially contaminated land in addition to preventing and managing land contamination resulting from project activities. The Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland can be downloaded from the EPA website at: www.epa.qld.gov.au/environment/business/contaminated). Proponents should refer study proposals to the EPA for review prior to commencement (consult with the Contaminated Land Section in the Queensland EPA).

4.1.2 Climate and Air Quality

Provide generic details of the existing air quality and the presence of pollutants. Identify atypical meteorological conditions and their likely frequency of occurrence. Provide a description of the climatic features and microclimate of the Study Area (temperature, wind, frost, rainfall, etc.).

In addition, climate change is emerging as an issue of international significance. In Queensland, climate change is expected to have a number of impacts including warmer temperatures, rising sea levels, changes in rainfall patterns, and increased storm and cyclone intensity. Describe in general detail how these effects may impact on the development.

Include any likely impacts on air quality during the construction and operation phases including dust, odours or potential greenhouse gas emissions and how these may affect the surrounding environment including, but not necessarily limited to, residences and ecologically sensitive areas, where applicable.

4.1.3 Hydrology

Describe the hydrology traversed by the Study Area and surrounding areas including surface hydrology and locally important subsurface hydrology including water quality, wetlands, and the frequency and extent of flooding using a desktop assessment. Include an overview of any existing water use adjacent to the proposed development that may be impacted by the proposal.

Describe any likely impacts on groundwater and surface water quality and flow, water contamination risk, flooding potential, surge potential and hydrology, alterations to drainage patterns and crossing of waterways including mitigation measures and their effectiveness. Review Powerlink's authorisation under the *Water Act*

2000 (Authority) for works in waterways and advise of any likely impacts. Quantify such impacts in accordance with the provisions of the Authority and prepare a separate record of all necessary calculations and reports for use by the construction team. Where feasible, describe the potential issue of groundwater interception during the drilling of foundations and the potential need to dewater foundations or any other water pending structures. When addressing the issue of dewatering foundations, include appropriate management controls which address discharge waters and their potential to contain sediment, concrete, slurry or fines, inappropriate pH value (acidic or alkaline) or other environmental pollutants.

4.1.4 Fire

Discuss any likely causes due to construction and maintenance activities of the proposed development. Also indicate any likely impacts on burning for pasture management and / or weed control. Discuss the potential impact of bushfires on the proposed development.

4.1.5 Waste Management

Describe waste management and disposal of materials including oils and lubricants, water, solid waste, vegetative waste and regulated waste.

4.1.5.1 Character and quantities of waste materials

Provide an inventory of all wastes to be generated by the project during the construction and operational phases of the project.

Having regard for best practice waste management strategies and the Environmental Protection (Waste) Policy, the proposals for waste avoidance, reuse, recycling, treatment and disposal should be described in the appropriate sub-section below. Information should also be provided on the variability, composition and generation rates of all waste produced at the site.

4.1.5.2 Solid waste disposal

The proposed location, site suitability, dimensions and volume of any landfill requirements for solid wastes generated by the project.

4.1.5.3 Liquid waste

A description should be presented of the origin, quality and quantity of wastewater originating from the project.

The EIS may need to consider the following effects:

- Rainfall directly onto disturbed surface areas;
- Run-off from hard surfaces (e.g. roads, development footprint);
- Drainage (i.e. run-off plus any seepage or leakage);
- Seepage from other waste storages;
- Water usage for dust suppression; and
- Domestic sewage treatment - disposal of liquid effluent and sludge.

4.2 Biological Environment

4.2.1 Sensitive Environmental Areas

Provide a description of the conservation significance, including wildlife and habitat, of any specific portions of the Study Area affecting sensitive environmental areas. Include reference to World Heritage Areas, RAMSAR wetlands, National Parks, State Forests, Stock Routes and proposed conservation areas as relevant to the proposal and their conservation value.

For sensitive environmental areas, describe the extent, integrity and relative importance of the biological communities of the Study Area and surrounding area. Discuss the relationship of the vegetation to water quality and soil stability. Discuss the conservation significance of the associations and communities of the site and surrounding area, in respect to local, regional and national and international importance. Describe the ecological values of the site, including any refuge habitats, breeding habitats, food chains, and presence of barriers to, and corridors for, wildlife movement.

4.2.2 Flora and Fauna

4.2.2.1 *Flora – Description of Existing Environmental Values*

Provide details of the vegetation across the Study Area including the surrounding area. Describe the methodology used for any flora surveys undertaken. Identify and describe threatened species and communities protected under State or Commonwealth legislation, including Regional Ecosystem (RE) categories where applicable, and the significance of vegetation types or locations to identified native fauna. Include a comparison of site mapping and mapping produced by the Queensland Herbarium under the *Vegetation Management Act 1999* when any differences are identified. Comment on the ecological value of the areas across the Study Area. Any areas where vegetation is considered of high ecological importance should be noted. Investigations should comply with all elements of the assessment code in the State policy for vegetation management where appropriate. Note any species that are identified as under threat on a local or regional scale that may not be recognised under Commonwealth or State Legislation.

Discuss:

- The presence of any presumed extinct, endangered, vulnerable or rare species or endangered or of concern ecosystems, their habitat requirements and sensitivity to changes / disturbances associated with the normal construction and operation of Substation infrastructure;
- The presence of biogeographically significant, unusual or evolutionary significant species, communities or populations; and
- The extent and incidence of exotic species, weeds and diseases. Species of note should include, but not necessarily be limited to, those species recognised under Federal and State legislation (declared and not declared) and recognised by the local Shire Councils. The status and category of any weeds should be noted.

Detail existing occurrence of pest species including weed species identification, prevalence and infestation of pests.

Provide a vegetation map of the Study Area and key flora indicators should be identified for future ongoing monitoring.

4.2.2.2 *Fauna - Description of Existing Environmental Values*

Describe the methodology and findings of fauna surveys and desktop studies, including the aerial, terrestrial and aquatic fauna present or likely to be present in the area or in areas that may be affected by the project, including the existence of endangered, vulnerable or rare species under both Commonwealth and State legislation and the impact of the project on these aspects including:

- Any presumed extinct, endangered, vulnerable or rare species, their habitat requirements and sensitivity to change including any ongoing activities associated with the project;
- Location and importance of wildlife corridors;
- Occurrence or likely seasonal occurrence of migratory species, and presence of suitable habitat for these species;
- The presence of biogeographically significant, unusual or evolutionary significant species or populations;
- Presence of feral animals, their distribution and present level of ecological impact;
- Presence of any significant / notable nests, burrows, hollows etc;
- The presence of any wetlands, wildlife breeding or roosting areas;
- Any significant habitat or relevant bird flight paths for migratory species;
- Bat roosting and breeding caves including existing structures such as adits and shafts; and
- The habitat of threatened animals and communities. Note any species that are identified as under threat on a local or regional scale that may not be recognised under Commonwealth or State Legislation.

The survey intensity and period should be consistent with the difficulty of locating any species listed as rare, vulnerable or endangered under the Nature Conservation (Wildlife) Regulation 1994 or the EPBC Act that potentially occur in the area. Key fauna indicators should be identified for future ongoing monitoring.

4.2.2.3 *Flora and Fauna - Potential Impacts and Mitigation*

Potential Impacts and Mitigation Measures associated with Flora and Fauna should be described under the headings of:

- Pre-construction work including surveys, access, etc.;
- Construction;
- Maintenance; and
- Decommissioning.

and include the matters, where applicable, set out below.

4.2.2.4 *Flora Potential Impacts*

Include any likely direct and indirect impacts on terrestrial and aquatic flora. Attention should be given to any rare, threatened or endangered species, or species of local, regional, State or National Environmental Significance (NES) identified in the surveys and / or desktop study and advise on any Matters of NES that need to be referred to the Commonwealth Department of Environment and Water Resources (DEWR) for a determination as to whether or not it is a Controlled Action under s67 of the EPBC Act.

Discuss the ability of identified vegetation to withstand any increased pressure resulting from the project and the likely impact of the project on the abundance and distribution of exotic species, weeds and diseases.

Discuss clearing requirements including the amount and type of vegetation affected. The proposed methods of disposal of cleared vegetation should be described. The potential use of cleared vegetation for rehabilitation / compensatory habitat, provision of ground level habitat or erosion control (mulch) should be considered. Tabulated data on the Regional Ecosystem (RE), areas likely to be cleared and the clearing methodology applicable to each RE shall be detailed. Include details on whether vegetation is native and its maturity. Reference to the ecological value (as established in the flora investigation) of material to be cleared should be made.

The Queensland *Vegetation Management Act 1999* and the findings of any regional vegetation management plan should also be referenced.

4.2.2.5 *Flora Mitigation Measures*

Measures to mitigate impacts and their adequacy and effectiveness shall be proposed. Measures for ongoing management of the natural environment and prevention of the introduction and spread of pests and weeds using washdown facilities shall also be included. The barrier, fragmentation and edge effects of the Study Area need to be analysed.

Mitigation measures should consider localised clearing constraints such as pruning and allowing for regrowth to restore habitat value and limit erosion, where possible. Other mitigation measures such as compensatory vegetation and tree planting should also be considered where relevant. Long term ecological consequences of compensatory vegetation and the management of that vegetation should also be discussed. Any barrier effect of a cleared corridor on the movement of fauna should also be considered. Elements of the State Policy Assessment Code for tree clearing should be addressed, where applicable. Indicate if any millable timber can be salvaged during the clearing operation.

4.2.2.6 *Fauna Potential Impacts*

Include any likely direct and indirect impacts on aerial, terrestrial, feral and aquatic fauna including migratory species, and any relevant bird flight paths. Attention should be given to any rare, threatened or endangered species, or species and habitats of local, regional, State or NES identified in the surveys and / or desktop study and advise on any Matters of NES that need to be referred to the DEWR for a determination as to whether or not it is a Controlled Action under s67 of the EPBC Act.

Discuss the ability of identified fauna to withstand any increased pressure resulting from the project, including potential barrier, fragmentation and edge effects of the proposed Substation on terrestrial and aquatic habitats. Consideration should be given to the extent and type of disturbance created by other corridors (e.g. roads, rail, access tracks) existing in the area. Include any potential impacts on any apiary industry.

4.2.2.7 Fauna Mitigation Measures

Measures to mitigate impacts, including wildlife corridors and compensatory habitat areas and their adequacy and effectiveness shall be proposed. Measures for ongoing management of the natural environment shall also be included.

4.3 Socio-Economic Environment

4.3.1 Land Use

Describe each existing use on the Study Area and uses adjoining the Study Area. Discuss potential site specific and cumulative impacts of the project on existing and potential land use and developments including farming activities, forestry, tourism and airfield operation. In particular on the operation, management, productivity of developments, likely sterilisation of mineral and significant extractive industry resources and loss of good quality agricultural land. Note how much land of each type / use will be altered, relating this to the amount of land of each type / use currently existing in the area.

4.3.2 Socio-Economic Issues

Include a description of the socio-economic characteristics of the community surrounding the proposed development. Provide an assessment of the potential impacts (real or perceived) of the development of the Study Area.

Detail the matters to be of concern to other parties affected or likely to be affected by the project. Include in the EIS any consultation about the action, including:

- a) Any consultation that has already taken place;
- b) Proposed consultation about relevant impacts of the action;
- c) If there has been consultation about the proposed action, any documented response to, or result of, the consultation; and
- d) Identification of affected parties. Comments from relevant local, State and Commonwealth agencies, service and utility providers, community groups, affected landowners and individuals shall be identified and addressed in the EIS. Include discussion on any feature or areas of local, regional or community concern such as those of recreation, amenity, cultural heritage or conservation value. All consultation shall be documented including any issues raised and how they were considered in finalising the EIS. Provide copies of any documented response to, or submission from the consultation. In conjunction with Powerlink, prepare a draft response to any submission received. Results of consultation shall be included in an Appendix to the EIS. The DLGP Guidelines include a list of the minimum parties to be consulted.

4.3.3 Noise and Vibration

Provide details of any noise sensitive receivers or locations within or near the proposed development and detail their respective distance from the proposed development and, if any, provide details of existing ambient noise levels.

Identify:

- Sources of vibration from the environment that may impact upon the development and comment upon their effect, eg. blasting, movement of heavy traffic on roads or railways, audio and sonic shock from aircraft;
- Parts of the receiving environment that is sensitive to vibration emanating from the development. This vibration typically arises from the use of explosives, movement of heavy vehicles and fly over of aircraft, eg. helicopters; and
- Audible noise emanating from equipment forming parts of the development and wind noise associated with the conductors and towers and corona noise on the proposed development.

Based on the vicinity of residences / human habitation, assess any increase in background and incidental noise levels at noise-sensitive locations, particularly during construction and operational phases.

4.3.4 Electric and Magnetic Fields

Assess potential impacts of electric and magnetic fields on fauna, agriculture, TV reception, radio, on the quality of telephone and mobile communications, as well as navigational instruments and adjacent conductive materials. Also, based on the vicinity of residences / human habitation, assess the potential risk of electric and magnetic fields from the proposed substation on adult and child health, including identification of the potential hazards, transient and prolonged exposure, epidemiological studies, etc.

4.3.5 Landscape Character

4.3.5.1 Landscape

Describe in general terms the existing character of the landscape that will be affected by the proposal. It should comment on any changes that have already been made to the natural landscape since European settlement. It should 'set the scene' for the description of particular scenic values in the following section on visual amenity. The difference between the two sections is that this section describes the general impression of the landscape that would be obtained while travelling through and around it, while the visual amenity section addresses particular panoramas and views (e.g. from constructed lookouts, designated scenic routes, etc.) that have amenity value.

Describe the potential impacts of the project landscape character of the site and the surrounding area. Particular mention should be made of any changes to the broad-scale topography and vegetation character of the area, such as due to spoil dumps, excavated voids and broad-scale clearing. Details should be provided of measures to be undertaken to mitigate or avoid the identified impacts.

4.3.5.2 Visual Amenity

Describe existing landscape features, panoramas and views that have, or could be expected to have, value to the community whether of local or regional significance.

Evaluate local and regional visual impacts of the major structures, access tracks and easement clearance. Include potential impacts on the users of State-controlled roads.

Describe the aesthetic and landscape values of the Study Area and other features contributing to the amenity including landforms, visual character, resident populations within the viewshed, buildings, structures or other facilities of particular cultural, historic, religious or social importance.

Sketches, diagrams, computer imaging and photos may be used where possible to portray the near views and far views of the completed development and their surroundings from visually sensitive locations.

4.3.6 Transport Infrastructure, Traffic and Amenity

Describe:

- The existing transport infrastructure including a description of the existing aerodromes, road networks including highways and State controlled roads expected to be used to transport freight to the project, road surface types and estimated traffic flows making reference to the Regional Transport Plans, as appropriate;
- The rail network (including the volume of traffic on any rail line) and a description of where, if any, the Study Area will cross the rail corridor; and
- Arrangements for the transport of plant, equipment, products, wastes and personnel during both the construction phase and operational phase of the project. The description should address the use of existing facilities and all requirements for the construction, upgrading or relocation of any transport related infrastructure.

Information should be provided on road transportation requirements on public roads for both construction and operations phases, including:

- Proposed road access to the project, including wet weather access if different from normal access;
- The estimated volume, composition (types and quantities) of, origin and destination of goods to be moved including construction materials, plant, raw materials, wastes, hazardous materials;
- The volume of traffic generated by workforce personnel, visitors and service vehicles and materials to be delivered to the project; and
- Anticipated times at which movements may occur.

Assess:

- Any impact on local aircraft flight paths including commercial flights, agricultural flights such as crop-dusting, tourist flights such as parachuting and balloon flights as well as emergency flights;
- Potential impacts on road and rail, if any, traffic and community amenity especially during the construction phase of the proposal. Include an assessment of the impacts where vehicles will access State-controlled roads and how road safety and traffic efficiency will be maintained; and

- The ongoing impact on existing and new road and access track infrastructure associated with improved access to various recreational vehicles including any necessary management requirements.

Information should be provided on road transportation requirements on public roads for both construction and operations phases, including:

- Proposed road access to the development;
- The volume of traffic generated by workforce personnel, visitors and service vehicles;
- Method of movement (including vehicle types and number of vehicles likely to be used);
- Anticipated times at which movements may occur;
- Details of vehicle traffic and transport of heavy and oversize indivisible loads (including types and composition);
- Need for increased road (and waterway crossing) maintenance and upgrading;
- Proposed methods and procedures to maintain acceptable EPA and community standards in relation to dust and exhaust emissions; and
- Communication of these issues to the public.

4.3.7 Non-Indigenous Cultural Heritage

The impact of the proposed development on non-indigenous cultural heritage shall be determined in the assessment.

Local and regional historical societies should be contacted to determine sites of significant heritage value. Advise if any place on or adjacent to the Study area is entered in the heritage register under the *Queensland Heritage Act 1992*.

Activities should include:

- Review of literature to identify relevant archaeological, anthropological, natural, historical and other non-indigenous cultural heritage data pertaining to the area impacted by the proposed development;
- Consultation of relevant non-indigenous cultural heritage site registers and databases including the Register of National Estates and the Queensland Heritage Register to compile a list of significant non-indigenous sites and places previously recorded in the area impacted by the proposed development;
- Consult locally for information on any areas / items considered of cultural heritage significance by local and regional stakeholders.

Determine the potential impact of the Substation with consideration of issues including lifestyle, heritage places, and other places frequently visited or used.

4.3.8 Aboriginal Cultural Heritage

Powerlink will consider the impact of the proposed activities on Aboriginal Cultural heritage and where appropriate will enter into an agreement with the relevant Aboriginal parties to protect or minimise the harm to Aboriginal Cultural Heritage affected by the project. Powerlink will provide the Consultant with confirmation of the steps taken to manage Aboriginal Cultural Heritage for inclusion in the EIS.

5. TOWN PLANNING AND LEGISLATIVE REQUIREMENTS

This section addresses the requirements of the IPA in relation to development approval for a Substation development. The description of the proposed Substation should be sufficient to identify the land involved, and the description of the infrastructure should be general in nature and should not include the technical details of individual structures. The following items should be addressed under the proposed headings:

5.1 Description of Each Relevant Planning Scheme

Describe any special attributes affecting the Study Area that are identified on each relevant Planning Scheme, together with any inconsistencies or otherwise with the Scheme(s). A conclusion is required at the end of each comparison stating how the Substation will affect a Planning Scheme or how the proposed development complies with the intent of the Planning Scheme.

5.2 Outcomes Summary

Include a summary of the intentions or outcomes sought for uses and works on the Study Area and in the surrounding area in each relevant Planning Scheme.

5.3 Description of Each State Planning Policy (SPP)

A description of any special attributes affecting the Study Area that are identified in a State Planning Policy and include a statement about the consistency with any relevant SPP.

A conclusion is required at the end of each SPP stating whether the Substation will affect a SPP or how the proposed development complies with the intent of the SPP.

5.4 Effect on Regional Plan or Master Plan, If Any

A description of any special attributes affecting the proposed development that are identified in any regional plan, where not identified as adequately reflected in the relevant Planning Scheme. Include a statement about the consistency with any regional plan where not identified as adequately reflected in the relevant Planning Scheme.

Describe any special attributes affecting the declared urban development master plan for the area, and comment on whether, or not, the proposed development will impact on the declared or a proposed master plan.

5.5 Description of Nature, Scale and Intensity

A description of the nature, scale and intensity of each use proposed as part of the community infrastructure.

6. ENVIRONMENTAL MANAGEMENT PLAN

The Draft EIS will contain a draft Environmental Management Plan (EMP) covering the life cycle of the proposed development. The plan should contain all relevant details available at the time when the EIS is prepared. When information is not available, they should be described with an indication of how and when the information will be incorporated into the final detailed EMP. When developing the EMP, any relevant impacts identified during the EIS process should be considered and a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action.

The plan should address, but not be limited to, the following matters:

- Key Performance Objectives;
- Management Strategy; and
- Performance Indicators

On the following criteria, if applicable:

SECTION NUMBER	HEADING	INCLUDES
4.1	PHYSICAL ENVIRONMENT	
4.1.1	Land	Topography, minerals, Contamination and erosion
4.1.2	Climate and Air Quality	
4.1.3	Hydrology	
4.1.4	Fire	
4.1.5	Waste Management	
4.2	BIOLOGICAL ENVIRONMENT	
4.2.1	Sensitive Environmental Areas	National parks and protected areas
4.2.2	Coastal Environment	
4.2.3	Flora and Fauna	Flora and fauna and pest and weed control, fire ant area, Wet Tropics Management Area
4.3	SOCIO-ECONOMIC ENVIRONMENT	
4.3.1	Land Use	
4.3.2	Socio-Economic Issues	
4.3.3	Noise and Vibration	
4.3.4	Health and Safety	Safety and EMF (Induction effects and health concerns)
4.3.5	Landscape Character	Landscape and Visual Amenity
4.3.6	Transport Infrastructure, Traffic and Amenity	Access, hazardous materials / substances
4.3.7	Non-Indigenous Cultural Heritage	
4.3.8	Aboriginal Cultural Heritage	Reference to CHMP

7. OTHER APPROVALS AND CONDITIONS

The Final EIS will be used by Powerlink to support an application for Community infrastructure Ministerial designation under the IPA.

The information is required to assess how the legislation applies to the project and which agencies have jurisdiction. This section should explain the legislation and policies controlling the approvals process. Any requirements of the EPBC Act should also be included.

The EIS should also include a statement identifying what assessment requirements apply to the proposed community infrastructure under State legislation. Reference should be made to the IPA (for both assessment under the IPA integrated development assessment system (IDAS) and outside that system) any other relevant Queensland legislation and approval processes. Local Government planning controls, local laws and policies applying to the development should be described.

Therefore the following headings can be used:

7.1 Federal Legislation

Detail the requirements of relevant Federal legislation including the roles of Government Agencies. Describe any approval that has been obtained from a Commonwealth agency or authority, including any conditions that apply to the action. Include any other requirements for approvals or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action.

Describe the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

7.2 State Legislation and Permit Requirements

The IPA, schedule 8 and the Integrated Planning Regulation 1998, in particular Schedule 10 (State Resources), identify State assessment requirements under the IPA and the report should include any permits required to be obtained by Powerlink and associated requirements, such as resource entitlement / allocation, based on the Project. Attachment 1 includes a column requesting information on permit requirements. If any other permits are required other than the information requested in Attachment 1, then include those permit requirements under this section.

Describe any approval or exemption that has been obtained from a State agency or authority, including any conditions that apply to the action. Reference should be made to any other requirements for approvals or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action.

Describe the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

7.3 Local Government Planning, Ordinances and By-Laws

Detail the relevant local government planning and land use requirements of the relevant City or Shire Councils including local ordinances and by-laws such as local vegetation laws. A list should be provided of the approvals required for the project and the expected program for approval of applications.

Include also any potential conflict with Planning Scheme measures including strategic plans, any development control plans and the intent of the zones within which the proposed development is located.

8. ENVIRONMENTAL COST-BENEFIT SUMMARY

The summary shall include both the short and long term environmental costs and benefits to be borne by the community and the environment, such as reduced productivity on land impacted by the development, quantity of good agricultural land affected, areas of high conservation values affected, and reduction in greenhouse gas emissions. It should include an analysis of options for traversing State-controlled road reserves based on ultimate concept plans. Where costs / benefits are not quantifiable, they should be described.

9. POWERLINK'S ENVIRONMENTAL RECORD

The EIS shall detail: *

- Any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against Powerlink; and
- Powerlink's environmental record including reference to its environmental policy and planning framework. Specific reference should be made to the environmental performance of the past three projects of similar nature and structure to that proposed.

*Powerlink will supply this information with the specific project brief.

10 REFERENCES

All references consulted should be presented in the EIS in a recognised format.

Recommended appendices

A1 – Schedule 2 of the DLGP Guidelines

A2. Final Terms of Reference for this EIS

A copy of the final TOR should be included in the EIS. Where it is intended to bind appendices in a separate volume from the main body of the EIS, the TOR at least should be bound with the main body of the EIS for ease of cross-referencing. A summary, cross-referencing specific items of the TOR to the relevant section of the EIS, should also be provided in Section 1.4 of the EIS. For this purpose the TOR should be line numbered.

A3. Corridor Selection Report

If applicable, a copy of the Corridor Selection Report and / or Substation Site Selection Report should be included.

A4. Development Approvals

A list of the development approvals required by the project should be presented (in the expected sequencing of applications) along with their corresponding regulating legislation and the approving authority. – refer A1

A5. Study Team

The qualifications and experience of the study team and specialist sub-consultants and expert reviewers should be provided.

A6. Consultation Report

The summary Consultation Report appendix for an EIS should commence by including the details of affected and interested persons by type or organisation, and the statement of planned consultation with those persons, originally provided with the draft Terms of Reference. It should describe how 'interested' and 'affected persons,' and any 'affected parties' as defined by the EPBC Act were identified and include the matters likely to be of concern to other parties affected or likely to be affected by the development for the proposed community infrastructure.

A7. The Final EIS should include the following:

- (a) A list of the parties consulted (subject to their permission);
- (b) A copy of newspaper tear-sheet of Draft EIS advertisements;
- (c) A summary of all submissions and the account taken of the issues raised;
- (d) Any further assessment of environmental effects of the project;
- (e) Any additional strategies for managing the environmental effects;
- (f) A statement of any matters proposed to be included in the designation under the IPA, s2.6.4; and
- (g) Any recommended changes to the Substation which produces the Final Layout.