

## Appendix 2

### Mount Emerald Wind Farm EIS Guidelines



**Australian Government**

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**Department of Sustainability, Environment, Water, Population and Communities**

***Environment Protection and Biodiversity Conservation Act 1999***

**GUIDELINES FOR A DRAFT ENVIRONMENTAL IMPACT STATEMENT  
FOR THE MT EMERALD WIND FARM, HERBERTON RANGE APPROX  
50KM WEST/SOUTH-WEST OF CAIRNS, QUEENSLAND**

**RATCH AUSTRALIA CORPORATION LIMITED  
(EPBC 2011/6228)**

**February 2012**

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## 1 PREAMBLE

Ratch Australia Corporation Limited (hereafter referred to as the proponent) proposes to construct a wind farm consisting of 75 hollow tower wind turbines (approximately 80m high with 55m rotor blades), associated access tracks and an electricity substation that will feed into the main electricity grid (the Chalumbin-Woree transmission line) located approximately 20km SSW of Mareeba on the Atherton Tablelands.

The proposal was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) to the Minister for Sustainability, Environment, Water, Population and Communities on 21 December 2011. A delegate of the Minister determined on 24 January 2012 that the proposed development was a controlled action under the provisions of the EPBC Act, as the action has the potential to have a significant impact on a number of matters of National Environmental Significance. The controlling provisions for the proposal under the EPBC Act are:

- a) World Heritage properties (sections 12 & 15A);
- b) National Heritage places (sections 15B & 15C);
- c) Listed threatened species and communities (sections 18 & 18A); and
- d) Listed migratory species (sections 20 & 20A).

On the same date a delegate of the Minister determined, that the proposed activity be assessed by an Environment Impact Statement (EIS). The EIS Guidelines identify the issues that the Australian Government requires the proponent to address in the EIS.

Information about the action and its relevant impacts, as outlined below, is to be provided in the EIS. This information should be sufficient to allow the Minister to make an informed decision on whether or not to approve, under Part 9 of the EPBC Act, the taking of the action for the purposes of each controlling provision.

## **2 ENVIRONMENTAL ASSESSMENT AND APPROVAL PROCESS**

### **2.1 PURPOSE OF GUIDELINES**

This document is intended to set the scope of environmental, social, cultural, heritage and economic studies required in the EIS to allow for an assessment and decision on the appropriateness of the construction and operation of the Mt Emerald Wind Farm. These Guidelines have been jointly developed by the Department of Sustainability, Environment, Water, Population and Communities (the department) to address assessment requirements specified in Section 102 of the EPBC Act and Schedule 4 of the *Environment Protection and Biodiversity Regulations 2000* (EPBC Regulations) (refer Attachment 1).

## **3 DESCRIPTION OF THE PROJECT**

### **3.1 THE PROPOSED PROJECT AREA**

The proposed development is located on a 2422 ha property at the northern-most section of the Herberton Range approximately 20 km SSW of Mareeba and 50 km WSW of Cairns, on the Atherton Tablelands, Queensland.

## **4 INFORMATION AND ADVICE RELATED TO THE PREPARATION OF THE ENVIRONMENTAL IMPACT STATEMENT**

### **4.1 THE OBJECTIVES OF AN ENVIRONMENTAL IMPACT STATEMENT**

Environmental impact assessment depends on adequately defining those elements of the environment that may be affected by a proposed development, and on identifying the significance, risks and consequences of the potential impacts of the proposal at a local, regional and national level. The EIS will be a significant source of information on which the public and government decision-makers will assess the potential environmental impacts of the proposal.

It is expected that additional ecological and socio-economic investigations will be required to be undertaken to provide sufficient information for the EIS. The nature and level of investigations must be related to the likely extent and gravity of the potential impacts (likelihood, consequence, magnitude, extent and scale of impacts, including worst case scenarios). All relevant impacts of the proposal on matters of National Environmental Significance are to be investigated and analysed, and commitments to avoid, mitigate and offset any adverse impacts are to be detailed in the EIS.

This document provides Guidelines (or terms of reference) for the drafting of the EIS based on the formal requirements for the contents of an EIS provided in: Section 102 of the EPBC Act; Schedule 4 of the EPBC Regulations.

In preparing the EIS the proponent must consider the following aims of the EIS and public review process: To provide a source of information from which interested individuals and groups may gain an understanding of the proposal, the need for the proposal, the alternatives, the

environment<sup>1</sup> which it could potentially affect, the impacts that may occur and the measures proposed to be taken to avoid or minimise these impacts; to provide a forum for public consultation and informed comment on the proposal; and to provide a framework in which decision-makers can consider the environmental aspects of the proposal including biophysical, cultural, social, heritage, economic, technical and other factors.

The proponent must ensure that the EIS discusses compliance with the objects of the EPBC Act and the principles of ecologically sustainable development and use, as set out in the EPBC Act (Attachment 2).

The draft EIS prepared by the proponent must be approved for publication by the Minister prior to it being published in accordance with the EPBC Regulations. An invitation for anyone to provide comments relating to the draft report within the period specified must also be published. After the period for comment, the proponent must take account of the comments received in finalising the EIS, which is then provided to the Minister. A recommendation report for the controlled action is then prepared by the department. Following this, in accordance with Part 9, Division 1 of the EPBC Act, the Minister will decide whether to approve the proposal and attach any conditions required.

It is the responsibility of the proponent preparing the EIS to identify and address, as fully as possible, all matters relevant to this proposal and its potential impacts.

The EIS must provide a description of the existing environment in the area affected by the proposal and any decommissioning of existing infrastructure, construction, operations and future decommissioning proposed. All potential impacts on the environment are to be investigated and analysed. The EIS must present an evaluation of the potential environmental impacts using an accepted risk-based methodology and describe proposed measures to avoid, minimise or offset the expected, likely, or potential impacts. Particular attention must be given to the heritage values of a national heritage place and a declared world heritage area, the potential impacts on listed threatened species and communities, and listed migratory species under the EPBC Act. Any prudent and feasible alternatives must be discussed in detail and the reasons for selection of the preferred option must be clearly given.

These EIS Guidelines are not necessarily exhaustive and should not be interpreted as excluding from consideration currently unforeseen matters that emerge as important from environmental studies or otherwise during the course of the preparation of the EIS.

## **4.2 GENERAL ADVICE**

The EIS must be a stand-alone document. It must contain sufficient information from any studies or investigations undertaken to avoid the need to refer to previous or supplementary reports.

The EIS must enable interested stakeholders and the assessing agencies to understand the environmental consequences of the proposed development. Information provided in the EIS must be objective, clear, succinct and, where appropriate, be supported by maps, plans, diagrams or other descriptive detail. The body of the EIS is to be written in a style that is easily understood by the general reader. Technical jargon must be avoided wherever possible and a

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<sup>1</sup> The definition for 'environment' is as stipulated under section 528 of the EPBC Act and should be considered when any reference to the 'environment' is made in the EIS.

full glossary included. Cross-referencing should be used to avoid unnecessary duplication of text.

If it is necessary to make use of material that is considered to be of a confidential nature, the proponent should consult with the department on the preferred presentation of that material, before submitting it to the Minister for approval for publication.

Detailed technical information, studies or investigations necessary to support the main text must be included as appendices issued with the EIS. Any additional supporting documentation and relevant studies, reports or literature not normally available to the public from which information has been extracted must be made available at appropriate locations during the period of public display of the EIS.

Where specific information requirements are set out within these guidelines, they should be read as a requirement for as much detail as is appropriate and reasonably available at this stage of planning. The department notes that full details may be difficult to obtain with regard to certain requirements. The EIS report must clearly identify any gaps in the information presented and include discussion on the effect of these gaps on the overall results of the assessment and possible methods for addressing them.

An executive summary must be provided in the EIS and made available as a stand-alone document for public information.

The EIS must state the criteria adopted in assessing the proposal and its potential impacts, such as: compliance with relevant legislation, policies, standards and best practice; community acceptance; maximisation of environmental benefits (if any); and minimisation of risks and harm.

Any and all unknown variables or assumptions made in the assessment must be clearly stated and qualified. The extent to which the limitations, if any, of available information may influence the conclusions of the environmental assessment must be discussed.

The proponent must ensure that the personnel providing information to address this EIS have the relevant qualifications and experience in their relevant fields.

The EIS must comprise three elements:

- a) The executive summary;
- b) The main text of the document, written in a clear and concise manner so as to be readily understood by general readers; and
- c) Appendices containing a copy of these guidelines and detailed technical information which may include other sensitive commercial or cultural information (if required):

Part 5 of these Guidelines details the Australian Government requirements for the EIS and has been set out in a manner that may be adopted as the format for the EIS. This format need not be followed where the required information can be more effectively presented in an alternative way. However, all requirements set out in the EPBC Act and Regulations must still be addressed.

The EIS must be written so that any conclusions reached can be independently assessed. To this end all sources must be appropriately referenced.

## **5 SPECIFIC CONTENT REQUIREMENTS**

An extract of Schedule 4 of the EPBC Regulations 2000, which sets out the matters that must be addressed in an EIS, is provided at Attachment 1. The following content requirements are based on these matters and considerations, with the addition of directions specific to the proposed action and the receiving environment. Requirements on presentation and consultation, that have proven valuable in communicating with members of the public and specific interest groups, are also included.

### **5.1 EXECUTIVE SUMMARY**

An executive summary that outlines the key findings of the EIS must be provided. The executive summary must briefly:

- a) State the background and the need for the proposal;
- b) Discuss alternatives and the reasons for selecting the preferred option and rejecting the alternatives;
- c) Summarise the construction, operational activities and decommissioning associated with putting the proposal into practice;
- d) State the proposed schedule for each key component of the proposal, the relationships and interdependencies between each stage, the expected duration of each stage and the proposal as a whole;
- e) Provide an overview of the existing regional and local environments, summarising the features of the physical, biological, social, cultural and economic environment relating to the proposal and associated activities;
- f) Summarise stakeholder consultation undertaken in preparing the EIS;
- g) Describe the expected, likely and potential impacts of the proposal on matters of National Environmental Significance the physical, biological, social, cultural and economic environment during construction, operational and post-operational phases;
- h) Summarise the environmental protection measures and safeguards, mitigation measures, offsets and monitoring to be implemented for the proposal; and
- i) Provide an outline of the environmental record of the proponent.

### **5.2 OBJECTIVE**

The objectives of the EIS must be clearly stated and include specific reference to EPBC Act legislative requirements.

### **5.3 GENERAL INFORMATION**

The EIS is to provide the background of the proposed development. This is to include:

- a) The title of the proposal;
- b) The full name and postal address of the designated proponent;



- c) A clear outline of the proposal;
- d) The location of the proposal;
- e) The background to the development of the proposal;
- f) How the proposal relates to any other developments (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region;
- g) The current status of the proposal;
- h) Prudent and feasible alternatives to the proposed action, including scale, configuration and staging options.
- i) The consequences of not proceeding with the proposal or components of the proposal;
- j) A brief explanation of the scope, structure and legislative basis of the EIS;
- k) The specific EPBC Act matters affected by the proposal; and
- l) A description of government planning policies, statutory controls and agreements which will influence the proposal. All applicable jurisdictions and areas of responsible authorities within the area must be listed and shown on maps at appropriate scales.

#### **5.4 THE PROPOSAL DESCRIPTION**

This section must describe the proposal in sufficient detail to allow an understanding of all stages (including interdependencies between stages) and components of the proposal, and determine potential environmental impacts associated with the proposal. Those elements with potential implications for matters protected under Part 3 of the EPBC Act must be highlighted.

All construction, operational and decommissioning components of the action should be described in detail. This should include the precise location (including coordinates) of all works to be undertaken, structures to be built or elements of the action that may have impacts on matters of National Environmental Significance.

The description of the action must also include details on how the works are to be undertaken (including stages of development and their timing) and design parameters for those aspects of the structures or elements of the action that may have relevant impacts.

Details of proposed monitoring and enforcement programs to help limit the impacts of the ongoing operations on matters of National Environmental Significance must also be addressed.

#### **5.5 PROJECT DETAILS**

The description of the proposal must cover:

- a) The environmental principles on which the development will be managed.
- b) All the components of the proposal including but not limited to:
  - i. site selection including the choice of region for the project and site within that region, an analysis of prudent and feasible alternative sites and why this site is likely to have the least impact on matters of National Environmental Significance;

- ii. describe all feasible, economic alternative site options for the proposal (for example, through a multi-criteria analysis);
  - iii. development options, including an explanation of prudent and feasible alternatives;
  - iv. the exact footprint of the proposal including vegetation to be removed;
  - v. associated infrastructure, including roads to support construction and general transport networks and corridors;
  - vi. exact dimensions of the turbines, including maximum heights in AHD and the above ground height for all structures including crane operations;
  - vii. a description of each structure to be built, including details of proposed external cladding and materials;
  - viii. economic justification and analysis for the number of turbines to be commissioned;
  - ix. an energy balance, i.e. the ratio between the amount of primary energy and resources used for construction and operation of the wind farm and the amount of energy which the wind farm will supply throughout its lifetime, should be prepared. Consideration should be given to energy used for manufacturing, transport, installation, operation, maintenance and repairs as well as material recycling after decommissioning. The expected energy payback time should be specified;
  - x. the operational and maintenance requirements, both short and long term (including frequency of maintenance activities, equipment access and hardstand requirements) for the wind turbines and transmission lines (including vegetation clearance);
  - xi. the width of the operational transmission line easement that will be required. Requirements for access to the easement and any restrictions required on land use, development and access within the easement;
  - xii. the design life for major project components (e.g. wind turbines, transmission towers, etc);
  - xiii. the hours of operation for the wind farm including any on-site variations or seasonal variations;
  - xiv. the volume, composition, origin, destination and route for vehicle movements and other traffic likely to be generated during construction and operational phases, including a breakdown for over-dimension and heavy vehicles.
  - xv. commissioning; and
  - xvi. decommissioning and rehabilitation.
- c) Describe the local and regional economic, social and built context, including historical and future trends, within which this project is proposed;
- d) Future development areas that are currently “greenfield” in the region and the likely nature and timing of development, (including but not limited to Windfarm and tourist related development);

- e) Describe the overall planning context in which proponents' decisions for this project have been made (including the overarching plan in which this project sits within);
- f) A detailed description of social and economic impacts and drivers for the proposal;
- g) The precise location of works to be undertaken (including specific footprint area(s)), structures to be built or other elements of the proposal that may have impacts on the environment. Aerial photographs, maps, figures and diagrams must be incorporated where appropriate.
- h) A general location map that includes the location of other known or potential future developments occurring in the general vicinity of the wind farm, hydrology and topography within the development envelope.
- i) Reference must be made to detailed technical information in appendices where relevant.
- j) How the works are to be undertaken and design parameters for all aspects of the structures or elements of the proposal. This must include:
  - i. an explanation of the anticipated timetable for construction, operation and decommissioning;
  - ii. details of construction and operational equipment to be used;
  - iii. details of the environmental parameters the structures are designed to withstand, based on the expected life of asset; and
  - iv. a summary of the design aspects that will be employed to minimise impacts on environmental, social, cultural and heritage values.

## **5.6 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE**

In relation to matters of National Environmental Significance listed as controlling provisions for the proposal, an inventory of surveys, whether office-based or field-based, must be provided. These may be provided as appendices, but must at least be fully referenced and must be made publicly available unless the department is furnished with compelling reasons not to do so. Any anticipated future surveys to be conducted in relation to matters of National Environmental Significance, whether office-based or field-based, must also be discussed.

Output from the protected matters search tool (accessible from the department's website) must be also included as an appendix. The results, indicating the presence of matters of National Environmental Significance, must also be provided. Any species or values considered likely or known to occur in areas impacted by the controlled action must be addressed. The description of matters of National Environmental Significance should focus on, but not be limited to the following controlling provisions:

- a) Listed threatened species and ecological communities (sections 18 & 18A);
- b) Listed migratory species (sections 20 & 20A);
- c) World Heritage Properties (sections 12 & 15A); and
- d) National Heritage Places (sections 15B & 15C).

## **5.7 ALTERNATIVES TO THE PROPOSAL**

This section must describe, to the extent reasonably practicable, any prudent and feasible alternatives to the proposal. For each alternative listed the proponent should provide the project details, impacts (positive and negative), location, scale, configuration and staging options. Sufficient detail must be provided to make clear why any alternative is preferred to another. This section must describe, but not be limited to the following:

- a) The alternative of taking no action or not proceeding with components of the proposal;
- b) Potential alternative locations for different components of the proposal;
- c) Potential alternative configuration or scale options for key components of the proposal;
- d) A comparative description of the adverse and beneficial impacts of the development as a whole, each component of the development, and location on the matters protected by the controlling provisions for the proposal;
- e) A description of how each stage would be affected if one or more of the stages does not occur or is significantly modified;
- f) The reasons for choosing the preferred location and option for the development as a whole, and each key component of the proposal, must be explained. The explanation must include a comparison of the adverse and beneficial effects used for selecting the preferred location and option, and compliance with the objectives of the EPBC Act (including the principles of ecologically sustainable development and use);
- g) The advantages and disadvantages of alternatives when considered against relevant matters protected under the EPBC Act; and
- h) Short, medium and long-term advantages and disadvantages of the options must be considered.

## **5.8 CONSULTATION**

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;
- d) Identification of affected parties, including a statement mentioning any communities that may be affected and describing their views; and
- e) Any further proposed consultation about potential impacts of the proposal.

## **5.9 THE EXISTING ENVIRONMENT**

This section must provide a description of the project area and must link to the proposal description, potential impacts, and proposed avoidance, mitigation adaptive management framework and/or offset measures throughout the life of the project including construction, operation and decommissioning. This section is to also identify and reference any relevant

(published and unpublished) studies undertaken in the area which will assist in describing patterns and trends in the environment.

A description of the environment of the proposal site and the surrounding areas that may be affected by the action. It is recommended that this include the following information:

- a) Listed threatened and/or migratory species and ecological communities that are likely to be present in the vicinity of the site;
- b) At a minimum the following details must be included:
  - i. details of the scope, timing (survey season/s) and methodology for studies or surveys used to provide information on the listed species/community/habitat at the site (and in areas that may be impacted by the project); and
  - ii. include a summary of the location, size and breeding status of threatened and migratory species listed under the EPBC Act which are likely to occur in the area affected by the proposal.
- c) Information on listed ecological communities, threatened and/or migratory species, including foraging, roosting, resting and nesting habitats, must include but not be limited to:
  - i. estimates of the likelihood of a population's extinction and long term viability over various temporal scales, stochastic and deterministic environmental conditions and management options;
  - ii. recruitment and dispersal probabilities post and prior construction and operation;
  - iii. identification of viable management options and evaluation of uncertainty around each option;
  - iv. describe and map critical habitat for threatened species, ecological communities and migratory species;
  - v. the importance of habitat (including habitat utilisation) in a local, regional, national and international context;
  - vi. the status of the population (for example, abundance) in the area likely to be affected by the proposed development relative to other areas outside the area likely to be affected;
  - vii. genetic diversity and relationship to local and regional populations;
  - viii. the viability of local, regional and overall populations;
  - ix. conservation and biodiversity values;
  - x. the abiotic (non-living) factors which may be necessary for the survival and functioning of the community, for example ground or surface water levels, soils and nutrients;
  - xi. economic, social and cultural values of species;
  - xii. minimum area requirements for a population to be viable;
  - xiii. probability of successful translocations based on similar fauna and flora;
  - xiv. the extent (in hectares) of any areas of important or unique habitat; and
  - xv. seasonality influences.

- d) Identify the desired conservation outcomes that the project has for matters of National Environmental Significance;
- e) Describe the biophysical/regional conditions that are required for matters of National Environmental Significance to be maintained and that are required to reach articulated conservation objectives for matters of National Environmental Significance;
- f) Identify factors that influence matters of National Environmental Significance including human-induced and natural factors, for example, climate change and flooding;
- g) Describe and quantify natural variability of matters of National Environmental Significance where adequate data is available or can be sourced;
- h) Describe the extent to which the general environment, ecosystems and matters of National Environmental Significance are already stressed by natural and anthropogenic effects;
- i) A description of the World Heritage and National Heritage values of the Wet Tropics World Heritage Area and National Heritage place relevant to the action;
- j) A description of the values of wetlands of high ecological significance in the area;
- k) Discuss the frequency and severity of weather conditions such as storms and cyclones, for two, ten and 100 year conditions; and
- l) Identify and describe the existing uses of the area and nearby areas that may be affected by the proposed action (for example: tourism, commercial and recreational fishing, research and traditional use activities).

All habitat maps must be produced at a sufficiently fine scale and as accurately as possible, considering their primary purpose and end use (for example, to evaluate habitat loss and inform locations of monitoring and reference sites).

## 5.10 RELEVANT IMPACTS

The EIS must include a description of all of the relevant impacts<sup>2</sup> of the action. Relevant impacts (both direct and indirect) are impacts that the action will have or is likely to have on a matter protected by a controlling provision (as listed in the preamble of this document). Impacts during both the construction, operational and (if relevant) the decommissioning phases of the project should be addressed, and the following information provided:

- a) A detailed assessment of the nature, extent, likelihood and consequence of the likely short-term and long-term impacts including but not limited to:
  - i. collision risk from turbines;
  - ii. barotrauma (i.e. low air pressure zones around the blades);
  - iii. alienation and landscape sterilisation (i.e. behavioural avoidance of species to habitat near turbines, at various temporal and spatial scales);
  - iv. the impact of shadow “flicker”, blade “glint”, blade throw and night lighting; and
  - v. analysis of the volume, composition, origin, destination and route for vehicle movements and other traffic likely to be generated during construction and operational phases, including a breakdown for over-dimension and heavy vehicles and erosion from road construction.

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<sup>2</sup> Please refer to section 527E of the EPBC Act for the meaning of impact.

- b) Noise impact assessment of wind farm sound emission at various wind speeds and under various meteorological scenarios (including varying atmospheric stability classes) that includes but is not limited to an analysis of audible characteristics such as:
- i. amplitude modulation and low frequency modulation of broadband noise;
  - ii. impulsivity;
  - iii. infrasound;
  - iv. low frequency noise;
  - v. tonality;
  - vi. braking and the mechanical noise of the gearbox and other components;
  - vii. aerodynamic noise from the rotating blades;
  - viii. operation of the electrical substation;
  - ix. drilling and blasting during construction;
  - x. corona noise at nearest sensitive receivers;
  - xi. vibration impacts;
  - xii. baseline conditions based on monitoring results; and
  - xiii. a clear discussion of the noise mitigation, monitoring and management measures to be applied.
- c) A statement whether any relevant impacts are likely to be unknown, unpredictable, irreversible or sub-lethal (reversible over time) and what confidence level is placed on the predictions of relevant impacts;
- d) Analysis of the significance of the relevant impacts;
- e) Analysis of post disturbance impacts (i.e vegetation clearing, weed encroachment, construction, operation, decommissioning, storm, cyclone, fire etc) and viability of listed threatened and migratory species to persist at this location and regionally;
- f) Any technical data and other information used or needed to make a detailed assessment of the relevant impacts;
- g) A description of the framework used to assess impacts, including risk assessment processes, based on best available practice;
- h) A risk assessment of changing climate patterns that may affect the proposal and surrounding environment and a description of the preferred and alternative adaptation strategies to be implemented;
- i) In discussing potential impacts, consider how the interaction of extreme environmental events (for example: cyclones, flood events) and any related cumulative impacts may impact on the proposal and the environment (both independently and cumulatively); and
- j) Consideration of potential impacts throughout the life of the proposal – from construction through to operation and decommissioning.

#### **5.10.1 IMPACTS TO LISTED MIGRATORY SPECIES, THREATENED SPECIES AND ECOLOGICAL COMMUNITIES**

The EIS must provide an assessment of all potential and likely impacts to listed migratory species, threatened species and ecological communities from the construction, on-going operation and decommissioning of the development.

### **5.10.2 IMPACTS TO LISTED VALUES OF THE WET TROPICS WORLD HERITAGE PROPERTY**

Provide an assessment of all potential and likely impacts to the World Heritage values of the Wet Tropics World Heritage property that have been identified as being expressed in the vicinity of the proposal during construction, operation and (if applicable) decommissioning of the proposal. This assessment must include an analysis of the impact of the proposal on the expression of the values at this location and how this in turn impacts on the overall values of the Wet Tropics World Heritage property.

Provide an analysis of direct, indirect and relevant impacts of the proposal on the integrity and Outstanding Universal Value of the Wet Tropics World Heritage Area.

### **5.10.3 IMPACTS TO LISTED VALUES OF THE WET TROPICS NATIONAL HERITAGE PLACE**

Provide an assessment of all potential and likely impacts to the National Heritage values of the Wet Tropics National Heritage place that have been identified as being expressed in the vicinity of the proposal during construction, operation and (if applicable) decommissioning of the proposal. This assessment must include an analysis of the impact of the action on the expression of the values at this location and how this in turn impacts on the overall values of the Wet Tropics National Heritage place.

### **5.10.4 CUMULATIVE IMPACTS OF THE PROPOSED DEVELOPMENT**

The EIS must identify and address cumulative impacts<sup>3</sup>, where potential project impacts are in addition to existing impacts of other activities (including known current and potential future expansions or developments by the proponent and other proponents in the region and vicinity).

The EIS must also address the potential cumulative impact of the proposal on ecosystem resilience. The cumulative effects of climate change impacts on the environment must also be considered in the assessment of ecosystem resilience. Where relevant to the potential impact, a risk assessment must be conducted and documented.

The risk assessment must include known potential future expansions or developments by the proponent and other proponents and known impacts on ecosystem resilience and matters of National Environmental Significance. Information on cumulative impacts may include as appropriate, but not be limited to:

- a) Description of existing, planned or potential developments (including construction status) of a similar type and scale to the proposed development, that have been approved and/or constructed within the last ten years or are still under assessment;
- b) Description of any current or likely development precincts or zones in the region, their relationship to the proposed development and the likely cumulative impacts on the general environment, ecosystems and matters of National Environmental Significance as all projects are developed to capacity;
- c) Discussion of the impacts of other tourism, residential, industrial and infrastructure projects both directly and indirectly related to the proposal in a regional context;

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<sup>3</sup> Please refer to section 527E of the EPBC Act for the meaning of impact.



- d) Discussion of the range of developments which will be facilitated or impacted (either positively or negatively) by the proposal and if the project will result in an intensification of development in the region;
- e) Housing, workforce and local and regional community changes as a result of the development;
- f) Discussion of known impacts on ecosystem resilience;
- g) Discussion and analysis of the cumulative impacts of this proposal on the integrity and Outstanding Universal Value of the Wet Tropics World Heritage Area;
- h) Discussion of any potential future changes to the development which are likely to change the nature or scale of environmental impacts;
- i) Outline if existing impacts on the environment in general and matters of National Environmental Significance will be amplified by the action in combination with impacts of other projects;
- j) Discussion of the developments and activities which are likely to be facilitated by the proposal;
- k) Identify if the resulting impacts on the general environment, ecosystems and matters of National Environmental Significance could be unacceptable;
- l) Identify if these impacts on the general environment, ecosystems and matters of National Environmental Significance could be permanent. If the impacts on matters of National Environmental Significance are not permanent, describe how long it will take before recovery from the effect;
- m) Describe how the cumulative impact of the proposed project will impact on the reproductive capacity and/or survival of listed threatened and migratory species;
- n) Explain how much recovery of matters of National Environmental Significance population, habitat, ecosystems and the environment in general could occur, with and without mitigation (for example, complete, partial, none);
- o) Describe how soon restoration of habitat could be achieved to reinstate ecosystem function for matters of National Environmental Significance;
- p) Where possible, identify how much likely change to matters of National Environmental Significance exceeds natural variability in the region;
- q) Describe how this project will contribute to the desired conservation objectives for matters of National Environmental Significance; and
- r) In conducting the risk assessment, key information sources and indicators for assessing change and impact must be described.

### **5.10.5 CONSEQUENTIAL IMPACTS**

Provide a detailed assessment of any likely impacts that this development may facilitate on the following (at the local, regional, state, national and international scale)<sup>4</sup>:

- a) The values of the Wet Tropics World Heritage property;

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<sup>4</sup> Please refer to section 527E of the EPBC Act for the meaning of impact.

- b) The values of the Wet Tropics National Heritage place;
- c) Listed threatened species and ecological communities; and
- d) Listed migratory species.

#### **5.10.6 OTHER USES OF THE AREA AND NEARBY AREAS**

The EIS must identify the potential impacts of the proposed action on other uses of the area, including but not limited to the following:

- a) Social, cultural and heritage values for each stage of the proposal;
- b) Current and projected commercial, recreational and scientific use, including any changes in visitation patterns;
- c) Heritage and social values, including sites of historic or archaeological significance; and
- d) Traditional use activities.

#### **5.11 PROPOSED AVOIDANCE, SAFEGUARDS, MANAGEMENT AND MITIGATION MEASURES**

The EIS must provide information on proposed avoidance, safeguards and mitigation measures to deal with the impacts of the action. Specific and detailed descriptions of proposed measures must be provided and substantiated, based on best available practices and must include the following elements.

- a) Identify the level of risk associated with potential impacts already identified and those that require mitigation, monitoring or management to avoid or reduce impacts;
- b) A consolidated list of measures proposed to be undertaken to avoid, prevent, minimise or compensate for the impacts of the action, including:
  - i. a description of proposed avoidance, safeguards and mitigation measures to deal with impacts of the action, including measures proposed to be taken by State governments, local governments or the proponent;
  - ii. assessment of the expected or predicted effectiveness of the measures;
  - iii. any statutory or policy basis for the mitigation measures; and
  - iv. the cost of the mitigation measures.
- c) Particular focus must be given to:
  - i. determining factors in the planning of the proposal so as to avoid damage to the environment;
  - ii. measures to avoid or minimise damage to the values of the Wet Tropics World Heritage Area;
  - iii. measures to avoid or minimise damage to the Wet Tropics National Heritage Values;
  - iv. articulating conservation objectives for individual matters of National Environmental Significance with a focus on receptors;
  - v. describing how this project is likely to contribute to protection of matters of National Environmental Significance;

- vi. outline how any avoidance, safeguards, management and mitigation measures will increase resilience of the environment, ecosystems and matters of National Environmental Significance within the region;
  - vii. demonstrate how impact management and mitigation measures would ensure that matters of National Environmental Significance in the affected region are maintained or improved;
  - viii. characterise, quantify and address uncertainties that may affect the effectiveness of management measures and therefore on the confidence that biodiversity values would be maintained (or improved) during and after the project;
  - ix. measures to avoid or minimise disturbance to fauna and flora found around and within the proposal area (particularly listed threatened species and communities and listed migratory species);and
  - x. staff training, including training in relation to environmental issues
- d) An outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing; and
  - e) The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.

## 5.12 OTHER APPROVALS AND CONDITIONS

The EIS must include information on any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. This must include:

- a) Details of any local or State Government planning scheme, or plan or policy under any local or State Government planning system that deals with the proposed action, including:
  - i. what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy; and
  - ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts;
- b) A description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the EPBC Act), including any conditions that apply to the action;
- c) A statement identifying any additional approval that is required; and
- d) A description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

## 5.13 OFFSETS

Environmental offsets broadly mean measures to compensate for the adverse residual impacts of an action on the environment. More specifically, offsets are measures to compensate for environmental impacts that cannot be adequately reduced through avoidance or mitigation. Offsets do not reduce the impacts of an action. Instead they provide an environmental

counterbalance to manage the impacts that remain after avoidance and mitigation measures. These remaining impacts are termed 'residual impacts'<sup>5</sup>.

Offsets are not intended to make proposals with unacceptable impacts acceptable. They simply provide an additional tool that can be used during project design and the Environmental Impact Assessment process.

This section of the EIS must outline plans to offset the residual potential impacts of the proposal. Environmental offsets may be appropriate when they:

- a) Are necessary to protect or repair impacts to a protected matter – i.e. a matter of National Environmental Significance or the environment more broadly;
- b) Relate specifically to the matter (for example, species) being impacted; and
- c) Seek to ensure that the health, diversity and productivity of the environment are maintained or enhanced.

#### **5.14 MONITORING AND REPORTING**

Appropriate baseline data requirements are to be provided as part of the EIS to form the basis for baseline measurement and ongoing monitoring of environmental parameters. It must be demonstrated that the proposed methods for baseline measurements and subsequent monitoring are based on current best practice and are scientifically robust and statistically sound to enable diligent and systematic data collection that will deliver unbiased and sound responses to EIS Guideline requirements. This section must identify parameters to be monitored, the performance indicators to be used to evaluate accuracy of predicted impacts and effectiveness of mitigation measures and offsets, and management response trigger values and response activities.

This section is to also identify and describe monitoring programs, procedural and compliance audit programs and reporting requirements and arrangements which will demonstrate the effectiveness of proposed management measures and monitoring.

The proponent must, in addition to outlining proposed programs, clearly identify what is to be monitored and why. Monitoring programs must be designed to provide objective evidence regarding activities associated with the proposal and if these activities are adversely impacting on the environment in the short, medium and long term. Monitoring programs must demonstrate an understanding and consideration of:

- a) Ecosystems and habitats, flora and fauna (particularly listed threatened species/ecological communities and listed migratory species);
- b) Measuring the effectiveness of mitigation and/or rehabilitation and offset measures;
- c) Documenting the difference between predicted and actual impacts;
- d) Methods for identification of non-predicted impacts and appropriate reporting and remedial measures;
- e) Application and effectiveness of emergency and contingency plans;

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<sup>5</sup> Further information on offsets can be found in the Australian Government's framework on the use of environmental offsets ('offsets') under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Titled "Consultation Draft, Environmental Offsets Policy August 2011"

- f) Review of consultation and management arrangements with regulatory authorities and the community. A diagram showing monitoring and reporting arrangements must be included in the EIS; and
- g) Trigger values should be outlined for use in management action and response to adverse project impacts.

## **5.15 ENVIRONMENTAL RECORD**

The EIS must include the environmental record of the proponent. This must include details of 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 the person proposing to take the action. If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must be provided.

Information relating to the persons' environmental record must also include any accreditations (for example, ISO 14001), environmental awards, and other recognition for environmental performance.

## **5.16 ADDITIONAL SOCIAL AND ECONOMIC MATTERS**

Section 136(1)(b) of the EPBC Act requires the Minister to consider economic and social matters when deciding whether to grant approval to the proposed action under Part 9 of the EPBC Act. The requirements under s136 (1)(b) encompass a broader range of matters that may be considered than those addressed during the assessment of the potential impacts of a controlled action. Accordingly, information must be provided in the EIS on the broad social and economic impacts (positive or negative) of the proposal for the purposes of the Part 9 decision on approval.

As the matters protected by the controlling provisions for this action include "the environment", there is the potential for an overlap between the information provided in response to this, and the information requested in the main body of the Guidelines in relation to social, economic and cultural aspects within the definition of the environment. The latter set of information need not be repeated if it will be contained in the body of the EIS.

## **5.17 CONCLUSION**

An overall conclusion as to the environmental acceptability of the proposal must be provided, including discussion on compliance with the objectives and requirements of the EPBC Act including the principles of ESD (see Attachment 2). Reasons justifying undertaking the proposal in the manner proposed must also be outlined. The conclusion must highlight measures proposed or required to avoid, mitigate or offset any unavoidable impacts on the environment.

## **5.18 INFORMATION SOURCES**

Information sources used in the formulation of the EIS are to be provided. This section will describe consultations and studies undertaken in the course of proposal formulation and

preparation of the draft EIS, and sources of information and technical data. The following details must be provided for information used in developing the EIS:

- a) The source of the information;
- b) How recent the information is;
- c) How the reliability of the information was tested; and
- d) What uncertainties and/or gaps (if any) are in the information.

A copy of all data and the sampling methodologies must be made available to the department for the purpose of peer review on receipt of a written request from the department.

Any further or ongoing consultations or studies must be outlined here.

### **5.19 REFERENCE LIST AND BIBLIOGRAPHY**

The reference list and bibliography provided in the EIS is to be accurate and concise and include the address and date accessed of any internet pages used as data sources.

### **5.20 APPENDICES AND GLOSSARY**

Detailed technical information studies or investigations necessary to support the main text of the EIS, but not suitable for inclusion in the main text must be included as appendices; for example, detailed technical or statistical information, maps, risk assessment, baseline data, supplementary reports etc. A copy of the Guidelines must also be included. A glossary defining technical terms and abbreviations used in the text must be included to assist the general reader.

# **ATTACHMENT 1: Matters that must be addressed in an EIS (Schedule 4 of the ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION Regulations 2000)**

## **1. General information**

1.01 The background of the action including:

- (a) the title of the action;
- (b) the full name and postal address of the designated proponent;
- (c) a clear outline of the objective of the action;
- (d) the location of the action;
- (e) the background to the development of the action;
- (f) how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;
- (g) the current status of the action; and
- (h) the consequences of not proceeding with the action.

## **2. Description**

2.01 A description of the action, including:

- (a) all the components of the action;
- (b) the precise location of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;
- (c) how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;
- (d) relevant impacts of the action;
- (e) proposed safeguards and mitigation measures to deal with relevant impacts of the action;
- (f) any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action;
- (g) to the extent reasonably practicable, any feasible alternatives to the action, including:
  - (i) if relevant, the alternative of taking no action;
  - (ii) a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action;
  - (iii) sufficient detail to make clear why any alternative is preferred to another;
- (h) any consultation about the action, including:
  - (i) any consultation that has already taken place;
  - (ii) proposed consultation about relevant impacts of the action;
  - (iii) if there has been consultation about the proposed action — any documented response to, or result of, the consultation;

- (i) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

### **3. Relevant impacts**

3.01 Information given under paragraph 2.01 (c) must include:

- (a) a description of the relevant impacts of the action;
- (b) a detailed assessment of the nature and extent of the likely short term and long term relevant impacts;
- (c) a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
- (d) analysis of the significance of the relevant impacts; and
- (e) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

### **4. Proposed safeguards and mitigation measures**

4.01 Information given under paragraph 2.01 (d) must include:

- (a) a description, and an assessment of the expected or predicted effectiveness of, the mitigation measures;
- (b) any statutory or policy basis for the mitigation measures;
- (c) the cost of the mitigation measures;
- (d) an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;
- (e) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program; and
- (f) a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including mitigation measures proposed to be taken by State governments, local governments or the proponent.

### **5. Other Approvals and Conditions**

5.01 Information given under paragraph 2.01 (e) must include:

- (a) details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:
  - (i) what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy;
  - (ii) how the scheme provides for the prevention, minimisation and management of any relevant impacts;
- (b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the Act), including any conditions that apply to the action;
- (c) a statement identifying any additional approval that is required; and
- (d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.



## **6. Environmental record of person proposing to take the action**

6.01 Details of 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:

- (a) the person proposing to take the action; and
- (b) for an action for which a person has applied for a permit, the person making the application.

6.02 If the person proposing to take the action is a corporation — details of the corporation's environmental policy and planning framework.

## **7. Information sources**

7.01 For information given the EIS must state:

- (a) the source of the information; and
- (b) how recent the information is; and
- (c) how the reliability of the information was tested; and
- (d) what uncertainties (if any) are in the information.

## **ATTACHMENT 2: OBJECTS of the EPBC ACT**

### **OBJECTS OF THE *ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999***

#### 3. Objects of the Act

- (a) to provide for the protection of the environment, especially those aspects of the environment that are matters of National Environmental Significance
- (b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources
- (c) to promote the conservation of biodiversity
- (d) to promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples
- (e) to assist in the co-operative implementation of Australia's international environmental responsibilities
- (f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and
- (g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.

#### 3A. Principles of Ecologically Sustainable Development

The following principles are principles of ecologically sustainable development:

- (a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;
- (b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- (c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
- (d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;
- (e) improved valuation, pricing and incentive mechanisms should be promoted.