

**TERMS OF REFERENCE FOR THE PREPARATION OF AN
ENVIRONMENTAL IMPACT STATEMENT**

**PROJECT SEA DRAGON STAGE 1 LEGUNE
GROW-OUT FACILITY
PROJECT SEA DRAGON PTY LTD**

November 2015

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1 Introduction

Project Sea Dragon Pty Ltd (referred to hereafter as the Proponent) intends to establish stage 1 of a prawn aquaculture farm at Legune Station in the Victoria River District, Northern Territory, approximately 106 km from Kununurra, Western Australia.

The Project Sea Dragon Stage 1 Legune Grow-out Facility (the Project) would consist of three farms with 1080 ha total area of land-based ponds, 324 ha of internal recycling ponds, produce nominally 12 000 tonnes of prawns per annum and require:

- seawater pumping and delivery infrastructure
- freshwater delivery infrastructure
- a waste water discharge to the environment
- environmental protection zone and constructed wetlands
- a power plant
- diesel and liquified natural gas supply and storage infrastructure
- a central village at Legune Station
- a service corridor
- a possible barge landing in Forsyth Creek
- quarry and borrow pits.

Subject to approvals, the Proponent expects to make a final investment decision on the Project in mid-2016, and begin construction in mid-2017. While financial modelling on the project assumed a nominal 25 year operating life, the Proponent expects that the Project would continue for a significantly longer period if feasibility is proven.

The Proponent submitted the Notice of Intent (NOI) for the Project to the Northern Territory Environment Protection Authority (NT EPA) on 15 July 2015 for consideration under the *Environmental Assessment Act* (EA Act).

On 14 September 2015, the NT EPA decided that the Project required assessment under the EA Act at the level of an Environmental Impact Statement (EIS). The NT EPA decision was based on the following issues:

- Potential to impact on threatened, marine and migratory species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *Territory Parks and Wildlife Conservation Act* (TPWC Act). Risks to biodiversity values could arise from habitat clearing, poor weed hygiene, downstream impacts from discharge of nutrient-rich water and extraction of large volumes of freshwater.
- Potential to impact on the Legune coastal floodplain Site of Conservation Significance, which is host to migratory birdlife aggregations of international significance, and includes Turtle Point, a highly significant nesting beach for the flatback turtle (*Natator depressus*; listed as vulnerable under the EPBC Act).
- Potential impacts from the discharge of waste from the prawn farming activities into receiving waters considered to be of high environmental value.

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- The significant management requirements for solid and liquid waste and the potential detrimental effects of inappropriate management practices.
- Potential impacts on the local amenity and the environment e.g. from disturbance due to access to the area by unauthorised third-parties for recreational fishing, camping and hunting.
- The implications of predation by birds on prawn stock held in ponds, both on the project feasibility and on bird aggregations.
- The need for consideration of decommissioning of the site in the event of unplanned closure.
- Potential economic, social and cultural impacts on the region and the Northern Territory, including the risks of the Project not realising its projected economic and social benefits.

The Proponent referred the Project to the Australian Government for consideration under the EPBC Act. On 31 August 2015, a delegate of the Commonwealth Minister for the Environment decided that the proposed action was a controlled action and, as such, required assessment and an approval decision under the EPBC Act. The controlling provisions included the likely significant impact on:

- listed threatened species and communities (sections 18 & 18A)
- listed migratory species (sections 20 & 20A).

The Project is being assessed under the assessment bilateral agreement between the Australian and Northern Territory Governments. Matters that must be addressed under the Environment Protection and Biodiversity Conservation Regulations 2000 are attached (Appendix A).

Terms of Reference have been developed to assist the Proponent in preparing an EIS for the Project in accordance with clause 8 of the Environmental Assessment Administrative Procedures (EAAP).

2 Description of the proposed action

2.1 General information

The EIS should identify all the processes and activities intended for the Project and associated ancillary activities, during the life of the Project. The EIS should provide a brief background and context to the Project, including:

- the title of the Project
- the full name, contact details and postal address of the Proponent
- the current status of the Project
- the location of the Project in the region and its proximity to:
 - landmark features
 - sites of cultural significance
 - sites of social significance
 - regional community centres

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- areas on the National Reserve System
- sensitive environments, such as major waterways, significant groundwater resources, significant natural features and conservation reserves
- the location of all infrastructure (both existing and proposed) relating to any aspect of the construction, operation and decommissioning/rehabilitation of the action
- the background to the development of the Project, including discussion of previous or other environmental impact assessment
- how the Project relates to any other proposals or actions, of which the Proponent should reasonably be aware, that have been or are being taken, or that have been approved in the region (e.g. Ord Stage 3, expansion of the Keep River National Park)
- lease requirements, land tenure, acquisition requirements (permits, rezoning and Native Title (e.g. Legune Area Claim No. 188)), and the tenures under which the Project would be held, including details of relevant legislative processes required to grant proposed tenure
- identification of areas proposed for future expansion, or any other potential future activities being planned
- National, State and/or Territory standards, codes of practice and guidelines relevant to the Project.

2.2 Project components

The EIS should provide an overview of the construction, operation and decommissioning/closure phases of the proposed action and describe relevant activities at each phase. Aspects to be covered include, but are not limited to:

- a detailed schedule or timetable of all relevant aspects of the Project
- delineation of the Project footprint using detailed maps and diagrams. Include:
 - all areas to be cleared, disturbed or temporarily utilised (such as laydown areas) during construction
 - the major components of the Project:
 - production ponds
 - settlement/recycling ponds and basins
 - water storages (dams and tanks)
 - intake and discharge channels/canals/pipelines and pumps
 - water supply channels/canals/pipelines and pumps
 - sewerage
 - waste management infrastructure
 - buildings (including accommodation village), roads and hardstand areas

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- power generation plant and ancillary fuel storage
- service corridors
- environmental protection zone and constructed wetlands
- communication infrastructure
- quarry/borrow pits
- barge landing.

2.2.1 Construction phase

The EIS should describe the preferred methods and processes during construction, including:

- plant and machinery required
- construction materials required, e.g. major types, quantities, qualities and sources
- traffic management requirements, including:
 - operating times and scheduling
 - vehicle types, numbers and frequency
 - the estimated volumes, tonnage, composition, origin, destination and proposed routes of traffic generated by the proposal
 - hazardous or dangerous material that may be transported
 - traffic flow management, including site access and signage.

The EIS should provide design and engineering details of all ponds and water storage structures including:

- dimensions
- construction materials, including liners
- alignment
- batter slope design
- water intake
- outflows and overflows
- pumping and transfer systems.

Preferred design criteria for major components of the facility should be described including the limitations imposed by site characteristics, and consideration of climate change and extreme weather events in the design.

Methods for the storage, handling, containment and emergency management of chemicals and other hazardous substances (including fuel) should be described.

Outline the construction workforce requirements, including expected numbers, sources, accommodation requirements, services required and transport arrangements.

2.2.2 Production process and operation

The EIS should describe all aspects of the production cycle, including:

- species to be cultured, sources of juveniles/brood stock and farming techniques
- information on feeding, rearing techniques, disease risks, hygiene, biosecurity and quarantine requirements, stocking rates, harvesting and production monitoring programs
- types and sources of stock food
- key steps involved in production, treatment, discharge, processing, including all inputs and outputs
- ongoing management and maintenance requirements.

The EIS should provide details of the predicted operational workforce requirements, including:

- the number of people to be employed, skills base required, and likely sources (local, regional, overseas)
- the number of people that may be employed to manage or undertake environmental duties on the site, including the specific qualifications and the level of experience with related activities
- the arrangements for transport of workers to and from the Project site
- worker/staff accommodation, services (water, sewage, communication, power, recreation) and safety requirements.

The EIS should provide information on the quantity, quality, source (groundwater and/or surface water), storage, and infrastructure requirements for water use for the Project, considering:

- production requirements
- waste water treatment
- dust suppression
- drinking water
- ablutions and sewage treatment.

The EIS should describe the details of proposed water extraction, including treatment, storage, reuse and disposal options. Anticipated extraction rates, usage and volumes of water should be provided, where relevant.

The EIS should provide relevant information in respect of operational aspects of the road network and transport requirements, including:

- ongoing provisions for road maintenance, including source and extraction of maintenance inputs and materials
- type, size and number of vehicles required
- estimated frequency and times of Project vehicle use on public infrastructure
- routes for operational transport

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- expected fuel, oil and tyre usage (and storage and disposal).

2.2.3 Decommissioning and rehabilitation

The EIS should discuss the expected life of the Project and plan for decommissioning and closure, including unexpected closure. At a minimum, the EIS should:

- identify options for decommissioning of all components of the Project and rehabilitation of the site
- discuss relevant aspects of closure planning and decommissioning such as waste management, pollution control, land stabilisation, erosion and sediment control, revegetation and avoidance of breeding sites for biting insects
- propose environmental objectives and completion criteria against which the progress of decommissioning and rehabilitation can be measured.

2.3 Approvals, conditions and agreements

The EIS must provide information on requirements for approval or conditions that apply, or that the Proponent reasonably believes are likely to apply, to the Project, including, but not limited to:

- a description of any approvals that will be required from State, Territory or Commonwealth agencies and/or authorities
- a summary of current agreements between the Proponent, the Northern Territory, and/or the Australian Governments, and/or other stakeholders, including Traditional Owners and/or land managers
- details of the monitoring, enforcement and review procedures that apply, or are likely to apply, to the Project.

When describing the individual approvals, certificates, permits etc. that will be required the Proponent must include details of any conditions likely or expected to be imposed. Consideration should be given, but not limited to, the following legislation:

- *Fisheries Act*
- *Pastoral Land Act*
- *Aboriginal Land Rights Act 1976*
- *Native Title Act 1993*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Territory Parks and Wildlife Conservation Act*
- *Heritage Act*
- *Northern Territory Aboriginal Sacred Sites Act*
- *Water Act*
- *Waste Management and Pollution Control Act*
- *Work Health and Safety Act*
- *NT Dangerous Goods Act*

- *Public and Environmental Health Act & Regulations*
- *Bushfires Act*
- *Building Act*
- *Liquor Act*
- *Traffic Act.*

2.4 Environmental history

The EIS must include details of the environmental record of the Proponent, including:

- details of any proceedings against the Proponent under Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources, and details of systems and processes that have been subsequently upgraded
- any international or national accreditations (e.g. ISO 14001), environmental awards or other recognition for environmental performance.

2.5 Alternatives

The EIS should describe any feasible alternatives to carrying out the Project. The choice of the preferred option(s) should be clearly explained, including how it complies with the principles and objectives of ecologically sustainable development.

Alternatives should include:

- not proceeding with the Project
- deferral of the action or delay
- locations for components of the Project (e.g. water intake and waste discharge locations, pond siting, etc.)
- designs for production and settlement ponds
- alternative species for production and feed types and/or sources
- alternative environmental management techniques (in particular, methods for waste treatment and discharge, techniques to promote recirculation and minimise discharges)
- alternative energy sources
- decommissioning and rehabilitation methods.

Discussion should include:

- sufficient detail to make clear why a particular alternative is preferred to another
- adverse and beneficial effects (direct and indirect) of alternatives at national, State / Territory, regional and local levels
- a comparison of short, medium and long-term advantages and disadvantages of the options

- a comparative description of the impacts of alternatives on the matters of National Environmental Significance (NES) protected by controlling provisions of Part 3 of the EPBC Act for the Project.

2.6 Ecologically Sustainable Development

When considering the matters to be addressed in the EIS, the NT EPA is required under the *Northern Territory Environment Protection Authority Act* to:

- (a) promote ecologically sustainable development (ESD)
- (b) protect the environment, having regard to the need to enable ESD.

Accordingly, the Project, its potential impacts (positive and negative) and the management measures used to enhance positive and reduce negative impacts will be assessed in the context of ESD principles, consistent with the *National Strategy for Ecologically Sustainable Development*.¹ Therefore, it is essential that the Proponent demonstrate how it complies with and contributes to the principles and objectives of ESD in the relevant section(s) of the EIS.

3 Existing environment

Studies used to describe the existing environment of the Project and its surrounds should be of a scope and standard sufficient to serve as a benchmark (or baseline) against which the impacts of the Project over time may be assessed. The level of detail in the EIS should reflect the scale and nature of the studies required to clearly define the potential for impacts from the Project.

3.1 Physical and biological

Existing aspects to be discussed must include:

- climate and local meteorology in the context of project environmental management, including rainfall patterns and intensity, temperature, evaporation, wind, and the predicted frequency and severity of extreme weather events, such as storms and cyclones for the 2, 10 and 100 year average recurrence intervals (ARI)
- regional topography and geomorphology
- regional geology
- soil types and land unit(s)
- details of any limiting properties of soil and substrate types and land units in the Project footprint
- surface water features in and adjacent to the proposed action, including:
 - major and minor rivers and drainage lines (permanent and ephemeral)
 - catchment boundaries and sizes
 - surface water flow directions
 - water reservoirs (natural and artificial)

¹ Ecologically Sustainable Development Steering Committee, 1992. *National Strategy for Ecologically Sustainable Development*. Department of the Environment and Water Resources, Canberra, Australia. Available at: <http://www.environment.gov.au/resource/national-strategy-ecologically-sustainable-development>

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- wetlands
- areas of periodic inundation
- beneficial uses.
- groundwater aquifers and hydrogeological properties, including:
 - surface connections via springs or recharge zones
 - local and regional aquifers and bores
 - depth to water tables
 - groundwater quality.
- estuarine and marine water quality including existing temporal variations in suspended solids, nutrient levels and algal blooms
- hydrodynamics of the receiving waters for waste discharge, including local tides and current patterns
- air quality, noise and vibration (e.g. receptors sensitive to air quality, dust, noise and vibration adjacent to the proposed Project site, typical background noise levels, etc.).

The EIS should describe fauna, flora and vegetation communities of the Project area and local region. The EIS should include survey/program timing, locations and methodology, to demonstrate appropriate and statistically adequate survey designs. At a minimum, surveys should be in accordance with the Northern Territory² and Australian Government^{3,4} Guidelines. The EIS should describe and map, where relevant:

- any areas within the Project footprint that have previously been subject to clearing activities or disturbance
- significant or sensitive vegetation types and/or ecosystems
- aquatic ecosystems or groundwater dependent ecosystems likely to be affected by the Project
- the presence or likely presence of listed threatened and/or migratory species under the EPBC Act and/or the TPWC Act (within the Project area or adjacent areas that may be impacted). A list of species to be considered is attached (Appendix B). For the listed species:
 - discuss the quality and quantity of available habitat

² Northern Territory Environment Protection Authority, 2013. *Guidelines for Assessment of Impacts on Terrestrial Biodiversity*. Available at: http://www.ntepa.nt.gov.au/_data/assets/pdf_file/0003/349941/guideline_assessment_terrestrial_biodiversity.pdf.

³ Department of the Environment, 2011. *Survey Guidelines for Nationally Threatened Species*. Available at: <http://www.environment.gov.au/epbc/policy-statements>.

⁴ Department of the Environment, 2009. *Draft Background Paper to EPBC Act Policy Statement 3.21 – Significant Impact Guidelines for 36 Migratory Shorebird Species*. Available at: <http://www.environment.gov.au/resource/draft-significant-impact-guidelines-36-migratory-shorebird-species-migratory-species-epbc>.

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- discuss the local population's size and its distribution, including at different life cycle stages, for example, when the population is breeding, foraging, resting and/or migrating
- include maps showing the local population's range, important habitat areas and migratory pathways
- discuss the importance of the local population in a local, regional, NT, national and international context
- the regional context for habitat types found within the Project area
- the presence, or likely occurrence, of introduced and invasive species (both flora and fauna) within and adjacent to the Project area, and regionally, including weed species declared under the *Weeds Management Act*.

Explain the basis for statements made in response to the above, that is, whether the Proponent:

- is identifying and relying upon existing literature or previous surveys
- has conducted its own surveys specifically for this purpose.

3.2 Socio-economic aspects

The EIS should include a balanced summary of the social and economic value (positive and negative) of the Project on a regional, state and national scale. The EIS should include a brief description of the current population, demography and socio-economic aspects of the region in which the Project is situated. The following suggestions may assist with highlighting the social and economic value of the Project and are not intended to result in the inappropriate disclosure of confidential or sensitive information:

- key stakeholders
- community structures and vitality (e.g. demography, health, education and social well-being, access to services and infrastructure, housing)
- the availability and capacity of existing human services to support a remote construction work force:
 - skills audit of affected communities
 - workforce characteristics
 - accommodation
- social amenity and use of the Project area and adjacent areas for other purposes, such as tourism, pastoral, gas and mineral exploration, recreational, traditional land use and/or educational purposes
- a summary of the Project's economic feasibility
- estimated total project revenue for the duration of the Project (to provide the economic scale of the Project)
- total contribution to Gross State Product and Gross Domestic Product over the economic life of the Project
- opportunities available to regional centres based on the activity generated by the Project (construction, operation and rehabilitation)

- estimated overall tax
- estimated capital and annual operational expenditure
- community and economic benefits of any infrastructure, such as roads, during the development and operation of the project and after closure of the Project
- other contributions to local communities, including Traditional Owners.

3.3 Historic and cultural heritage

The EIS should outline the cultural and heritage significance of any sites or objects located on the Project areas or that could be impacted by Project components. The EIS should include the results of searches on the NT Government database and identify any sites or places protected or nominated for protection under the following legislation:

- *Aboriginal and Torres Strait Island Heritage Protection Act 1984*
- *Aboriginal Land Rights (Northern Territory) Act 1976*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Native Title Act 1993*
- *Northern Territory Aboriginal Sacred Sites Act*
- *Northern Territory Heritage Act.*

Baseline information should be provided regarding historic or cultural heritage in the region, including:

- a description and location of Indigenous and non-Indigenous sites, places or objects of historic or cultural heritage significance (e.g. traditional land-use)
- survey(s) used to identify sites, places or objects of historic or cultural heritage significance (e.g. archaeology)
- areas nominated for listing or listed on Commonwealth and Northern Territory registers of Indigenous cultural heritage
- provision of evidence of an Aboriginal Areas Protection Authority (AAPA) Authority Certificate or an application under the *Northern Territory Aboriginal Sacred Sites Act*.

The EIS should provide a summary outlining the survey effort and level of confidence that all items of heritage or cultural significance at risk have been identified. The EIS should provide information on the current status of any approvals, permits or clearances in relation to the protection of heritage items or places.

The EIS should outline any current Traditional Owner utilisation and spiritual/cultural significance of areas potentially affected by the Project.

4 Risk assessment

4.1 Risk assessment approach

The EIS should be undertaken with specific emphasis on the identification, analysis and mitigation of potential impacts through a whole-of-project risk assessment. Through this process, the EIS will:

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- identify and discuss the full range of risks presented by the Project
- identify relevant potential direct and indirect impacts
- quantify and rank risks so that the reasons for proposed management responses are clear
- identify levels of uncertainty about estimates of risk and the effectiveness of risk controls in mitigating risk
- explicitly identify those members of the community expected to accept residual risks and their consequences, providing better understanding of equity issues
- demonstrate that the Project represents best practicable technology.

A number of key risks have been identified through a preliminary assessment of the Project. Each of the identified risks should be addressed by the Proponent in the risk assessment and management process. It is expected that further risks will be identified through the comprehensive risk assessment process required for the EIS. These should be addressed and appropriate management initiatives developed to demonstrate that the:

- Proponent is fully aware of risks associated with all predictable aspects of the Project
- prevention and mitigation of risks are properly addressed in the design specifications
- risks can and will be managed effectively during the construction, operation, decommissioning, closure and post-closure phase of the Project.

Information provided should permit the general reader to understand the likelihood and potential severity of each risk presented by the Project, and any uncertainty around these risks, as well as any uncertainty about the effectiveness of controls. Levels of uncertainty that preclude robust quantification of risk should be clearly acknowledged.

Risk rankings assigned should be fully justified. Where a risk score associated with the likelihood or consequence of an impact is reduced as a result of proposed mitigation measures, clear justification should be provided for the reduction in score. The adequacy and feasibility of mitigation measures must be demonstrable.

Sufficient quantitative analysis should be provided to indicate whether risks are likely to be acceptable or tolerable. A comparison can be made with similar ventures in Australia and internationally. Assumptions used in the analyses should be explained.

The risk assessment should be based on international best practice. The NT EPA recommends the use of processes for risk management that are formalised in Standards Australia / Standards New Zealand (e.g. AS/NZS ISO 31000:2009; HB 436:2004; HB 203:2006; HB 158:2010).

4.2 Information requirements

The NT EPA has prepared Guidelines to assist in the preparation of EIS documents. The Guidelines are developed and updated periodically, and should be referenced and referred to when addressing the information requirements in an appropriate section of EIS. The Guidelines, current at the time of publication of these Terms of Reference, include:

- *Guidelines for Assessment of Impacts on Terrestrial Biodiversity*

- *Guidelines on Conceptual Site Models*
- *Guidelines for the Preparation of an Economic and Social Impact Assessment*
- *Guidelines for Consultants Reporting on Environmental Issues*
- *Guidelines on Environmental Offsets and Associated Approval*
- *Guidelines for the Preparation of an Environmental Management Plan.*

The Guidelines are available on the NT EPA webpage at:

<http://www.ntepa.nt.gov.au/environmental-assessments/guidelines>.

4.3 Biodiversity

4.3.1 Environmental objectives

- To maintain the conservation status, abundance, diversity, geographic distribution and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse impacts (on the Project area and on adjacent areas that may be impacted).
- To minimise the risk of Significant Impacts to threatened species and communities, and migratory species listed under the EPBC Act, and species listed under the TPWC Act.
- To prevent the introduction and/or spread of invasive and pest species.

4.3.2 Assessment of risks

The EIS must include an assessment of all of the relevant risks of the Project to listed threatened and migratory species under the EPBC Act and species listed under the TPWC Act (Appendix B) and to nationally significant aggregations of water birds.^{5,6}

The EIS should consider risks to protected matters, sensitive terrestrial vegetation and marine ecosystems from threatening processes. Key threatening processes should become apparent through the assessment and could include but not be limited to vegetation clearance, habitat fragmentation, altered hydrology, water quality impacts, acid sulphate soils, erosion and sedimentation, soil compaction, groundwater contamination, impacts on surface and groundwater systems, waste discharges, vehicles/vessels during construction and operation, weed and pest invasion and spread (including marine pests), pathogens, human disturbance (including recreational fishing, boats and four-wheel drives etc.), increased food availability for birds, escape of prawn stock, predation by domestic pets, lighting, dust, noise and inappropriate/ineffective rehabilitation.

The EIS should include:

- a detailed assessment of the nature and extent of the likely short-term and long-term relevant impacts to listed threatened and/or migratory species at the local, regional, Territory, national and international context

⁵ Chatto, R., 2000. *Waterbird Breeding Colonies in the Top End of the Northern Territory*, Technical Report No. 69. Parks and Wildlife Commission of the Northern Territory, Palmerston.

⁶ Department of Natural Resources, Environment, the Arts and Sport, 2015. Information Sheet - Sites of Conservation significance – Legune Coastal Floodplain. Available at: http://www.lrm.nt.gov.au/_data/assets/pdf_file/0018/13914/27_legune.pdf

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- a statement whether any relevant impacts to listed threatened and/or migratory species are likely to be unknown, unpredictable or irreversible
- analysis of the significance of the relevant impacts
- any technical data and other information used or needed to make a detailed assessment of the relevant impacts to listed threatened and/or migratory species.

The EIS should include references to relevant research, statutory advice and statutory plans, such as conservation advices, action plans, recovery plans and threat abatement plans, when assessing the risks. The EIS should also demonstrate how the action is not inconsistent with the relevant statutory recovery plans and threat abatement plans.

Current searches of the NT flora and fauna atlases⁷ should be undertaken to determine likely species in and around the Project area. Where a risk has been identified, the EIS should include an analysis of the risks to individuals and populations.

In addition to the above risk assessment, the EIS should include an analysis of the potential risks to sensitive vegetation communities at a local and regional scale. Consideration should be given to the potential for ongoing indirect impacts resulting from edge effects, increased dispersal of invasive plants/animals, fragmentation of habitat, etc.

4.3.3 Mitigation and monitoring

The EIS should present management plans that include proposed safeguards, mitigation measures and monitoring programs to deal with the relevant impacts to biodiversity from the Project. Proposed management plans should:

- identify clear environmental outcomes capable of objective measurement and reporting
- permit timely identification and resolution of problems that arise through the course of a project that may compromise the achievement of the appropriate environmental outcome.

Specific and detailed descriptions of the proposed measures must be provided and substantiated, based on best available practices and advice from relevant Northern Territory and Australian Government advisory agencies and must include the following elements:

- a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impact of the Project, including:
 - a description of proposed safeguards and mitigation measures to deal with impacts including mitigation measures proposed to be taken by the Territory government, local government or the Proponent
 - assessment of the expected or predicted effectiveness of the mitigation measures
 - statutory or policy basis for the mitigation measures
- the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.

⁷ Department of Land Resource Management, 2015. Information and Publications. Available at: <http://www.lrm.nt.gov.au/plants-and-animals/information-and-publications>

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Monitoring programs should identify objectives, clear thresholds and contingency measures in the event that construction and operational activities affect biodiversity. Monitoring programs should be capable of detecting change in a statistically robust manner. Management measures and monitoring programs should be prepared by a suitably qualified expert that has demonstrated experience in the mitigation and monitoring of adverse impacts to biodiversity and threatened species.

Proposed mitigation measures must be incorporated in relevant sections of the Environmental Management Plan (EMP) (Section 6).

4.4 Water

4.4.1 Environmental objectives

To ensure surface water and groundwater resources are protected both now and in the future, such that the ecological health and land uses, and the health, welfare and amenity of people are maintained.

4.4.2 Assessment of risks

The EIS should include an assessment of risks to surface water (marine and fresh) and groundwater at an appropriate spatial scale as a result of the Project. In particular, the EIS should identify and assess the risks:

- to existing surface and/or groundwater quality and quantity, with specific reference to the Project components
- of planned discharges, and potential uncontrolled release or passive discharge of contaminants, such as hydrocarbons or nutrients, or pathogens to surface and/or groundwater
- associated with the new infrastructure or disturbance of soils altering the hydrology and rates of erosion and sedimentation of waterways, and disturbing potential acid sulfate soils
- of any additional impacts to surface water and/or groundwater resulting from the Project given the large volumes of both seawater and fresh water that will be required for the life of the Project.

A water balance (all inputs and outputs) based on long-term modelling using rainfall/runoff and evaporation data for a period equivalent to the expected life of the Project should be included in the EIS.

The rates of dilution associated with mixing of discharged waste water into the tidal environment and consequent impacts to water quality should be predicted and discussed based on the modelled hydrodynamics for receiving waters.

The influence of seasonality and annual variability should be discussed, where relevant. The risk assessment should give consideration to the short, medium and long term timeframes of the Project.

4.4.3 Mitigation

The EIS should contain management plans (such as a water management plan, acid sulfate soil management plan and erosion and sediment control plan (ESCP)) prepared by suitably qualified and experienced professionals in accordance with appropriate guidelines that clearly outline objectives and measures to mitigate likely impacts of the Project on terrestrial, marine and freshwater systems. All mitigation measures in the plan(s) should be adequately detailed to demonstrate best practice management and

that environmental values of receiving waters will be maintained. The plan must include but not be limited to measures that:

- minimise contamination of marine and fresh water systems, and groundwater
- ensure the protection and resilience of water dependent ecosystems
- avoid the exposure of sensitive biological receptors to pathogens, contaminants or poor quality water
- treat and manage domestic wastewater and sewage
- ensure the extraction, use and discharge/disposal of water is consistent with relevant legislation, including the *Water Act*, *Fisheries Act* and *Waste Management and Pollution Control Act* (WMPC Act)
- account for times of intense and prolonged rainfall, extreme meteorological conditions, such as 100 year ARI storm events, cyclones and storm surges, and the predicted impacts of climate change.

Measures for the management of water should include options for minimising water use, managing storm water including overflows from production and treatment ponds, treatment of contaminated and hypersaline water, spill containment and management, and management of nutrients prior to waste water discharge (to prevent dissolved oxygen depletion, eutrophication, etc. in the receiving environment).

An ESCP for construction and operation should be prepared by a suitably qualified and experienced professional in erosion and sediment control planning. Further information relating to erosion and sediment control can be found at www.austieca.com.au and on the Department of Land Resource Management website at: <http://lrm.nt.gov.au/soil/management>.

4.4.4 Monitoring

The management plan(s) should outline details of monitoring programs that would be implemented throughout the life of the Project to determine the effectiveness of the mitigation measures. The monitoring programs should identify objectives, clear thresholds and contingency measures should construction and operational activities affect water. Monitoring programs should be capable of detecting change in a statistically robust manner.

Provisions to notify and respond to environmental and human health risks associated with water quality, or other water related emergencies, should be discussed and provided in the EIS.

Where interpretation of the monitoring data or other observations has detected the potential for or actual adverse trends in performance or impacts, detail the remedial/corrective strategies and actions that would likely be implemented. Include scopes of work where appropriate together with a commitment to an implementation timetable and any modifications to the monitoring program required in order to assess the performance of the actions.

Proposed mitigation and monitoring measures must be incorporated in relevant sections of the EMP (Section 6).

4.5 Waste management

4.5.1 Environmental objectives

To ensure wastes generated by the Project, both solid and liquid, are appropriately managed in accordance with the waste management hierarchy to minimise the risks of environmental pollution and public health nuisances.

4.5.2 Assessment of risks

Identify and describe all predicted waste streams, including industrial and domestic, liquid and solid, and hazardous wastes, likely to be generated during construction, operation and decommissioning of the Project. Quantify and characterise these wastes.

Assess the risks to the environment in relevant sections of the EIS if identified project wastes are not appropriately managed.^{8,9,10,11}

4.5.3 Mitigation and monitoring

Provide a management plan in the EIS that considers waste management strategies for storage, transport and disposal of waste taking into account the waste hierarchy. The EIS should provide information on appropriately licensed facilities for disposal of listed wastes and consider the requirement for an Environment Protection Approval and/or Environment Protection Licence under the WMPC Act.

A monitoring program should identify objectives, clear thresholds and contingency measures if waste management practices do not perform as predicted during construction and operation. Monitoring programs should be capable of detecting change in a statistically robust manner.

4.6 Historic and cultural heritage

4.6.1 Environmental objectives

To identify and protect items or places which have historic and/or cultural heritage values.

4.6.2 Assessment of risks

The EIS should include a comprehensive risk assessment undertaken by a qualified expert who has experience with heritage items and places. The EIS should consider the potential risks to the following places and items:

- the heritage values of places listed on the National Heritage list

⁸ Australian New Zealand Environment and Conservation Council & Agriculture and Resource Management Council of Australia and New Zealand, 2000. Guidelines for Fresh and Marine Water Quality. Available at: <https://www.environment.gov.au/system/files/resources/53cda9ea-7ec2-49d4-af29-d1dde09e96ef/files/nwqms-guidelines-4-vol1.pdf>

⁹ Northern Territory Environment Protection Authority, 2013. Guidelines on Mixing Zones. Available at: http://www.ntepa.nt.gov.au/_data/assets/pdf_file/0017/160631/guidelines_mixing_zones.pdf

¹⁰ Department of Environment and Heritage, 2013. Operational policy - Licensing wastewater releases from existing marine prawn farms in Queensland, published (Version 2; Queensland Department of Environment and Heritage Protection). Available at: <https://www.ehp.qld.gov.au/licences-permits/business-industry/pdf/wastewater-prawn-farm-em1862.pdf>

¹¹ Department of Environment and Heritage, 2012. Technical guideline - Wastewater release to Queensland waters (Version 1; Queensland Department of Environment and Heritage Protection) - cleaning of marine fouling on prawn farming and ancillary infrastructure and equipment, and the management of any related waste products, and - Management of solid wastes including prawn pond sludge.

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- the heritage values of places listed as a Commonwealth Heritage place
- heritage places and items protected under the *Heritage Act*
- areas and objects protected or registered for protection under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*
- sacred sites protected under the *Northern Territory Aboriginal Sacred Sites Act*.

The identification of any impacts to Indigenous cultural heritage is to take place in consultation with relevant Indigenous groups, the AAPA and the Heritage Branch of the Department of Lands, Planning and the Environment. Provide:

- an assessment of the Project's potential direct and indirect effects on sacred sites, heritage places, and any potential impacts on Indigenous culture generally or traditional use of the area
- demonstrate consultation on potential impacts to sacred sites through evidence of an application or granting of an AAPA Authority Certificate.

4.6.3 Mitigation

Where a place(s) or item(s) has (have) been identified to be at risk from the Project, the Proponent should prepare a Heritage Management Plan (HMP) which outlines clear and prescriptive mitigation and management measures for protecting the values of those places. The HMP should include:

- procedures to avoid significant sites
- protection of key sites during construction, operation and decommissioning work
- measures to enable the Proponent, or contractor to the Proponent, to meet its duty of care to protect the cultural and heritage values of any places or items of significance
- procedures for the discovery of surface or sub-surface items during the course of the Project
- details of any applications to and/or approval conditions from relevant agencies/authorities with respect to the disturbance, degradation or visitation of any listed/protected heritage places and/or items.

When preparing the HMP, it is recommended that consideration be given to the *Burra Charter*¹² and guideline. The Burra Charter and guideline outline measures for ensuring that heritage investigations and mitigation measures meet best practice standards for the management of cultural heritage in Australia.

Proposed mitigation measures must be incorporated in relevant sections of the EMP (Section 5).

¹² The Australian National Committee of International Council on Monuments and Sites (ICOMOS), 2000. The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance. Available at: <http://australia.icomos.org/publications/charters/>

4.7 Human health and safety

4.7.1 Environmental objectives

Ensure that the risks to human health and safety are identified, understood and adequately mitigated.

4.7.2 Assessment of risks

The EIS should include an assessment of the risks to people, the environment and nearby facilities associated with construction, operation, maintenance, and decommissioning of the various components of the Project and the site post-closure, and the storage and transport of materials to and from the work sites. The aim of the risk assessment is to demonstrate that:

- the Proponent is fully aware of the risks to human health and safety associated with all aspects of the proposed action
- the prevention and mitigation of risks to human health and safety are properly addressed in the design specifications
- the risks can and will be managed effectively during the construction, operation, and decommissioning of the Project, including safety risks associated with:
 - wildfire
 - meteorological conditions and events
 - saltwater crocodiles and other biological hazards
 - unauthorised access and third party interference with the Project
 - road users associated with increased traffic and use of the existing road networks.

4.7.3 Mitigation

Detailed emergency plans and response procedures will need to be developed as a contingency in the event of an emergency or accident, incorporating management of all emergencies that may impact on the facility, its surrounds, personnel or the public. Responsibilities and liabilities in such an event should be included.

The EIS should include measures to prevent or deter third party interference and response procedures in the event that they occur.

A traffic impact assessment / traffic management plan (detailing access, vehicle types, volumes of existing vehicles and increased traffic and other relevant matters, including a risk assessment) should be developed as part of the EIS.

Proposed mitigation measures must be incorporated in relevant sections of the EMP (Section 6).

4.8 Socio-economic

4.8.1 Environmental objectives

To monitor and manage the intended and unintended social and economic consequences, both positive and negative, of the Project.

4.8.2 Assessment of risks

An Economic and Social Impact Assessment (ESIA) should be conducted. The ESIA should:

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- detail the financial capacity to implement the Project, the significance of potential risks to project implementation and the capacity to cost for operation and maintenance activities. In particular, assess the risks to the operation that might affect project feasibility such as:
 - predation of pond stock by birds
 - competition from colonisation of ponds by non-target species, such as prawns and fish imported in sea water
 - delayed approvals for separate components of the larger Project Sea Dragon proposal such as a hatchery and breeding facility
 - delays in bringing product to markets
 - impacts on production and product export due to extreme weather
- assess the risks of the Project not realising its projected economic and social benefits
- document the economic and social impacts (positive and negative) of the Project on the region and more broadly, where relevant
- encourage development of new and/or expansion of existing businesses in the locality
- foster sustainable development and community wellbeing
- provide for appropriate contingencies to manage expectations of the community, local business owners and residents who may be affected in the event of forced closure or unpredicted delays
- discuss the risks of the Project, related infrastructure and associated workforce negatively impacting on identified economic and social issues in the region.

The ESIA should, if relevant, outline consultations with Indigenous stakeholders and Traditional Owners for all areas potentially affected by the Project. Information should be provided on any current Traditional Owner land utilisation and spiritual/cultural significance of the area, and any risks to those values from the Project such as the impacts of biosecurity controls and discharge of nutrients. In particular, the risks to determined native title rights and interests, and the existing claim to beds and banks pursuant to the *Aboriginal Land Rights (Northern Territory) Act* (Legume Area Claim No. 188), should be assessed.

The Proponent should engage appropriate expertise in indigenous social impact assessment to ensure effective communication with Aboriginal people when preparing the work related to Traditional Owner interests.

Further information on the development of an ESIA is available in the NT EPA's *Guidelines for the Preparation of an Economic and Social Impact Assessment*, accessible on the NT EPA webpage at: <http://www.ntepa.nt.gov.au/environmental-assessments/guidelines>.

4.8.3 Mitigation and monitoring

The EIS should include an Economic and Social Impact Management Plan that addresses any risks identified in the ESIA and should:

- describe how the Proponent proposes to manage any identified economic, social, or relevant cultural risks from and to the Project, or its associated workforce

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- describe how potential local and regional business and employment opportunities related to the Project will be identified and managed
- include a mechanism for monitoring and reporting any identified potential socio-economic and cultural impacts
- include measures to mitigate negative economic and social impacts on the Project, locality and region
- provide outcome and assessment criteria that will give early warning that management and mitigation measures are not achieving the outcomes and benefits expected and identified by the Proponent
- provide a stakeholder communications strategy including identification of, and ongoing consultation and negotiations with, all relevant stakeholders, including Traditional Owners and other Indigenous stakeholders, ensuring the full range of community viewpoints are sought and included in the EIS.

Proposed mitigation and monitoring measures must be incorporated in relevant sections of the EMP (Section 6).

4.9 Other risks

The following environmental risks should be identified and proposed management strategies provided in the EIS.

4.9.1 Air

The Proponent should assess the impacts of the Project on air quality, including the following:

- ambient air quality (in particular the PM₁₀ fraction)
- dust
- odour/gases.

Risks to air quality may arise from emissions of chemicals, particulates or biological materials from:

- product and waste storage
- general vehicle movements
- wind erosion mobilising dust from exposed surfaces, such as from laydown areas, access tracks and sites of vegetation clearing.

The assessment should be informed by meteorological information applicable to air quality in the Project area.

The EIS should outline measures for managing and monitoring the impacts of air quality, including dust suppression strategies and monitoring of dust impacts.

A discussion of existing variability in air quality target parameters, such as the impact of seasonal smoke haze, should be included in a relevant section of the EIS. Details of the proposed air monitoring, including technique, location, frequency and details of laboratory undertaking analysis, target parameters, and proposed reactive management tied to monitoring thresholds, should be provided.

4.9.2 Bushfires

The Proponent should be aware of sections of the *Bushfires Act* and Regulations that apply to the Project and address risk and management of bushfires. The development of a Fire Management Plan should be in consultation with Traditional Owners, pastoralists and their representative organisations, including relevant Land Councils that have specialist knowledge in fire management.

4.9.3 Biting insects

A baseline biting insect assessment is to be conducted in the Project area. The EIS should outline how the Project would conform to applicable sections of the Department of Health Medical Entomology guideline 'Guidelines for preventing mosquito breeding associated with construction practice near tidal areas in the NT'¹³, to ensure no new mosquito breeding sites are created.

4.9.4 Noise and vibration

The EIS should outline proposed management to mitigate any identified risks from the Project with regard to noise and vibration emissions. If relevant, the EIS should describe proposed communication with any residents and communities predicted to be impacted by noise and vibration from the Project.

4.9.5 Amenity

The extent and significance of the changed landscape and increased access routes into the area on amenity during all stages of the Project should be discussed in a relevant section of the EIS. Aspects of the Project that would be visible from key vantage points, publicly accessible areas and areas of significance, should be discussed. Management of unauthorised access to waterways and natural areas adjacent to the Project should be discussed.

4.9.6 Public health and food

Information regarding accommodation requirements, food safety standards, on-site wastewater disposal, wastewater stabilisation ponds, solid waste disposal and public health nuisance abatement should be included in a relevant section of the EIS. Information with regard to the environmental health requirements from the Department of Health is provided in *Environmental Health Fact Sheet 700 Requirements for Mining and Construction Projects*.¹⁴

4.9.7 Climate change

Provide an inventory of projected annual emissions for each relevant greenhouse gas, with total emissions expressed in 'CO₂ equivalent' terms and a description of proposed greenhouse gas abatement measures.

Provide an assessment of risks to the project from climate change impacts (e.g. increases in mean sea level, storm tides, waves and shoreline erosion).

Identify mitigation and adaptation measures to minimise risk to the project from climate change impacts, particularly where there may be a significant impact to human safety or property.

¹³ Department of Health 2011, *Guidelines for Preventing Mosquito Breeding Associated with Construction Practice near Tidal Areas in the NT*, Available at:

http://www.health.nt.gov.au/Medical_Entomology/Publications/Development_Guidelines/index.aspx

¹⁴ Department of Health, 2013. *Environmental Health Fact Sheet 700 Requirements for Mining and Construction Projects*, Available at:

http://www.health.nt.gov.au/Environmental_Health/Health_Risk_Assessment/

4.10 Cumulative impacts

An assessment of cumulative environmental impacts should be undertaken that considers the potential impact of the Project in the context of existing developments, reasonably foreseeable future developments, and the combined effects of multiple different impacts on a receptor, to ensure that any potential environmental impacts are not considered in isolation. The extent of cumulative impacts to be considered depends on the nature of the environmental issue. The EIS should address potential cumulative impact of the action on ecosystem resilience and, in this context, the cumulative effects of climate change impacts on the environment must be considered.

The risk assessment should consider and discuss cumulative assessment, where relevant, and account for impacts on an appropriate scale, recognising that:

- landscape change originates not only from single projects and management actions, but also from complex and dynamic interactions of multiple past, present and future management actions
- biophysical, social and economic change accumulates through additive or interactive (or synergistic) processes. The aggregate impact of multiple actions on the environment can be complex and may result in impacts that are more significant because of interactive processes
- any given action does not operate in isolation. The most significant changes are often not the result of the direct effects of an individual action, but from the combination of multiple minor effects accumulating over time.

The EIS should include appropriate consideration of the impacts on the general environment, ecosystems and matters of NES and discuss whether those impacts could be permanent. If the impacts are not permanent, describe how long it will take for recovery from any impacts and identify how soon restoration of habitat could be achieved to reinstate ecosystem function.

5 Environmental offsets

The Australian Government Environmental Offsets Policy¹⁵ requires residual (after avoidance and mitigation measures have been implemented) significant impacts to be offset, with a focus on direct offsets. The *Offsets Assessment Guide*, which accompanies this policy, has been developed to give effect to the policy's requirements, utilising a balance sheet approach to quantify impacts and offsets. It applies where the impacted protected matter is a threatened species or ecological community.

The EIS should provide information on:

- any identified impacts or detriments that cannot be avoided or mitigated at reasonable costs and whether these impacts could be considered as 'significant' under the EPBC Act
- risks of failure of management actions (such as rehabilitation, weed control, etc.) and uncertainties of management efficacy
- proposed offsets for residual significant impacts to protected matters and an explanation as to how these proposed offsets are consistent with the requirements of the Environmental Offsets Policy and *Offsets Assessment Guide*, where relevant

¹⁵ Department of the Environment, 2012. *Environmental Offsets Policy*. Available at: <http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy>

- how the proposed offsets meet the Environmental Offsets Policy requirement of a minimum of 90% 'direct offsets' (direct offsets are actions which provide a measurable conservation gain for the impacted protected matter).

6 Environmental management

The specific safeguards and controls proposed to be employed to minimise or remedy environmental impacts identified in the risk assessment process are to be included in an EMP. The EMP should be strategic, describing a framework for continuing management, mitigation and monitoring programs for the significant environmental impacts of the Project.

The scope, content and structure of the EMP will be a function of the outcomes of the environmental risk assessment and determined by the significance of the environmental impacts. The EMP should not be prepared in isolation but should be consistent and integrated with the principles of an environmental management system. The EMP should include specialised management plans where it is necessary to provide a high level of operational detail. As much detail as is practicable should be provided to enable adequate assessment of the proposed environmental management practices and procedures.

The EMP needs to address the Project phases (construction, operation and decommissioning/rehabilitation) separately. It must state the environmental objectives, performance criteria, monitoring, reporting, corrective action, necessary resourcing, responsibility and timing for each environmental issue.

Further information on the development of an EMP is available in the NT EPA's *Guidelines for the Preparation of an Environmental Management Plan*, accessible on the NT EPA webpage at: <http://www.ntepa.nt.gov.au/environmental-assessments/guidelines>.

7 General advice on the Environmental Impact Statement

7.1 General content

The EIS should be a stand-alone document. It should contain sufficient information to avoid the need to search out previous or additional, unattached reports.

The EIS should enable interested stakeholders and the NT EPA to understand the environmental consequences of the proposed action. Information provided in the EIS should be objective, clear, succinct, and easily understood by the general reader. Technical jargon should be avoided wherever possible. Cross-referencing should be used to avoid unnecessary duplication of text. Maps (using an appropriate scale, resolution and clarity), plans, diagrams and other descriptive detail should be included. Spatial data should also be provided to the NT EPA as importable GIS shape files (compatible with ArcMap) with relevant features and areas marked as polygons, lines and points, and any relevant geospatially referenced underlays included.

The level of analysis and detail in the EIS should reflect the level of significance of the expected and potential impacts on the environment, as determined through adequate technical studies. Consideration of appropriate spatial, temporal and analytical scales should be used to clearly communicate the potential impacts to the environment.

Information materials summarising and highlighting risks of the proposed action should be provided in a culturally appropriate format and language, accompanied by graphics and illustrations that assist with interpretation, where relevant.

7.2 Structure, format and style

The EIS should comprise of three elements:

1. Executive summary

The executive summary must include a brief outline of the Project and each chapter of the EIS, allowing the reader to obtain a clear understanding of the proposed action, its environmental implications and management objectives. It must be written as a stand-alone document able to be reproduced on request by interested parties who may not wish to read the EIS as a whole.

2. Main text of the document

The main text of the EIS should include a list of abbreviations, a glossary to define technical terms, acronyms, abbreviations, and colloquialisms. The document should consist of a series of chapters detailing the level of significance and management of the expected and potential impacts on the environment from the proposed action.

3. Appendices

The appendices must include detailed technical information, studies or investigations necessary to support the main text. These will be made publicly available and should include:

- a table listing how these Terms of Reference have been addressed in the EIS, cross-referenced to chapters, page numbers and/or appendices
- the name of, work done by and the qualifications and experience of the persons involved in preparing the EIS
- a table listing commitments made by the Proponent
- detailed technical information, studies or investigations necessary to support the main text.

The EIS should be produced on A4 size paper capable of being photocopied, with any maps, diagrams or plans on A4 or A3 size paper, and in colour, if possible.

7.3 Referencing and information sources

All sources must be appropriately referenced using the Harvard Standard. The reference list should include the address of any internet pages used as data sources. All referenced supporting documentation and data, or documents cited in the EIS must be available upon request. For information given in the EIS, the EIS must state:

- the source of the information
- how recent the information is
- how the reliability of the information was tested
- what uncertainties (if any) are in the information.

All known and unknown variables or assumptions made in the EIS must be clearly stated and discussed. Confidence levels must be specific, as well as the sources from which they were obtained. The extent to which a limitation, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

Reliability of the data and an explanation of the sampling criteria and approach should be provided where data are used to support statements, studies and claims in the EIS. Sufficient discussion should accompany the data to demonstrate that the data and results of quality control and quality assurance testing are suitable and fit for purpose. The NT EPA's *Guideline for Consultants Reporting on Environmental Issues* outlines the

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minimum information required for the presentation of data from studies, investigation, and monitoring to enable efficient review.

The EIS must include information on any consultation about the Project, including:

- any consultation that has already taken place
- a list of persons and agencies consulted during the EIS
- if there has been consultation about the Project, any documented response to, or result of, the consultation
- proposed consultation about relevant impacts of the Project
- identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

The EIS has an important role in informing the public about this Project. It is essential that the Proponent demonstrates how any public concerns were identified and will influence the design and delivery of the Project. Public involvement and the role of government organisations should be clearly identified. The outcomes of any surveys, public meetings and liaison with interested groups should be discussed including any changes made to the Project as a result of consultation. Details of any ongoing liaison should also be discussed.

If it is necessary to make use of material that is considered to be of a confidential nature, the Proponent should consult with the NT EPA on the preferred presentation of that material, before submitting it to the NT EPA for consideration.

Information of a confidential nature should not be disclosed in the EIS if disclosure of the information might:

- prejudice inter-governmental relations between an Australian body politic and a body politic overseas or between two (2) or more bodies politic in Australia or in the Territory
- be an interference with a person's privacy
- disclose information about an Aboriginal sacred site or Aboriginal tradition
- disclose information obtained by a public sector organisation from a business, commercial or financial undertaking that is:
 - a trade secret
 - other information of a business, commercial or financial nature and the disclosure is likely to expose the undertaking unreasonably to disadvantage.

It is an offence under the *Northern Territory Environment Protection Authority Act* to give information to the NT EPA that the person knows is misleading or contains misleading information.

7.4 Administration

The Proponent should lodge three bound hard copies and electronic versions (Adobe PDF and Microsoft Word format) of the EIS with the NT EPA. The electronic copies should be provided both as a single file of the entire document and separate files of the document components.

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The Proponent should consider the file size, the number of files, format and style of the document appropriate for publication on the NT EPA website. The capacity of the website to store data and display the material may have some bearing on how the documents are constructed.

The Proponent is to advertise that the draft EIS is available for review and comment, in:

- The NT News
- Katherine Times
- Kimberley Echo
- The Australian.

At a minimum, the advertisement should be published in the Saturday edition of the NT News at the commencement of the public exhibition period and the first edition of the Katherine Times after the commencement of the exhibition period.

The following information should be published in the advertisement:

- a brief summary of the Project and the environmental assessment process
- clear notice that the draft EIS is available for public comment and for how long
- the locations the draft EIS will be available for viewing
- the method and contact details for interested groups or persons wishing to make comment, including an address (postal and electronic) to which interested persons may send or deliver their written comments.

The NT EPA requires the complete draft EIS document and a draft of the advertisement at least one week prior to advertising the draft EIS, to arrange web upload of the document, and review and comment on advertising text.

7.5 Public exhibition

The public exhibition period for the draft EIS will be eight (8) weeks. The exhibition period should not occur in late December or January in any year to ensure optimal opportunity for public and Government viewing of the EIS document. The NT EPA will direct the Proponent to extend the EIS exhibition period if the EIS exhibition overlaps the late December or January periods.

Sufficient copies of the draft EIS should be provided to and be made available for public exhibition at:

- NT EPA, Suite 201, The Avenue, 12 Salonika Street, Parap
- Northern Territory Library, Parliament House, Darwin
- Environment Centre Northern Territory, Unit 3, 98 Woods St, Darwin
- Katherine Town Council, Civic Centre, Katherine
- Katherine Public Library, Level 1, Randazzo Centre, Katherine Tce
- Northern Land Council, Lot 5/29 Katherine Tce, Katherine
- Victoria River Roadhouse
- Victoria Daly Regional Council, Timber Creek

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- Kimberley Land Council
- The Shire of Wyndham - East Kimberley, Kununurra, WA.

It is the Proponent's responsibility to ensure that the hard copies are supplied to the aforementioned locations in a timely manner.

8 Appendices

8.1 Appendix A

MATTERS THAT MUST BE ADDRESSED IN AN ENVIRONMENTAL IMPACT STATEMENT

(SCHEDULE 4 OF THE EPBC 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; and
 - (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; and
 - (iii) if there has been consultation about the proposed action — any documented response to, or result of, the consultation; and
- (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(d) 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(e) 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(f) 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:

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(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 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 PER 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.

8.2 Appendix B

LIST OF THREATENED SPECIES TO BE CONSIDERED IN THE ENVIRONMENTAL IMPACT STATEMENT

Species	EPBC Act Status	TPWC Act Status
Red Goshawk <i>Erythrotriorchis radiatus</i>	Vulnerable	Vulnerable
Gouldian Finch <i>Erythrura gouldiae</i>	Endangered	Vulnerable
Night Parrot <i>Pezoporus occidentalis</i>	Endangered	Critically Endangered
Australian Painted Snipe <i>Rostratula australis</i>	Endangered	Vulnerable
Masked Owl (northern) <i>Tyto novaehollandiae kimberli</i>	Vulnerable	Vulnerable
Grey falcon <i>Falco hypoleucos</i>		Vulnerable
Eastern curlew <i>Numenius madagascariensis</i>	Critically Endangered	Vulnerable
Curlew sandpiper, <i>Calidris ferruginea</i>	Critically Endangered	Vulnerable
Northern Quoll <i>Dasyurus hallucatus</i>	Endangered	Critically Endangered
Brush-tailed Rabbit-rat <i>Conilurus penicillatus</i>	Vulnerable	Endangered
Pale field rat <i>Rattus tunneyi</i>		Vulnerable
Bare-rumped Sheathtail Bat <i>Saccolaimus saccolaimus nudicluniatus</i>	Critically Endangered	
Blacksoil Ctenotus <i>Ctenotus rimacola camptris</i>		Vulnerable
Mertens' water monitor <i>Varanus mertensi</i>		Vulnerable
Mitchell's water monitor <i>Varanus mitchelli</i>		Vulnerable
Yellow-spotted monitor <i>Varanus panoptes</i>		Vulnerable
Flatback turtle, <i>Natator depressus</i>	Vulnerable, Migratory	
Green turtle, <i>Chelonia mydas</i>	Vulnerable, Migratory	
Hawksbill turtle, <i>Eretmochelys imbricata</i>	Vulnerable, Migratory	Vulnerable
Olive Ridley Turtle, <i>Lepidochelys olivacea</i>	Vulnerable, Migratory	Vulnerable
Loggerhead turtle, <i>Caretta caretta</i>	Endangered, Migratory	Vulnerable
Leatherback Turtle, <i>Dermochelys coriacea</i>	Endangered, Migratory	Critically Endangered

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Great White Shark <i>Carcharodon carcharias</i>	Vulnerable, Migratory	
Northern River Shark, <i>Glyphis garricki</i>	Endangered	Endangered
Dwarf Sawfish, <i>Pristis clavata</i>	Vulnerable, Migratory	Vulnerable
Largetooth Sawfish, <i>Pristis pristis</i>	Vulnerable, Migratory	
Green Sawfish, <i>Pristis zijsron</i>	Vulnerable, Migratory	Vulnerable
Whale Shark <i>Rhincodon typus</i>	Vulnerable, Migratory	
Manta ray <i>Manta birostris</i>	Migratory	
Saltwater crocodile <i>Crocodylus porosus</i>	Migratory	
Australian snubfin dolphin, <i>Orcaella heinsohni</i>	Migratory	
Australian humpback dolphin, <i>Sousa sahalensis</i>	Migratory	
Spotted bottlenose dolphin (Arafura/Timor Sea populations), <i>Tursiops aduncus</i>	Migratory	
Dugong, <i>Dugong dugon</i>	Migratory	
Fork-tailed swift <i>Apus pacificus</i>	Migratory	
Streaked shearwater <i>Calonectris leucomelas</i>	Migratory	
Little tern <i>Sterna albifrons</i>	Migratory	
Great egret, <i>Ardea alba</i>	Migratory	
Red knot, <i>Calidris canutus</i>	Migratory	Vulnerable
Greater sand plover <i>Charadrius eschenaultia</i>	Migratory	Vulnerable
Glossy ibis <i>Plegadis falcinellus</i>	Migratory	
Terek sandpiper <i>Xenus cinereus</i>	Migratory	
Red-rumped Swallow <i>Cecropis daurica</i>	Migratory	
Oriental Pratincole <i>Glareola maldivarum</i>	Migratory	
Bar-tailed Godwit <i>Limosa lapponica</i>	Migratory	Vulnerable
Oriental Cuckoo, <i>Cuculus optatus</i>	Migratory	
Barn Swallow <i>Hirundo rustica</i>	Migratory	
Rainbow Bee-eater <i>Merops ornatus</i>	Migratory	
Grey Wagtail <i>Motacilla cinerea</i>	Migratory	

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Yellow Wagtail <i>Motacilla flava</i>	Migratory	
Rufous Fantail <i>Rhipidura rufifrons</i>	Migratory	
Oriental Reed-Warbler <i>Acrocephalus orientalis</i>	Migratory	
Cattle Egret <i>Ardea ibis</i>	Migratory	
Oriental Plover, Oriental Dotterel <i>Charadrius veredus</i>	Migratory	
Osprey <i>Pandion haliaetus</i>	Migratory	
Common greenshank (<i>Tringa nebularia</i>)	Migratory	
Great knot (<i>Calidris tenuirostris</i>)	Migratory	
Grey plover (<i>Pluvialis squatarola</i>)	Migratory	
Gull-billed tern (<i>Gelochelidon nilotica</i>)	Migratory	
Lesser sand plover (<i>Charadrius mongolus</i>)	Migratory	
Red-necked stint (<i>Calidris ruficollis</i>)	Migratory	
Ruddy turnstone (<i>Arenaria interpres</i>)	Migratory	
Sharp-tailed sandpiper (<i>Calidris acuminata</i>)	Migratory	
Swinhoe's storm Petrel (<i>Hydrobates monorhis</i>)	Migratory	