ENERGY NORTH

PROJECT : ARES

Draft Terms of Reference

Project Ares

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1 INTRODUCTION

1.1 Overview

Project Ares (the Project) proposed by Energy North (the Proponent) is being referred to the Northern Territory Environment Protection Authority (NT EPA) for consideration under the *Environment Protection Act 2019* (EP Act) as a proponent initiated environmental impact statement (EIS) referral. In accordance with regulation 43 of the *Environment Protection Regulations 2020* (EP Regulations), in addition to the referral report Energy North has prepared:

- A draft terms of reference (TOR) for assessment by EIS (this document)
- A draft statement of reasons why:
    - an assessment by EIS is required for the proposed action
    - the draft TOR are appropriate.

This draft TOR sets out the matters relating to the environment that are to be addressed in the EIS for the Project. The draft EIS must also address all requirements in the NT EPA guidance *Preparing an environmental impact statement*.

1.2 Background

Project Ares is proposed at Murranji Station (NT Portion 851) in the Barkly Region of the Northern Territory, approximately 683 km south of Darwin and around 50 km north-west of Elliott.

The Project comprises a single integrated hyperscale data centre campus with a total information technology (IT) capacity of 1 gigawatt (GW), delivered in two stages. Phase 1 delivers 500 megawatts (MW) of firm generation capacity to support the first 500 MW IT load; Phase 2 delivers the remaining 500 MW of firm generation capacity to support the full 1 GW IT load. The Project adopts a behind-the-meter power architecture, designed to transition to renewable-powered operations.

Key Project components include:

- A hyperscale data centre campus, including data halls, cooling infrastructure, operations and administration facilities.
- Solar PV generation and BESS infrastructure.
- Gas-fired generation and supporting gas infrastructure within the Project boundary.
- Non-process infrastructure including access roads, internal roads, rail siding to the Tarcoola–Darwin Railway, sealed airstrip, construction and operational workforce accommodation village, borefield and water supply infrastructure.
- Associated water supply, treatment, storage and reticulation infrastructure.

The data centre facility has an intended operational life of 25+ years, with the overall Project lifespan extending beyond 30 years through solar PV and BESS repowering campaigns.

Energy North is committed to a defined transition pathway toward renewable-powered operations, with the transition to occur as rapidly as equipment procurement timelines, long-duration battery storage economics, and Tier III firm power requirements permit. Specific milestones and targets will be confirmed during FEED and

documented and implemented through the environmental management framework developed as part of the EIS process.

1.3 Assessment period

The draft EIS is to be submitted to the NT EPA within two years from the date of issue of these TOR (in line with regulation 99 of the EP Regulations and in consideration of the matters listed under EP Regulation 99(3)).

1.4 Assessment under accredited assessment process

Approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is required for an action which has, will have, or is likely to have a significant impact on a Matter of National Environmental Significance (MNES). There is potential for the Project to impact on one MNES:

- Listed threatened species and communities (sections 18 and 18A).

Energy North will submit a referral for consideration under the EPBC Act. In anticipation of a controlled action decision, the Proponent is seeking an accredited assessment (as referred to in Section 45 of the EP Act) between the Commonwealth and the NT governments, to streamline the assessment process and remove unnecessary duplication. This TOR has been prepared assuming that an accredited assessment process will be adopted and that both government assessment processes can be facilitated by the one EIS document

Information on the EPBC Act and protected matters can be obtained from the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) website at www.environment.gov.au/epbc/. Noting that from 1 July 2026 Commonwealth environmental assessment functions transition to the National Environmental Protection Agency (NEPA).

2 MATTERS TO BE ADDRESSED IN DRAFT EIS

2.1 Executive summary of the draft EIS

A stand-alone summary of the draft EIS is required. The summary is to be presented in a way that is accessible to interested parties who may not wish to read the full draft EIS, enabling stakeholders to understand the likely consequences of the proposal.

The summary must provide the following at a minimum:

- a clear and concise overview of the Project including Proponent, elements of the proposal, development stages, activities, lifespan, the potentially affected area, and appropriate map/s
- a summary of the site selection process and alternatives considered
- a summary of the environmental values in the potentially affected area
- a summary of the potential significant environmental impacts of the proposal on the identified values
- a summary of measures to avoid, mitigate and/or offset potential significant impacts of the Project, with a clear and measurable outcomes for environment protection
- a summary of stakeholder engagement and future commitments.

2.2 Project description

2.2.1 Overview

Provide a clear description of the Project and the full scope of works for which approval is sought. The project description must include:

- a summary table listing the main physical components of the Project and their maximum spatial extent or quantity, using appropriate parameters including the matters outlined in Table 2-1
- supporting maps, figures, images, diagrams, and flow charts
- the decision-making criteria and framework used in considering various options that would deliver the required outcomes, with identification of the various options that were evaluated in deciding the Project design, why the preferred option was selected above other options, and how the environmental decision-making hierarchy was applied
- a discussion of how the Project addresses sections 42 and 43 of the EP Act, including the principles of ecologically sustainable development (sections 17-24 of EP Act)
- any variations or modifications to the Project since the referral information was submitted.

Provide detail about any information gaps or uncertainties in relation to the EIS, including any further studies or measures required to address these gaps. Where there is uncertainty in the concept design, footprint, capacity or life of the Project or its components, the approach to resolving this uncertainty must be clearly explained and the maximum extent or range for each parameter provided.

The draft EIS is to:

- use committed language (e.g. 'will') instead of ambiguous terms (e.g. 'may,' 'where possible,' 'if required,' etc.)

- demonstrate that all proposed avoidance, mitigation and management measures, as well as all monitoring activities, are based on relevant guidance or are in accordance with contemporary best practice.

2.2.2 Potentially affected area

Delineate the potentially affected area of the Project, taking into account the Project Area and the surrounding land and waterways that may be impacted by the Project, with a suitable buffer to allow for uncertainty.

Provide maps showing:

- the extent of the potentially affected area alongside important local and regional features
- current land tenure, land use, and Native Title in the potentially affected area
- other interests in land such as pastoral activities
- sensitive environments, including towns, communities, homesteads and residences, any sites of conservation significance, and cultural values (if appropriate and with permission from relevant Aboriginal stakeholders) within the potentially affected area.

2.2.3 Proponent

Provide background to the Proponent, including:

- the Proponent's environmental history, including notification/disclosure of offences, or non-compliances with state/territory or Commonwealth environmental legislation
- experience in the industry and development of major projects
- experience, qualifications and certification of all suitably qualified consultants and subconsultants engaged by the Proponent to complete the EIS.

Outline any partnerships with other organisations or industries as part of the Project.

2.2.4 Objectives of the Project

List the objectives of the Project and include a description of how the Project meets these objectives.

Include a description of how the Project objectives are consistent with any water allocation planning objectives, any government policy, and any social, economic or cultural objectives.

2.2.5 Construction, operation and repowering

Provide a detailed description of all construction, commissioning and operational aspects of the Project as outlined in Table 2-1.

Table 2-1. Information to be provided in Project description of construction and operations.

Topic	Required information
Site layout maps	The description of the Project will include, but will not be limited to, detailed maps and graphic illustrations of: • the location and dimensions of existing disturbance, infrastructure and roads/tracks and natural and modified landforms (including a depiction of these overlaid on aerial photos or high-resolution satellite imagery) within the potentially affected area

Topic	Required information

	• the location and approximate dimensions of areas to be disturbed, structures to be built or repurposed including:
	  ○ all areas to be cleared[1] or disturbed
	  ○ access roads, rail and services infrastructure
	  ○ storm water and drainage infrastructure
	  ○ buildings and structures
	  ○ temporary stockpiles
	  ○ waste storage facilities
	• the Project layout overlain with environmental values and sensitive receptors within the potentially affected area
	• the boundaries of Project Area in relation to any overlapping interests in land including Native Title (claims or determined), Aboriginal freehold land and pastoral land.

Design	• Describe design options considered, including different configurations of the Project's infrastructure components, reasons for selection of preferred design options, and how the proposed design avoids and/or mitigates environmental constraints and potential significant impacts and risks to the surrounding environment. • Describe how the Project has been designed to minimise social, cultural, and environmental impacts, considering the needs of the community and stakeholders. • Describe how the Project has been designed to consider, or allow for, adaptation to a changing climate. • Where multiple design options exist, the choice of the preferred option(s) must be clearly explained, and a comparison provided against other options in terms of potential environmental impacts.

Construction	Describe all elements of the construction phase including:
	• vegetation clearing and site preparation
	• construction methodology including equipment and machinery required
	• construction materials required – types, quantities, sources, storage requirements and potential hazards:
	  ○ where large volumes of fill or rock material are proposed to be imported to the site, identify the potential sources of this fill / borrow material, the criteria that will be adopted to confirm suitability for the proposed use and any related environmental regulatory requirements
	  ○ consider the potential significant impacts and risks within the potentially affected area.
	• location, extent, and nature of temporary stockpiles of borrow material and topsoil
	• any new supporting/ancillary infrastructure and upgrades required to service the proposal, including road access, and supply of electricity, water, and sewerage
	• timeframes for completion
	• applicable legislation, guidelines, and standards.

[1] In accordance with the NT Land Clearing Guidelines and/or requirements under the NT Planning Scheme.

Topic	Required information
Operation and repowering	Describe all elements and stages of the operation phase including: • details on proposal infrastructure – location, size and type including environmental features/considerations/design principles • materials and chemicals required - major types, quantities, qualities, sources, potential hazards, transport and storage requirements and location • erosion and sediment control • water requirements and sources (provide a water balance) • water management including stormwater drainage • waste management, including disposal/recycling of expended solar panels and batteries, and containment and disposal of contaminated wastewater and solids with details of pits, bunds, treatment and recycling • weed management • air quality management, including containment of dust • ongoing maintenance components and servicing of infrastructure • applicable legislation, guidelines, and standards. • any feasible operation alternatives including alternatives for land management at the solar farm precinct (e.g. inclusion of grazing). Where multiple alternatives exist, the choice of the preferred option(s) should be clearly explained, and a comparison provided against other options in terms of potential environmental impacts. Describe all elements and stages of any repowering campaign including: • lifespan of project infrastructure, including solar panels and battery energy storage systems • materials and chemicals required - major types, quantities, qualities, sources, potential hazards, transport and storage requirements and location • waste management, including onsite stockpiling of waste and offsite disposal/recycling.
Traffic and transport	Describe traffic and transport activities during construction and operation, including but not limited to: • proposed transport methods including rail, marine vessel and road freight • forecast vehicle/vessel movements including type, size, volume and frequency of movements • details on access, routes, vehicle/vessel types, volumes of traffic • details of rail use and proposed rail siding.
Energy	Provide relevant information with respect to energy during construction and operation, including but not limited to: • energy requirements and sources • consideration of renewable sources of energy and justification of selected options • estimate of the greenhouse gases emissions and savings • measures to maximise energy efficiency and avoid and/or reduce greenhouse gas emissions consistent with the NT Government's target of achieving net zero greenhouse gas emissions by 2050 (DENR 2020)
Workforce	Provide a summary for each phase of the Project, of the: • estimated number of people to be employed • skills base required

Topic	Required information
	• likely sources (local, regional, overseas) • on-site facilities provided (including any accommodation).

2.3 Rehabilitation and closure

This section should outline the planned rehabilitation and decommissioning of infrastructure and establish decommissioning objectives and goals. It should include:

- an overview of the pre-project environment and land use
- Project lifespan
- procedures for decommissioning and rehabilitation planning including stakeholder engagement
- the biological, cultural, economic and social viability of options for decommissioning, removal and disposal of infrastructure and components, including implications of solar panels' disposal at the end of the Project's life
- proposed rehabilitation measures including rehabilitation objectives and completion criteria, and proposed monitoring
- the proposed land use after closure (including alternatives).

2.4 Related projects

Identify and describe all related, associated or consequential components, actions or developments:

- upon which the Project is dependent on; or
- that are reasonably foreseeable to occur as a direct or indirect consequence of the Project.

Where detailed design or approvals are not yet available, sufficient information must be provided to enable assessment, including:

- purpose and functional relationship to the Project
- indicative location of infrastructure
- likely timing, staging and dependencies
- relevant approvals pathways and indicative status.

Where available, provide evidence to demonstrate the technical and commercial feasibility and likelihood of delivery of related components, such as:

- preliminary design studies or concept plans
- land tenure/access arrangements
- infrastructure agreements or commitments
- regulatory pathways and anticipated approvals.

All identified related and reasonably foreseeable actions must be included within the cumulative impact assessment undertaken for each factor.

2.5 Alternatives

State the rationale and justification for the proposal, and an assessment of alternatives that considers the strategic, social, economic, and environmental implications, technical feasibility and commercial drivers.

The assessment must:

- identify and describe all reasonable alternatives considered, including site locations, layouts, technologies, infrastructure options, construction/operational methods, and a discussion of the implications of not proceeding with the proposal
- provide clear justification for why the Project as presented in the EIS is the is preferred over alternatives
- outline the decision-making process and key constraints influencing option selection (for example, land access, environmental sensitivities, grid access, water availability, planning requirements).

2.6 Whole of environment

Provide a holistic assessment of the impacts of the Project on the whole of the environment, in particular, a description of the connections and interactions between the environmental factors, and an assessment of cumulative impacts, and impacts at a local and regional scale. Succinctly discuss predicted outcomes in relation to the principles of environment protection and management (as set out in Part 2 of the EP Act), and the NT EPA environmental factors and objectives

2.7 Consideration of the impacts of a changing climate

The draft EIS must:

- assess how adaptation to reasonable climate change scenarios has been considered in the design, construction, operation, and any effect on the viability of the Project, with reference to reporting in: Climate Change in the Northern Territory: State of the science and climate change impacts (NESP ESCC Hub 2020)
- take into consideration the most current and reasonable climate change projections for the region.

2.8 Information requirements for environmental factors

The Proponent has identified six environmental factors that could be significantly impacted by the Project – see Table 2-2. Further information about environmental factors is available in the NT EPA's environmental factors and objectives guidance.

Table 2-2. Environmental factors that will be addressed in the draft EIS

Theme	Factor	Environmental objective
LAND	Terrestrial environmental quality	Protect the quality and integrity of land and soils so that environmental values are supported and maintained.
	Terrestrial ecosystems	Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.
WATER	Hydrological processes	Protect the hydrological regimes of groundwater and surface water so that environmental including ecological health, land uses and the welfare and amenity of people are maintained.
AIR	Atmospheric processes	Minimise greenhouse gas emissions so as to contribute to the NT Government's aspirational target of achieving net zero greenhouse gas emissions by 2050.

Theme	Factor	Environmental objective
PEOPLE	Communities and economy	Enhance communities and their economy and foster resilience to a changing climate, for the welfare, amenity and benefit of current and future generations of Territorians.
	Culture and heritage	Protect sacred sites, culture and heritage.

For each of the environmental factors listed in Table 2-2, the draft EIS is to provide an assessment of how the NT EPA's environmental objective would be met, as outlined in the NT EPA Guide for preparing an EIS and detailed below.

The potentially affected area is to be delineated in the EIS to identify the components of the environment (under each environmental factor) and their specific values that have the potential to be impacted by implementation of the Project.

If additional potential impacts are identified through the environmental impact assessment process, these must also be included in the draft EIS, even if this requires addressing additional environmental factors not specified in Table 2-2.

2.8.1 Terrestrial environmental quality

Table 2-3. Minimum information required for assessment of terrestrial environmental quality

Aspect	Specific information required
NT EPA objective: *Protect the quality and integrity of land and soils so that environmental values are supported and maintained.*	

Environmental values	• Describe the soil characteristics of the Project Area with consideration of the following aspects as appropriate:
	  ○ the presence of contamination
	  ○ physical and chemical properties of the soil (including erosivity, fertility)
	  ○ existing erosion and other disturbances.
	• Provide detailed maps to support these descriptions.
	• Provide results and interpretation of any geotechnical and soil investigations and surveys of the Project Area and an assessment of the suitability of the site for the proposed Project infrastructure.
	• Identify environmental values that could be affected by impacts to terrestrial environmental quality (e.g. quality and integrity of land and soils) caused by the Project.

Potential significant impacts and risks	• Identify, describe, and assess potential significant impacts and risks to the quality and integrity of land and soils from proposed construction and operational activities including, cumulative impacts and risks. This must include at a minimum:
	  ○ direct disturbance of land and soils during construction (e.g. land clearing, excavation, trenching, compaction, loss of soil structure)
	  ○ indirect disturbance from construction and operation activities resulting in soil erosion, topsoil migration, sedimentation, and altered drainage patterns
	  ○ disturbance or treatment of contaminated soils (if relevant)

Aspect	Specific information required
	○ contamination of soils from spills or leaks associated with transport, storage and handling of hazardous materials, including contamination of soils from improper storage, handling and disposal of e-waste. • Where uncertainty remains, demonstrate how the precautionary principle has been applied (section 19 of EP Act). • Quantify the significance and extent of impacts, at the Project level and cumulatively, with use of and reference to relevant guidance. • Determine the areas that could feasibly experience those impacts.
Avoidance, mitigation and management	• Outline measures for avoiding and mitigating impacts identified above, with consideration of section 26 (environmental decision-making hierarchy) and section 27 (waste management hierarchy) of the EP Act. • Consider measures to enhance or restore environmental quality. These must include at a minimum: ○ infrastructure (including supporting facilities) design and layout ○ Project staging ○ site rehabilitation and restoration where relevant ○ erosion and sediment control planning and implementation in line with best practice guidance (IECA 2008, Best Practice Erosion and Sediment Control, International Erosion Control Association (Australasia), Picton, NSW) ○ stormwater management ○ emergency, hazard and spill response management ○ end-of-life solar panel and battery management ○ compliance with any statutory or policy basis for the proposed measures. • Identify standards and controls (including management plans) to be implemented as part of the Project and their likely effectiveness to mitigate and manage impacts to terrestrial environmental quality.
Monitoring and reporting	• Outline proposed monitoring and reporting activities related to potential significant impacts and risks, and mitigation and management measures. • Describe clear and measurable outcomes and commitments that will ensure the environmental objective is met and impacts of implementing the Project remain acceptable. • The proposed monitoring and reporting must specify which Project phase it relates to (i.e. construction or operation).
Residual impact	Assess the significance of any residual impact or risk of the Project to identified values.

2.8.2 Terrestrial ecosystems

Table 2-4. Minimum information required for assessment of terrestrial ecosystems

Aspect	Specific information required
NT EPA objective: *Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.*	

Aspect	Specific information required

Environmental values	Identify the existing environment and the terrestrial ecosystem values of the Project Area and potentially affected area. This must include, at a minimum:
	• descriptive information (i.e. maps, geospatial data) on the location and extent of field-verified vegetation communities within the Project Area using vegetation mapping based on the Northern Territory Guidelines and Field Methodology for Vegetation Survey and Mapping (Brocklehurst et al. 2007)
	• descriptive field verified spatial information (i.e. maps, geospatial data) of sensitive and significant (in accordance with the NT Land Clearing Guidelines)
	• identification of all species of conservation significance, including restricted range and data deficient species in addition to threatened species listed under the *Territory Parks and Wildlife Conservation Act 1976* (TPWC Act) and EPBC Act, which have the potential to occur. Assess the likelihood of occurrence for all species that are known or likely to occur
	• descriptive information (i.e. maps, geospatial data) and field verification for all species of conservation significance, including restricted range species, data deficient species and listed terrestrial threatened flora and fauna and migratory species known, or considered likely to occur. This must include, at a minimum:
	  ○ the type, value, sensitivity, quality and geographic extent of suitable habitat (hectares), landscape context, listing status (TPWC Act, EPBC Act), threatening processes, estimates of population size, abundance and distribution
	  ○ descriptive information that clearly outlines the survey and identification effort undertaken, including estimates of population parameters used to evaluate the local and regional context for potential impacts from the Project.
	Detail any information gaps or uncertainties in relation to surveys of terrestrial ecosystems, including any further studies or measures required to address these gaps.
	Include in appendices the detailed technical information, studies, or investigations necessary to support the draft EIS.
	Data must be provided in appropriate and readable formats (both numeric and spatial) with appropriate metadata to facilitate assessment, and in line with the NT EPA 'Biodiversity data policy' and 'Guidance for preparing biodiversity data packages (e.g. geopackage files for spatial data with the geospatial parameters clearly identified).

Potential significant impacts and risks	Identify, describe, and assess potential significant impacts (direct, indirect, and cumulative) of the Project on terrestrial ecosystems and identified environmental values in accordance with requirements of the EP Act and EPBC Act. This must include, at a minimum: • direct loss of fauna/flora/ecological communities from vegetation and land clearing and ongoing maintenance (e.g. fire and vegetation management) including significant and sensitive habitats and potential habitats for threatened species listed under TPWC Act and EPBC Act. Provide an overview of the extent (hectares) of the loss in table and map format

Aspect	Specific information required
	• indirect disturbance or habitat degradation to species of conservation significance and flora/ecological communities, including significant and sensitive habitats, possibly resulting in a long-term decline or loss over time • habitat fragmentation due to infrastructure development • direct impacts to fauna because of collision with vehicles or equipment, including solar panels • potential glint and glare from solar panels or the 'lake effect' (where the solar panels are mistaken for a water body) • how the assessment of potential significant impacts on terrestrial ecosystems has taken the impacts of a changing climate into account. Identify areas of habitat critical to the survival of listed threatened species, particularly those necessary for activities such as foraging, breeding, roosting, or dispersal. Include areas essential for the long-term maintenance of the species, with consideration of the preservation of species, important populations, key populations for genetic diversity, and efforts related to population reintroduction or recovery. Where uncertainty remains, demonstrate how the precautionary principle has been applied (section 19 of EP Act). Quantify the significance and extent of impacts, at the Project level and cumulatively, with use of and reference to relevant guideline thresholds.
Avoidance, mitigation and management	Outline the proposed measures to avoid, mitigate and manage the potential significant impacts identified above, with consideration of sections 26 (environmental decision-making hierarchy) and 27 (waste management hierarchy) of the EP Act, and measures to enhance or restore environmental quality. Identify areas of land that will be excluded from Project development due to the presence of extreme constraints that cannot be overcome, and other measures to avoid, mitigate and manage the potential significant direct and indirect impacts on areas of high biodiversity value and sensitive and significant vegetation communities. The measures should address at a minimum: • facility design and layout • infrastructure corridor alignments • clearing of native vegetation • fauna relocation and management • pest/weed/pathogen control and management • compliance with any statutory or policy basis for the proposed measures. Where fauna relocation or translocation is proposed, evidence from previous successful programs involving the target species must be provided. In the absence of such studies, an assessment of the species' ecology, including population density, habitat requirements, known threats, and key biological traits must be used to demonstrate the likelihood of successful relocation and to identify associated risks. Avoidance and mitigation and management measures must be evidence based and in accordance with available guidance, including advice from relevant Commonwealth and NT Government advisory agencies. Demonstrate that proposed infrastructure has been designed and appropriately sited to avoid and mitigate impacts to terrestrial ecosystem values. If the siting of proposal elements cannot avoid or mitigate impacts to

Aspect	Specific information required
	terrestrial ecosystem values (i.e. threatened species habitat) provide a justification for why this was not feasible. The avoidance, mitigation and management measures proposed must include environmental objectives, performance criteria, monitoring and reporting methods, corrective actions, assigned responsibilities and timeframes for implementation and review in accordance with DCCEEW's Environmental Management Plan Guidelines and relevant NT Government and NT EPA guidance. Describe any proposed measures to enhance or restore environmental quality through restoration or rehabilitation of areas impacted by the Project in line with section 42 of the EP Act. All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant NTG advisory agencies. All clearing of native vegetation should comply with the NT Land clearing Guidelines.
Monitoring and reporting	Outline proposed monitoring and reporting activities related to potential significant impacts and risks to terrestrial ecosystems, and mitigation and management measures. For any potential significant impact, thresholds must be set and mitigation measures described, should thresholds be met or exceeded. Describe clear and measurable indicators, outcomes and commitments that will ensure the NT EPA's environmental objective for terrestrial ecosystems will be met and impacts of implementing the Project remain acceptable. Specify the timeframes and timing for monitoring and reporting. The proposed monitoring and reporting must specify which Project phase it relates to (i.e. construction, operation and decommissioning). All monitoring activities must be substantiated and in accordance with available guidance, including advice from relevant Commonwealth and NT Government advisory agencies, potential Native Title holders, Traditional Owners/Custodians, and/or their representatives.
Residual impact	Assess the significance of any residual impact or risk of the proposal to identified values.
Offsets	Where significant residual impact to terrestrial ecosystem values, including listed species under the EPBC Act and/or TPWC Act, remains (after proposed avoidance and mitigation measures have been applied), identify any proposed offset and describe how it is consistent with the NT Offset Framework and the EPBC Act environmental offsets policy. This must include offset options and feasibility.

2.8.3 Hydrological processes

Table 2-5. Minimum information required for assessment of hydrological processes

Aspect	Specific information required
NT EPA objective: *Protect the hydrological regimes of groundwater and surface water so that environmental including ecological health, land uses and the welfare and amenity of people are maintained.*	
Environmental values	• Describe the existing environment for groundwater resources in the potentially affected area, including the Project Area and the location of

Aspect	Specific information required
	groundwater extraction (if these are different). Include a study of the groundwater systems and hydrogeology relevant to the extraction of groundwater. Describe: ○ the characteristics and condition of groundwater systems and aquifers, recharge and discharge processes, surface water-groundwater interactions, the location and extent of springs and other GDEs, aquifer connectivity ○ the quantity, quality and significance of groundwater resources and related values ○ the known nature and type of aquifers at and near the Project extraction location, geology, hydrogeology of aquifers, aquifer depth and thickness, stratigraphy, depth to water level, groundwater flow directions and seasonal variation in levels ○ the proximity of existing groundwater users to the Project, current groundwater uses, existing extraction rates and volumes, groundwater proposed to be used by the Project (including a description of the quality, quantity, usage rate and proposed location of those resources), and capacity of target aquifers to provide the required volumes of water at the expected usage rate. • Identify groundwater resources needed for the Project. • Describe the existing environment for surface water resources of the potentially affected area. Describe: ○ climate and meteorological conditions of the potentially affected area with reference to hydrological regimes, the frequency and severity of extreme weather conditions, such as storms and heavy rainfall ○ surface water catchment systems of the potentially affected area including detail on any waterways of significance, drainage patterns, flow variations and flooding • Provide a description of the existing regulatory framework for surface water and groundwater resources relevant to the Project, including any water allocation policies and plans. • Identify any land uses and declared beneficial uses of water in the potentially affected area that could be directly or indirectly affected by impacts on hydrological processes caused by the Project.
Potential significant impacts and risks	• Describe how the potentially affected area has been defined, as it relates to the hydrology of groundwater and surface water systems. • Identify, describe, and assess the potential significant impacts of the Project on groundwater systems and surface water systems in the potentially affected area due to: ○ extraction of groundwater ○ changes to the natural catchment and surface hydrology, for example from the creation of hardstand surfaces and other infrastructure through construction and operation of the Project. • Describe any uncertainties and further work required to increase understanding of potential significant impacts and reduce uncertainty. Where uncertainty remains, demonstrate how the precautionary principle has been applied (section 19 of EP Act).

Aspect	Specific information required
Avoidance, mitigation and management	• Outline the measures for avoiding or mitigating impacts identified above, with consideration of section 26 (Environmental decision-making hierarchy) and section 27 (Waste management hierarchy) of the EP Act and ensure that measures to enhance or restore environmental quality are included. • Outline the management plans and adaptive management strategies including trigger action response plans that would be implemented, and specify the associated performance indicators, timeframes for implementation, and the roles and responsibilities of the personnel involved.
Monitoring and reporting	• Provide details on proposed monitoring and reporting related to potential impacts and risks to hydrological processes. • Describe the framework to monitor the effectiveness of proposed management measures, including timeframes and key performance indicators for implementing the proposed measures. • Describe clear and measurable outcomes and commitments, indicators, trigger values and limits that will be used for monitoring, and how adaptive management actions will be initiated. • Describe which Project phase the proposed monitoring and reporting relates to (i.e. construction, commissioning, operations, decommissioning). Specify the timeframes for monitoring and reporting. • Demonstrate that proposed monitoring locations in the potentially affected area (e.g. bores, designated monitoring areas) are appropriately sited to monitor relevant events.
Residual impact	Assess the significance of any residual impact or risk of the Project on identified values.

2.8.4 Atmospheric processes

Table 2-6. Minimum information required for assessment of atmospheric processes

Aspect	Specific information required
NT EPA objective: *Minimise greenhouse gas emissions so as to contribute to the NT Government's aspirational target of achieving net zero greenhouse gas emissions by 2050.*	
Environmental values	Describe and assess the GHG emissions that would be generated by implementing the Project, and discuss the potential effect of the Project on the scale, magnitude, and trajectory of GHG emissions in the NT.
Potential significant impacts and risks	• Using Australian Government recognised emissions accounting methodologies provide estimates of the Project's Scope 1 and Scope 2 GHG emissions (e.g. land clearing, diesel exhaust during construction and operation) • Present the estimates as an inventory of projected annual emissions for each relevant GHG, for each fiscal year and total for the life of the Project, with emissions expressed in tonnes CO_2 equivalent (tonnes CO_2-e) • Describe any uncertainties and further work required to improve understanding of potential significant impacts and reduce uncertainty. Where uncertainty remains, demonstrate how the precautionary principle has been applied (section 19 of EP Act).

Aspect	Specific information required
	• Quantify the significance and extent of impacts, at the Project level and cumulatively, with use of and reference to relevant guideline thresholds.
Avoidance, mitigation and management	Describe any energy efficiency and mitigation and management measures that will be adopted during the design, construction, commissioning and operation phases of the Project to reduce or minimise GHG emissions to as low as reasonably practicable, and that demonstrate application of best practice - so as to contribute to the NT's target of net zero by 2050.
Monitoring and reporting	• Outline any proposed monitoring and reporting of GHG emissions. • Identify whether the Commonwealth *National Greenhouse and Energy Reporting Act 2007* Safeguard Mechanism obligations apply to the Project.
Residual impact	Describe the net contribution to the NT's GHG over the life of the Project.
Offsets	Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify any proposed GHG emission offsets and describe how any proposed offset is consistent with the NT Offset Framework (as published) and NT GHG emissions offsets policy.

2.8.5 Community and economy

Table 2-7. Minimum information required for assessment of community and economy

Aspect	Specific information required
NT EPA objective: *Enhance communities and their economy and foster resilience to a changing climate, for the welfare, amenity and benefit of current and future generations of Territorians.*	
Environmental values	Identify and describe the existing social and economic profiles, and the social and economic values and sensitivities, which could be affected by the Project.
Potential significant impacts and risks	• Identify, describe, and assess the potential significant social and economic impacts, along with the social and economic benefits, associated with the proposal for the local, regional and NT community and economy, with reference to relevant principles of ecologically sustainable development (sections 17 – 24 of the EP Act). • Provide an economic and social impact assessment in accordance with the NT EPA Guidelines for Economic and Social Impact Assessment including assessment of potential impacts, benefits and risks to local communities and the economy utilising modelling, outcomes of investigations, and/or other relevant information. • The assessment must quantify the significance of potential impacts and risks to communities and the economy. The assessment of each aspect should consider cumulative impacts and the reversibility of potential impacts. • Demonstrate that the assessment of the economic and social impacts and benefits of the Project is informed by an inclusive and collaborative community and stakeholder engagement and consultation process, including consultation with any relevant land users and appropriate Traditional Owners/Custodians. • Describe any uncertainties and further work required to improve understanding of potential significant impacts and reduce uncertainty. • Where uncertainty remains, demonstrate how the precautionary principle has been applied (section 19 of EP Act).

Aspect	Specific information required
	• Quantify the significance and extent of impacts, at the Project level and cumulatively, with use of and reference to relevant guideline thresholds.
Avoidance, mitigation and management	• Describe measures to avoid, mitigate and manage potential significant social and economic impacts, and to enhance benefits to the community and economy, over the life of the Project. • Describe how the views of stakeholders have been considered in proposed avoidance, mitigation and management measures.
Monitoring and reporting	Outline proposed monitoring and reporting activities related to potential significant impacts and benefits and that will be used to demonstrate and measure how enhancement of the community and economy is achieved.
Residual impact	• Assess the significance of any residual impact or risk to identified values and the acceptability of the residual impact to stakeholders.

2.8.6 Culture and heritage

Table 2-8. Minimum information required for assessment of culture and heritage

Aspect	Specific information required
NT EPA objective: *Protect sacred sites, culture and heritage.*	

Environmental values	• Identify the Traditional Owners of land within the Project Area.
	• Undertake a study to identify, describe and characterise existing Aboriginal and non-Aboriginal cultural heritage values (tangible and intangible) that may be affected by the Project, including but not limited to:
	  ○ Aboriginal sacred sites
	  ○ heritage places and objects
	  ○ cultural values associated with any Native Title claim applications and determinations in potentially affected areas
	  ○ cultural practice areas
	  ○ environmental values and areas important under Aboriginal tradition.
	• Justify the suitability of methods used to conduct studies, surveys and investigations to identify cultural heritage values. Results of studies undertaken are to inform the information provided in the EIS (e.g. archaeological and anthropological investigations and surveys, statutory/regulatory processes, consultations and other research).
	• Provide maps showing the location and extent of cultural heritage values within the Project Area (including sacred sites, heritage places and objects, Traditional Owner land and cultural practice areas). The maps of cultural heritage values must include the location and boundaries of each component of the Project.
	• Discuss the Commonwealth and NT legislation relevant to the identified culture and heritage values.
	• Describe any gaps, uncertainties and further work required to improve understanding of cultural heritage values and reduce uncertainty.

Potential significant impacts and risks	• Describe and assess the potential significant impacts on cultural heritage values from implementing the Project, including but not limited to: ○ direct and indirect disturbance to significant Aboriginal cultural heritage sites and values during construction, operation, and

Aspect	Specific information required
	maintenance activities including vegetation clearance, topsoil stripping and subsoil excavation ○ direct and indirect disturbance to traditional and/or contemporary Aboriginal values (including sacred sites) or uses of land (e.g. hunting and ceremonial use) due to construction, operation or maintenance activities ○ direct and indirect disturbance to non-Aboriginal cultural heritage sites and values during construction, operation, and maintenance activities including vegetation clearance, topsoil stripping and subsoil excavation ○ change or permanent land use restrictions in areas of Project infrastructure ○ tangible and intangible impacts to cultural values and landscapes due to cultural connection to country and potential disturbance to flora and fauna, ecosystems, landscapes and landforms from construction, operation or maintenance activities • Provide details of consultation with the Aboriginal Areas Protection Authority, DLPE Heritage Unit, Traditional Owners and their representatives regarding potential significant impacts to sacred sites, and heritage places and objects, including identification of participants, and results of consultation. • Provide an Authority Certificate (if one has been obtained) or clarify if an application has been made under the *Northern Territory Aboriginal Sacred Sites Act 1989* that covers the Project Area and proposed activities during all phases of the Project (i.e. construction, commissioning, and operation). • Present information in accord with the wishes of Aboriginal stakeholders regarding the confidentiality of cultural information and traditional knowledge, noting the Proponent may request that identified information not be made public in accordance with section 281(2)(b) of the EP Act. • Assess the potential cumulative impacts to cultural heritage values from the Project and other activities in the region. Describe any uncertainties and further work required to improve understanding of potential significant impacts and reduce uncertainty. Where uncertainty remains, demonstrate how the precautionary principle has been applied (section 19 of EP Act).
Avoidance, mitigation and management	• Outline the measures for avoiding and mitigating the impacts identified above, with consideration of section 26 (environmental decision-making hierarchy) and section 27 (waste management hierarchy) of the EP Act. • Include a protocol for the unexpected discovery of cultural artefacts, human remains and other archaeological features during construction.
Monitoring and reporting	• Outline proposed methodology and timeframes for monitoring and reporting activities related to potential significant impacts and risks to cultural heritage values. • The proposed monitoring and reporting must specify which Project phase it relates to (i.e. construction, commissioning, or operation). • Explain how the proposed monitoring and reporting responds to advice from relevant government advisory agencies, Native Title holders, Traditional Owners and/or their representatives. • Describe clear and measurable outcomes and commitments for the protection of cultural heritage values.

Aspect	Specific information required
Residual impact	Determine whether there are likely to be any significant residual environmental impacts or risks to identified cultural heritage values.

2.9 Matters of national environmental significance

The EPBC Act provides for the Commonwealth to accredit NT EPA assessments of proposals under the EP Act. There is potential for the Project to impact on the following MNES:

- Listed threatened species and communities (sections 18 and 18A).

Energy North will submit a referral for consideration under the EPBC Act. In anticipation of a controlled action decision, the draft EIS must address all relevant MNES and explain how adequate consideration has been given to the conservation advice for each EPBC Act listed species that are known or likely to be impacted, and Australia's obligations under international conventions and agreements.

The draft EIS must include the following detail:

- a list of any matter protected by the controlling provisions that are known or likely to occur within the Project Area according to the PMST (using a buffer of at least 5 km)
- a list of the relevant policy and guidance for the MNES, including discussion of how the Project is consistent with any guidelines, threat abatement plans, bioregional plans or recovery plans
- discussion should address uncertainty (where applicable) and in the absence of information about impacts a precautionary approach should be applied and the maximum potential impact assumed
- a significant impact assessment for the relevant protected matters using the Significant Impact Guidelines 1.1 to determine the level of significance of the impact on the MNES
- description of proposed avoidance and mitigation measures, including discussion of how the mitigation hierarchy has been applied
- assurance that avoidance, mitigation and management measures are aligned with the requirement of all EPBC Act relevant policy and guidance
- a summary of whether offsets are required in relation to the MNES and if so, details of the proposed offset and how the offset addresses the Australian Government's Environmental Offset Policy.

The draft EIS must include a discussion of how the Project meets the principles of ecologically sustainable development, as defined under section 3A of the EPBC Act.

3 OTHER ENVIRONMENTAL FACTORS AND MATTERS

3.1 Stakeholder engagement and consultation

Proponents have a general duty under section 43 of the EP Act to provide communities and stakeholders that may be affected by a proposal with an opportunity for consultation to assist community understanding of a proposal and its potential significant impacts and benefits. If an impact or benefit is uncertain, this must be clearly stated.

The Proponent must engage and consult with stakeholders[2] who are affected by and interested in the Project. The Proponent must document the following in the EIS:

- The Proponent's approach to stakeholder engagement and consultation for the life of the Project, through provision of a stakeholder engagement plan, including demonstration that this is consistent with the NT EPA's guidance for proponents: Stakeholder Engagement and Consultation and aligns with best practice guidance.
- A summary of information presented in the referral on consultation, including identified stakeholder groups, issues raised, and adjustments made to the Project because of consultation.
- Details of further stakeholder engagement and consultation undertaken on the Project during the EIS phase including:
    - the engagement approach
    - any additional identified stakeholders
    - methods use for the communication with stakeholders and how Project information was disseminated
    - how stakeholder input was invited
    - how any new information on the potential significant impacts/benefits of the Project were communicated (if necessary)
    - issues raised in consultations
    - any adjustments to the Project because of consultation.

The Proponent must recognise the role and interests of Aboriginal stakeholders, promote the conservation and ecologically sustainable use of natural resources, and seek to:

- obtain the views of any group of Aboriginal stakeholders directly affected
- promote the cooperative use of Aboriginal stakeholders' knowledge of biodiversity and Aboriginal heritage, and
- where it is appropriate, treat the views of Aboriginal stakeholders as the primary source of information on the value of Aboriginal cultural heritage.

Aboriginal stakeholders must include:

- Native Title claimants (claims under consideration and decided) with Native Title rights and interests within the potentially affected area

[2] As defined in the NT EPA Guidance for Proponents – Stakeholder Engagement and Consultation

- Traditional Owners of land within the potentially affected area.

3.2 Public consultation requirements

The public consultation requirements for the EIS are outlined in Part 5 Division 6 of the EP Regulations. Additional specific details are provided below.

3.2.1 Submission period

The submission period under the EP Act during which feedback can be given on the draft EIS is between 30 and 60 business days. The duration of the period will be confirmed during the draft EIS pre-lodgement phase.

3.2.2 Form and manner for publication

The draft EIS must:

- be divided into two parts at a minimum:
  - a main report (with executive summary available as separate document)
  - appendices to the main report.
- have a navigable table of contents
- present information in format that is easy to follow
- use hyperlinks to assist with navigation through the document
- generally conform with the web content accessibility guidelines (WCAG) 2.0 level AA and material relevant to creating accessible documents on the NT Government Website.

3.2.3 Public consultation locations

The draft EIS is to be made available in hard copy for public consultation during the submission period at:

- NT EPA, Level 1, Arnhemica House, 16 Parap Road, Parap, NT 0820
- Northern Territory Library, Parliament House, Darwin, NT 0800
- Environment Centre Northern Territory, Unit 3, 98 Woods St, Darwin, NT 0800
- Northern Land Council, 45 Mitchell Street, Darwin, NT 0800
- Barkly Regional Council, 41 Peko Road, Tennant Creek, NT 0860
- Elliott Post Office, 83 Stuart Highway, Elliott, NT 0862