

02

Regulatory context

2. Regulatory context

2.1 Commonwealth legislation

2.1.1 Aboriginal Land Rights (Northern Territory) Act 1976 (Cth)

The *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) (Land Rights Act) governs the grant and administration of Aboriginal land in the Northern Territory. Aboriginal land is a form of freehold estate vested in Aboriginal Land Trusts. The Land Rights Act empowers Land Councils to administer Aboriginal Land Trusts and provides that Land Councils are to consult traditional Aboriginal owners in relation to proposals that affect Aboriginal land.

Subject to Commonwealth powers, an estate or interest in Aboriginal land, or an exploration licence / permit affecting Aboriginal land, may only be granted with the consent of the relevant traditional Aboriginal owners of that Aboriginal land (Sections 19 and 40). The Land Rights Act also mandates the protection of sacred sites.

Each of the Northern Territory's four Land Councils also has statutory functions with respect to land within their administrative boundary. The functions of a Land Council include:

- assisting Aboriginals in taking measures likely to assist in the protection of sacred sites
- protecting the interests of traditional Aboriginal owners in land
- ascertaining and expressing the wishes and the opinion of Aboriginals living in the area of the Land Council with respect to land (Section 23).

The subject area is within the administrative boundary of the Central Land Council (CLC). The CLC has recorded sacred sites in the subject area.

The subject area is not located on Aboriginal land.

2.1.2 Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) (ATSIHP) assists in the preservation and protection of Indigenous heritage.

ATSIHP empowers the Federal Minister administering the Act to make declarations to preserve and protect from a threat of injury or desecration those areas and objects of particular significance to Aboriginals in accordance with Aboriginal tradition (Section 4). An Aboriginal person or group can make an application to the Minister and the Minister may make an emergency declaration or a declaration for any period of time (Sections 9-12). The Minister's decision is personal and discretionary.

The Federal Minister must not make a declaration under ATSIHP if satisfied that a State or Territory law provides effective protection of areas or objects from threats (Section 13). ATSIHP is therefore only relevant where the relevant State or Territory's Aboriginal heritage protection regime is inadequate.

No places within the subject area are currently subject to a declaration under ATSIHP.

2.1.3 Atomic Energy Act 1953 (Cth)

The *Atomic Energy Act 1953* (Cth) (AE Act) vests ownership in the Commonwealth of prescribed substances located in the Northern Territory (Section 35). Prescribed substances are uranium, thorium, *and* similar radioactive substances including associated derivatives or compounds, *or* otherwise as prescribed by regulation (Section 5).

The AE Act also regulates the discovery of prescribed substances in the Northern Territory including making it an offence not to provide notification of such discoveries to the relevant Federal Minister (Section 36).

The Federal Minister has powers under the AE Act to require a person to report on prescribed substances within a person's control, on a person's land or in relation to work carried out in connection with the production or use of prescribed substances (Section 37).

2.1.4 Australian Jobs Act 2013 (Cth)

The *Australian Jobs Act 2013* (Cth) requires major projects, both private and public, with a capital expenditure of \$500 million or more to develop an Australian Industry Participation (AIP) plan and provide it to the Australian Industry Participation Authority (AIPA). There are also requirements to notify the AIPA about the project, project proponents and certain events. The definition of eligible facility (section 6) may apply to the project.

An AIP is required to be lodged at least 90 days before the trigger date, defined to mean the earliest trigger event (Section 13). Trigger events include developing diagrams, developing flow diagrams, contracting/procurement, preparing an equipment list, sourcing or scoping goods and services, or making an environmental submission in relation to a project (Section 13(4)).

2.1.5 Australian Radiation Protection and Nuclear Safety Act 1998 (Cth)

The *Australian Radiation Protection and Nuclear Safety Act 1998* (Cth) establishes the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) to regulate Commonwealth activities that raise radiation protection or nuclear safety concerns. ARPANSA develops standards, codes or practice and guidelines for radiation protection and management. These issues are addressed in Chapter 12 and Appendix P.

2.1.6 Environment Protection and Biodiversity Conservation Act 1999 (Cth)

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) requires a person not to take an action that has or will have a significant impact on a Matter of National Environmental Significance (MNES) unless that action is approved. An action means any project, development, undertaking or any activity or series of activities (Section 523).

This project will not affect any of the following MNES (Chapter 2, Part 3):

- World Heritage properties,
- National Heritage places,
- wetlands of international importance,
- migratory species protected under international agreements,
- Commonwealth marine areas,
- the Great Barrier Reef Marine Park
- a water resource in relation to coal seam gas development.

The project (proposed action) was referred to the Commonwealth Department of the Environment (DotE) on 18 February 2015. On 16 March 2015 the Commonwealth Minister for the Environment determined that the action was a "controlled action" and required formal assessment and approval under the EPBC Act. Reasons included:

- the proposed action may affect listed threatened species and communities (sections 18 and 18A) including the listed vulnerable Black-Footed Rock-Wallaby (*Petrogale lateralis*) – MacDonnell Ranges Population, Greater Bilby (*Macrotis lagotis*) and Great Desert Skink (*Liopholis kintorei*)
- the proposed action is a nuclear action (sections 22 (1) (a) and (e)) due to the presence of certain minerals.

The bilateral agreement between the Commonwealth and the Northern Territory allows a single environmental impact statement process to be undertaken under the *Environmental Assessment Act* (NT) and the *Environmental Assessment Administrative Procedures* (NT) and for each jurisdiction (the Territory and the Commonwealth) to consider the results from such assessment and suggest conditions (in the case of the Territory) or impose conditions (in the case of the Commonwealth).

This EIS is submitted to the NT EPA and DoE for assessment in accordance with relevant legislation.

Listed threatened species and communities (sections 18 & 18A)

Listed threatened species and communities protected under the EPBC Act include species and communities that are considered to be extinct, extinct in the wild, critically endangered, endangered, vulnerable or conservation dependent. The impact and proposed mitigation measures proposed for the listed threatened species and communities are separately addressed in Chapter 9 of this EIS.

Nuclear Actions (sections 21 & 22A)

The impact of the project as a nuclear action is considered to impact the environment in a more holistic manner, and as such, has been addressed throughout the EIS. Refer to Chapters 9 and 12 for more information.

2.1.7 National Greenhouse and Energy Reporting Act 2007 (Cth)

Corporate entities, corporate groups or entities that have operational control of facilities are required to be registered (Section 12) and report emissions and energy use (Section 19) if such emissions or use exceeds statutory thresholds contained in the *National Greenhouse and Energy Reporting Act 2007* (Cth) (NGERA).

A facility emitting more than 25,000 tonnes of carbon dioxide equivalent, producing 100 terajoules of energy, or using more than 100 terajoules of energy annually is required to report under the NGERA (Section 13). A corporate group emitting more than 50,000 tonnes or carbon dioxide equivalent, producing 200 terajoules of energy, or using more than 200 terajoules of energy annually is required to report under the NGERA (Section 13).

2.1.8 Native Title Act 1993 (Cth)

The *Native Title Act 1993* (Cth) (NTA) provides for the recognition and protection of native title.

The grant of a mineral lease on an area where native title has been determined to exist (or where such area is subject to a registered native title claim) is a future act (Section 233) and will trigger the 'right to negotiate' process (Part 2, Division 3, Subdivision P).

The right to negotiate process requires good faith negotiations between the proponent, government party and native title party (together, the negotiation parties) with a view to obtaining the agreement of the native party to the doing of the future act or the doing of the future act subject to conditions (Section 31). In some circumstances, there may be more than one native title party.

If agreement is reached, the negotiation parties will execute an agreement in accordance with Section 31(1)(b) of the NTA and the future act will be valid for the purposes of the NTA. A copy of such agreement is to be provided to the National Native Title Tribunal (NNTT) (Section 41A).

If more than 6 months have passed since notice of the future act was made under the NTA (Section 29), and no agreement has been reached following good faith negotiations, any party may apply to the NNTT for a determination that the future act may be done, done with conditions, or may not be done (Section 38). In the event that the NNTT is required to make such a determination, the NNTT is obliged to consider the criteria listed in Section 39 of the NTA, which include:

- The effect of the act on the native title party, their rights, their sites, land and waters, access to their lands and waters, way of life, culture, traditions and the development of the native title party
- The interests, opinions, and wishes of the native title party in relation to the management, use or control of land and waters affected by the future act
- The economic or other significance of the future act to the State / Territory or Australia
- The public interest in the doing of the act and
- Any other matter the NNTT considers relevant.

The NTA also provides for Indigenous Land Use Agreements (ILUA). An ILUA may provide for the non-application of the 'right to negotiate' process and include consents to the doing of future acts (or validate certain historical acts). NT An ILUA that has the effect of a contract between the parties and an ILUA that is registered in accordance with the NTA has the effect that all persons holding native title in relation to any area covered by the ILUA will be bound by the agreement (whether or not they are a party to the agreement) (Section 24EA).

The future act subdivision of the NTA also mandates certain processes of notification, consultation and or consideration of comments in relation to other types of future acts. Notification under Section 24MD of the NTA is likely to be relevant to the project in respect of infrastructure related mineral leases and access authorities.

A search of the National Native Title Tribunal Registers was undertaken on 12 May 2015. There is one native title determination covering part of the subject area, and two registered claimant applications.

2.2 Northern Territory legislation

2.2.1 Bushfires Act

The *Bushfires Act* relates to the prevention and suppression of bushfires. In the event Arafura requires controlled burning Arafura will seek a permit through Bushfires NT.

2.2.2 Control of Roads Act

The *Control of Roads Act* provides for the processes of opening and closing roads in the Northern Territory. Any public or gazetted roads that will be opened or closed as a result of construction or operations for the project will be subject to the provisions of this Act.

2.2.3 Dangerous Goods Act

The movement and handling of explosives and fuel gas is governed by the *Dangerous Goods Act* and the Dangerous Goods Regulations.

This legislation applies to the project as dangerous goods will be handled during construction and operation of the project. Arafura will obtain licences for storage or transportation of any dangerous goods, and project blasting permits if required.

2.2.4 Environmental Assessment Act and Environmental Assessment Administrative Procedures

In March 2008, the Proponent submitted a Notice of Intent to the former NT Department of Natural Resources, Environment and the Arts for consideration under the *Environmental Assessment Act* (EA Act). The then Minister decided that the project required assessment under the EA Act at the level of an Environmental Impact Statement (EIS).

Terms of Reference (TOR) for the EIS were issued by Northern Territory Environment Protection Authority (NT EPA) in May 2015. In summary, these detailed the scope and limitations of the proposed project in specific relation to regulatory context, existing environment, risk assessment and environmental management. This EIS addresses the TOR. This EIS is submitted to the NT EPA and DoE for assessment in accordance with relevant legislation and the requirements of the EA Act and the associated EA *Administrative Procedures*.

2.2.5 Heritage Act

The *Heritage Act* provides a system for the identification, assessment, protection and conservation of the Northern Territory's natural and cultural heritage. Under the *Heritage Act*, if any archaeological places or objects are to be disturbed, permission must be sought to carry out work on a heritage place or object. An application must be made with the consent of the owner of the place or object.

GHD contracted Archaeological & Heritage Management Solutions to undertake an impact assessment of any historic and cultural heritage items within the vicinity of the project (see Appendix U). Four archaeological surveys were conducted between 2006 and 2015 and have been referred to in preparation of the heritage section of the EIS. A Cultural Heritage Management Plan (CHMP) has been prepared and included in Appendix U.

A search of the NT Heritage Register was undertaken on 21 May 2015. Three places in the vicinity of the subject area are declared heritage places. Of these, Aileron Homestead and Ryan Well Historical Reserve are the closest, being located within 10 kilometres of the subject area.

Arafura intends to where necessary:

- Establish exclusion zones prior to commencement of the construction phase of the project
- Ensure any necessary archival recording and artefact collection takes place in accordance with legislation
- Consult with traditional owners (see Appendix U).

2.2.6 Liquor Act

The *Liquor Act* regulates the sale, provision and consumption of liquor. Any liquor provided at the project site will require licensing.

2.2.7 Mineral Royalty Act

The *Mineral Royalty Act* imposes royalties on minerals recovered in the Northern Territory and will apply to the project.

2.2.8 Mineral Titles Act and Mineral Titles Regulations

The *Mineral Titles Act* (MT Act) and the *Mineral Titles Regulations* establish a framework for granting and regulating mineral titles that authorise exploration for and extraction and processing of, minerals and extractive minerals.

Arafura requires a mineral lease for the proposed project under the MT Act. In February 2008, Arafura applied for a mineral lease under sections 41 and 66 of the MT Act, covering the Nolans Bore area and immediate surrounds (ML 26659; 1,404 hectares). Title will not be granted to ML 26659 until compliance with the aforementioned NTA processes have been completed.

Since 2008, the Nolans Bore mineral resource has approximately doubled and project requirements have altered, resulting in an expanded footprint to include a borefield, a downstream chemical processing operation and an accommodation village. As a result, additional mineral lease applications have been lodged with the NT Department of Mines and Energy (DME) to accommodate the expanded footprint. Land tenure details are described and illustrated in Chapter 1 of this EIS.

Arafura will report to the Minister about the activities conducted under the mineral lease and will require written consent if it wishes to disturb improvements on land in the title area or damage or otherwise disturb a Northern Territory or council road.

2.2.9 Mining Management Act and Mining Management Regulations

The *Mining Management Act* (MM Act) and the Mining Management Regulations regulate mining activities and the management of mining sites. The legislation is administered by the DME.

An operator of a mining site that proposes to undertake works that would cause “substantial disturbance” (as defined in the MM Act) requires an authorisation under the MM Act (Section 35). An application for an authorisation must include a Mining Management Plan (MMP) (Section 36). The MMP must describe the mining activities proposed and management systems to protect the environment, health and safety, details of ownership, plans for the mine workings and infrastructure, and a plan and costing of closure activities (Section 40).

Section 43 of the MM Act provides that an operator who carries out mining activities under an authorisation must provide a security to the Minister to secure compliance with the MM Act and cover the costs and expenses of preventing, minimising or rectifying environmental harm caused by mining activities.

A draft Environmental Management Plan (EMP) has been submitted as part of this EIS in Appendix X. An approved MMP will be required prior to commencement of proposed works if the project is approved.

A draft Rehabilitation, Decommissioning and Closure Plan has been prepared and is the first iteration of the plan for closure as required under the MM Act. It is important to note the plan will be reviewed and updated throughout the life of the project. Closure criteria have been developed as part of the Mine Rehabilitation Closure Plan and are set out in Chapter 18. A Certificate of Closure would be required based on achievement of closure criteria.

2.2.10 Northern Territory Aboriginal Sacred Sites Act

The *Northern Territory Aboriginal Sacred Sites Act* (Sacred Sites Act) protects sacred sites. It does this by establishing a procedure for the registration of sacred sites, and establishing a procedure for the avoidance and/or protection of sacred sites in the development and use of land.

Under the Sacred Sites Act, an Authority Certificate can be issued by the Aboriginal Areas Protection Authority (AAPA) that provides legal indemnity against possible prosecution in relation

to damage to sacred sites resulting from the works or uses covered by the certificate, so long as any conditions imposed are followed. AAPA administers authority certificates in consultation with the relevant custodians under the Sacred Sites Act.

Arafura has undertaken sacred site clearances with AAPA, and authority certificates were issued in 2008 (C2008/205) and 2013 (C2013/205). Copies of the authority certificates are attached to the historic and cultural heritage report in Appendix U of the confidential report issued to the NT EPA.

2.2.11 Northern Territory Environment Protection Authority Act

The *Northern Territory Environment Protection Authority Act* establishes the Northern Territory Environment Protection Authority (NT EPA) as an independent regulatory authority with duties and functions under the *Waste Management and Pollution Control Act* and the EA Act.

2.2.12 Planning Act

The *Planning Act* (and the Planning Scheme made under that Act) does not apply to the conduct of mining activity under any mining interest (where the terms "mining activity" and "mining interest" have the same meaning as in the MM Act).

The land use controls under the *Planning Act* and the related Planning Scheme do not apply to unzoned land where activities are proposed to be undertaken. Exceptions, where consent is required, include a subdivision of land, a clearance of in excess of one hectare of native vegetation that is not otherwise controlled by legislation, or (in certain circumstances) the use or development of land within 500 metres of a designated road.

Proposals for logistical support infrastructure in Darwin and/or Alice Springs may fall under the *Planning Act* and will be subject to a separate approvals process.

2.2.13 Public and Environmental Health Act and Public and Environmental Health Regulations

The *Public and Environmental Health Act* (PEHA) and *Public and Environmental Health Regulations* (PEHR) are applicable to the project, in particular, the associated accommodation.

All sewage systems installed as part of mining operations must be approved by the Department of Health. Waste water treatment systems at the accommodation village may be subject to requirements under the PEHA and the PEHR.

Water bores outside a water control district are also required to be notified to the Department of Health.

The project will address these objectives and ensure the requirements of the applicable legislation are met. Additional information regarding human health and safety is detailed in Chapter 11 of this EIS.

2.2.14 Radiation Protection Act

Under the *Radiation Protection Act* (RPA), a person must not manufacture, sell, acquire, possess, use, store, transport, dispose of or otherwise deal with a radiation source other than in accordance with a licence authorising the person to do so.

Part 3 of the RPA stipulates that the operator of the mine site must monitor exposure to radiation and report to the CEO of ARPANSA and the Chief Health Officer.

Arafura will submit an application for a licence and will monitor the radiation, details of which are described in Chapter 12 of this EIS. The operation of the project will be regulated as a radiation practices under the RPA and under the requirements of the MM Act and *Work Health and Safety Act 2011* (refer Chapter 12).

2.2.15 Soil Conservation and Land Utilisation Act

The main purpose of this Act is to prevent soil erosion and conserve and reclaim the soil. To minimise impacts on soil erosion, an erosion and sediment control plan and mine closure plan have been prepared (see Appendix W) to meet the objectives of this Act.

2.2.16 Territory Parks and Wildlife Conservation Act

The *Territory Parks and Wildlife Conservation Act* (TPWC Act) protects *Territory* parks and reserves, animals and plants (including wildlife and protected wildlife).

The TPWC Act defines wildlife as that being in a park, reserve, sanctuary, wilderness zone or area of essential habitat, or is a vertebrate that is indigenous to Australia (other than fish), or is specifically prescribed as being protected by the TPWC Regulations. The TPWC Act prohibits the intentional killing of any terrestrial or marine vertebrate (with the exception of fish).

All threatened species are classed as protected wildlife. The TPWC Act precludes the taking of and interference with protected species of wildlife. The TPWC Act includes “Principles of Management”. These require that a threatened species be managed in a manner that “maintains or increases their population or the extent of their distribution at or to a sustainable level”. Threatened species are defined under the regulations as being species that are ‘extinct’, “critically endangered”, “endangered” and “vulnerable”.

The TPWC Act lists those species of plants and animals that are protected within the Northern Territory. Under the TPWC Act, permits will be required to take or interfere with protected plants or animals. This may apply if protected plants or animals are encountered during the project’s life. TPWC listed species and the associated impacts and mitigation measures are detailed in chapters 9 and 10 of this EIS and Appendix M and N.

2.2.17 Traffic Act

The *Traffic Act* requires that consent be obtained prior to the erection and operation of traffic control devices if required by the project, including during the construction phase.

2.2.18 Transport of Dangerous Goods by Road and Rail (National Uniform Legislation) Act & Regulation

The movement and handling of chemicals outside of workplaces is governed by the *Transport of Dangerous Goods by Road and Rail (National Uniform Legislation) Act* (TDG Act) and the Transport of Dangerous Goods by Road and Rail (National Uniform Legislation) Regulations (TDG Regulations).

The TDG Act creates certain offences in relation to the movement of dangerous goods including:

- Failure to hold a dangerous goods driver's licence
- Transporting goods too dangerous to be transported
- Failure to transport dangerous goods in a safe way.

The TDG Regulations also creates a number of specific offences, including:

- The sale or supply of dangerous goods in non-compliant packaging
- Labelling dangerous goods incorrectly
- Failure to segregate dangerous goods from food or food packaging.

This legislation applies to the project as dangerous goods will be handled and transported during construction and operation of the project. The appropriate licences will be acquired and the legislation adhered to.

2.2.19 Waste Management and Pollution Control Act & Waste Management and Pollution Control (Administration) Regulations

The *Waste Management and Pollution Control Act* (WMPCA) is the primary piece of environmental protection legislation in the Northern Territory. The WMPCA:

- imposes general environmental duties
- requires the licensing of certain activities
- establishes offences relating to the environment
- contains material enforcement, penalty and extension of liability provisions.

The WMPCA does not apply to a contaminant or waste resulting from a mining activity (as that term is defined in the MM Act) that is confined within the land on which the mining activity is being carried out.

This EIS addresses waste in Appendix X.

2.2.20 Water Act

The *Water Act 2004* provides for the investigation, allocation, use, control, protection, management and administration of surface and groundwater resources, as well as the administrative process for licensing these activities and related purposes.

Pursuant to Section 7 of the *Water Act*, mining activities (as defined by the MM Act) or another activity for a purpose ancillary to that mining activity, including the use of water as drinking water, are exempt from a number of provisions of the Act, including Parts 5 and 6 regarding surface water and ground water respectively.

2.2.21 Weeds Management Act

The *Weeds Management Act* (WM Act) aims to prevent the spread of weeds and to ensure that the management of weeds is an integral component of land management. This is to be conducted in accordance with the Northern Territory Weeds Management Strategy 1996-2005 (NRETA, date unknown) and any other current strategy adopted to control weeds in the Territory.

Noxious Weeds

Declared noxious weeds in the NT are plants proclaimed under the WM Act. The legislation requires that reasonable attempts be made to control or eradicate these species. Categories of noxious weeds include the following:

- Schedule Class A/C Weeds: These plants do not occur in the NT but pose a significant threat if they invade or if present, pose a serious threat. Reasonable effort must be made to eradicate these weeds
- Schedule Class B/C Weeds: These weeds often occur widely in the NT. They are capable of spreading further and should be prevented from doing so. Continuing control measures are required to prevent their spread. Reasonable attempts must be made to contain the growth and prevent the movement of these plants
- Schedule Class C Weeds: This category includes plants that pose an unacceptable risk of spreading in the Territory or to other parts of Australia if they were to be sold or traded in the NT and are a serious threat to another State or Territory of Australia. All schedule Class A and B weeds are considered to be Class C weeds.

The manager of the project site will be responsible for the management of weeds in accordance with the WM Act.

One noxious weed (*Tribulus terrestris*) was recorded within the study area. This plant will be controlled in accordance with the WM Act, as detailed in Chapter 9 and the Weed Management Plan contained in Appendix X of this EIS.

2.2.22 Work Health and Safety (National Uniform Legislation) Act 2011 & Work Health and Safety (National Uniform Legislation) Regulation 2011

The Work Health and Safety (National Uniform Legislation) Act 2011 (WHS Act) and Work Health and Safety (National Uniform Legislation) Regulations (WHS Regulations) regulates health and safety in the workplace.

The WHS Act requires the submission of a Risk Management Plan to NT WorkSafe covering the occupational health and safety aspects of the operation. The WHS Act also requires incident notification and compliance with health and safety duties.

Activities on the project site will be conducted in accordance with a Risk Management Plan approved and certified in accordance with Chapter 10 of the WHS Regulations.

If any facilities proposed as part of the project use above certain minimum quantities of specified chemicals the project may be considered to be a Major Hazard Facility and require licensing under Chapter 9 of the WHS Regulations.

The WHS Regulations apply to the use, handling and storage of hazardous chemicals at a workplace. In accordance with the WHS Regulations, Arafura will when necessary maintain a Hazardous Materials chemical register and use material safety data sheets.

2.3 Local government requirements

The project area is within the jurisdiction of the Central Desert Regional Council, covered by the Local Government Regional Management Plan for the Central Australian Region. The Local Government Regional Management Plan is a statutory instrument under part 3.1 of the *Local Government Act* (NT). Arafura will adhere to relevant Regional Council bylaws or requirements.

2.4 Policies and guidelines and standards

2.4.1 Northern Territory Environmental Protection Authority Assessment Guidelines

The NT EPA issues assessment guidelines to assist proponents in understanding and complying with the information requirements for the environmental impact assessment process. The guidelines relevant to the project are:

- Guidelines for the Preparation of an Economic and Social Impact Assessment
- Guideline for the Preparation of an Environmental Management Plan
- Environmental Assessment Guidelines on Acid and Metalliferous Drainage
- Guidelines on Conceptual Site Models
- Guidelines for Assessment of Impacts on Terrestrial Biodiversity
- Guidelines for Consultants Reporting on Environmental Issues
- Guidelines on Environmental Offsets and Associated Approval Conditions.

An Economic Impact Assessment (Appendix T), Social Impact Assessment (SIA) (Appendix S) and EMP (Appendix X) have all been prepared in accordance with the above guidelines and are included as part of this EIS.

2.4.2 Mine closure guidelines

Mine closure guidelines include the following:

- **Guidelines for Preparing Mine Closure Plans (Western Australia Department of Mines and Petroleum 2015)** - The DME published guidelines on 'Mine Closure and Completion' and 'Mine Rehabilitation' in November 2006. GHD understands that these documents have been withdrawn and are being updated.
- In the absence of NT guidelines, the Western Australia 'Guidelines for Preparing Mine Closure Plans, May 2015' are used.
- The content and scope of the Mine Rehabilitation, Closure Plan (MRCP) follows the requirements of the WA guidelines.
- **Rehabilitation and Closure Requirements for the Extractive Industry** – Provides an advisory note outlining the minimum rehabilitation and closure requirements for the extractive industry.
- **Code of Practice and Safety Guide -Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (ARPANSA 2005)** - Provides guidance on the safe management of radioactive materials during the operation and closure of mining and mineral processing activities.
- **Strategic Framework for Mine Closure (ANZMEC 2000)** - Presents a high level framework for the development of mine closure planning. The Nolans MRCP is within this framework.
- **Leading Practice Sustainable Development Program for the Mining Industry – Mine Closure and Completion (DRET, 2006)** - Provides guidance and Case Studies on sustainable approaches to mine closure across Australia.

- **Environmental Notes on Mining, (Western Australia Department of Mines and Petroleum updated September 2009)** - A Care and Maintenance Plan is required as part of the MRCP (see Appendix W). This is informed by the requirements and advice in this guidance note.
- **TEAM NT: Technologies for the Environmental Advancement of Mining in the Northern Territory Toolkit (NTMC and DMPM, 2004)** - Guidance and discussion of challenges specific to mining and mine closure in the Northern Territory.
- **Mine Close-out Objectives, Life of Mine Planning Objectives. NT DME 2006** - Sets out general requirements for setting closure objectives for mines in the Northern Territory. (refer Appendix W and X)

2.4.3 Other guidelines

Other guidelines that may be applicable to the project include:

- Department of Sustainability, Environment, Water, Population and Communities *Survey Guidelines*
- Department of the Environment *Significant Impact Guidelines*
- The Australian and New Zealand Environment Conservation Council (ANZECC) *Guidelines for fresh and marine water quality*
- Australian National Committee on Large Dams Incorporated (ANCOLD)
- International Atomic Energy Agency (IAEA) *Management of Radioactive Waste from the Mining and Milling of Ores Safety Guide WS-G-1.2*
- Mineral Council of Australia 2014 *Water Accounting Framework for the Minerals Industry*
- Northern Territory Department of Health 2014 Environmental Health Fact Sheet 700 *Requirements for Mining and Construction Projects*
- The Department of Land Resource Management (DLRM) *Guidelines and Field Methodology for Vegetation Survey and Mapping*
- Threat Abatement Plans, Recovery Plans and Survey Guidelines
- Department of Health *Guidelines for Preventing Mosquito Breeding Sites Associated with Mining Sites*
- Managing Acid and Metalliferous Drainage (DITR, 2007) and
- The Global Acid Rock Drainage Guide (INAP, 2011).

2.4.4 Australian Standards

The Australian Standards which are applicable to the project include:

- AS/NZS 4801:2001 Occupational health and safety management systems - Specification with guidance for use
- AS/NZS ISO 31000:2009 Risk Management
- AS/NZS 4360:2004 Risk Management
- AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines;
- AS2885 design, construction, testing, operations and maintenance of gas and petroleum pipelines that operate at pressures in excess of 1050kpa
- HB 436:2004 Risk Management Guidelines.

2.5 Environmental history

2.5.1 Proceedings

Arafura has no proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources. Similarly, there are no proceedings relating to the exploration activities to date (February 2016).

2.5.2 Association with the Mining Management Act

Arafura has MLs and ELs (as described in Chapter 1 of this EIS) under the MT Act which are associated with the MM Act.

2.5.3 Accreditations

Arafura has been operating in the Northern Territory since the late 1990s and has established and maintained good professional working relationships with NT regulators. Arafura has developed management system processes and protocols to guide and manage its exploration activities. These are not yet refined to a point where they comply with International Standard certified management systems. As Arafura transitions to the construction and operational phase of the project, it intends to design and roll out its final operating management system.

Arafura's activities and systems are based on the management of risk. Arafura has developed risk management, safety and environmental management plans, and all safety, environmental and community related incidents are routinely recorded. Meetings are convened on a regular basis with all key stakeholder groups to report on current and planned activities. Audits are also completed when operational activities occur at the Nolans site.

2.6 Ecologically sustainable development

As defined by the Commonwealth Government in 1990, Ecologically Sustainable Development (ESD) in Australia can be seen as:

'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'

The National Strategy for Ecologically Sustainable Development (Department of the Environment, 1992) was developed to encourage the sustainable use of Australia's natural resources for economic purposes whilst simultaneously increasing the range, variety and quality of the resource.

The guiding principles of ecologically sustainable development are:

- Precautionary principle: namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- Inter-generational equity: namely, that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations
- Conservation of biological diversity and ecological integrity; namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration
- Improved valuation, pricing and incentive mechanisms: namely, that environmental factors should be included in the valuation of assets and service.

The main challenge to ESD in relation to the proposal is the management of the renewable and non-renewable resources on which the mining industry depends. The main objectives listed in the strategy include:

- to ensure mine sites are rehabilitated to sound environmental and safety standards, and to a level at least consistent with the condition of surrounding land
- to provide appropriate community returns for using mineral resources and achieve better environmental protection and management in the mining sector
- to improve community consultation and information, improve performance in occupational health and safety and achieve social equity objectives.

As per the Arafura's 2014-2015 Sustainability Report (Arafura 2015):

- Arafura endeavours to minimise the production of waste products during its exploration activities. Contractors are required to recycle or dispose of waste products through licenced waste recyclers wherever possible.
- Water will be an integral requirement for the Nolans Project and Arafura has demonstrated a commitment to minimising impacts on groundwater resources in Central Australia. Extensive exploration has been undertaken aimed at locating a sustainable groundwater supply for the LOM.
- The project will leverage off Amadeus Natural Gas Pipeline lower cost and emissions-producing natural gas for power generation using high efficiency gas turbine generation. The Nolans processing circuit will provide 25-30% of the project's energy needs by recycling waste heat.
- Social sustainability is implemented in Arafura through Workplace Health and Safety (WHS), Human Capital Management, Stakeholder Engagement and an established Corporate Conduct. Arafura has adopted Corporate Governance charters, codes, policies and procedures including Continuous Disclosure, Code of Conduct, Trading in Company Securities, Whistleblower and Shareholder Communication. These are live documents available on the Arafura website www.arultd.com.
- Conservation of biological diversity and ecological integrity will be implemented throughout the project LOM through implementation of a biodiversity management plan and other operational controls (e.g. clearing permits etc.).

Implementation of ongoing sustainability practices assist in application and achievement of ESD guiding principles.

Rehabilitation, decommissioning and closure during and after mining operations have ceased are detailed in Chapter 18 of this EIS. The overriding intent of mine closure and rehabilitation is to return the land to, as close as is reasonably practical, its pre-disturbance condition.

The proposed closure and rehabilitation objectives for the Nolans Project will reflect the post-closure land uses and landforms agreed with stakeholders. As with the final land-uses, the closure objectives may be amended in later versions of the MRCP. Each objective will be applied, as relevant, to each domain of the project as detailed plans and protocols are devised. Where practicable and feasible, ESD will be considered during development and implementation of the MRCP.