

2. PROJECT APPROVALS

This chapter details the principal approvals required by Arrow CSG (Australia) Pty Ltd (Arrow Energy) to construct, operate and decommission the Arrow LNG Plant, including the role of the environmental impact statement (EIS) in gaining the approvals.

Key legislation, policies and guidelines relevant to the project have been detailed in Attachment 1, Relevant Legislation, Policies and Approvals. Land use and planning information, including the state, regional and local policies and plans relevant to the project area are discussed in Chapter 30, Land Use and Planning. The principal approvals required to undertake the project are:

- Petroleum facility licence.
- Petroleum pipeline licence.
- Petroleum survey licence.
- Environmental authority.
- Development application for material change of use.
- Major hazard facility development permit.

2.1 Principal Approvals

The following section details the principal project approvals required for the construction and operation of the LNG plant.

2.1.1 Petroleum Facility Licence

The project requires a petroleum facility licence under the *Petroleum and Gas (Production and Safety) Act 2004* (Qld) (P&G Act) for the proposed LNG plant. The licence will allow for the construction and operation of the LNG plant, as well as for 'incidental activities', which include but are not limited to the construction of plant works such as trenches, roads and tunnels. Incidental activities also include the construction of mobile or temporary work camps. A petroleum facility licence does not allow for the construction and use of office or residential accommodation; additional permits under the *State Development and Public Works Organisation Act 1971* (Qld) (SDPWO Act) will be required for structures of this nature.

2.1.2 Petroleum Pipeline Licence

The project requires a petroleum pipeline licence under the P&G Act for the construction and operation of the proposed feed gas pipeline and tunnel. The licence also allows for 'incidental activities' related to pipeline construction and operation including roadworks, mobile and temporary camps and materials storage located within the licence area.

2.1.3 Petroleum Survey Licence

The project requires a petroleum survey licence under the P&G Act to provide for investigative survey work to be conducted in relation to the petroleum facility and petroleum pipeline. A pipeline survey licence provides for access to land to investigate, survey, and identify a pipeline route associated with a petroleum pipeline licence or the likely site of a petroleum facility associated with a petroleum facility licence.

The petroleum survey licence will be obtained prior to the submission of the EIS because the results of part of the work will be used in a number of the EIS technical studies. Other work

conducted under the petroleum survey licence will be used in designing the LNG plant and feed gas pipeline.

2.1.4 Environmental Authority

Under the Queensland *Environmental Protection Act 1994* (Qld), petroleum activities are classified as either level 1 or level 2 chapter 5A activities for which an environmental authority is required. The project (with the exception of the environmental authority to support the petroleum survey licence) requires a level 1 chapter 5A environmental authority for petroleum activities to provide for the proposed LNG plant and feed gas pipeline along with other environmentally relevant activities (ERAs) associated with the project. Table 2.1 details the environmental authorities that may be applicable to the project.

Table 2.1 Environmentally relevant activities that may be applicable to the project

ERAs	Description	Applicable Project Activities
ERA 8 – Chemical storage	Storing 10 m ³ or more of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3.	Storage of chemicals.
ERA 9 – Hydrocarbon gas refining	Refining natural gas or coal seam methane gas.	Hydrocarbon gas refining at the LNG plant.
ERA 10 – Gas producing	Gas production consists of the manufacturing, processing, or refining of 200 t or more of hydrocarbon gas in a year.	Processing production of gas at the LNG plant or other relevant equipment.
ERA 14 – Electricity generation	Electricity generation consists of generating electricity by using gas at a rated capacity of 10 megawatt (MW) electrical or more.	Power generation to supply the LNG plant.
ERA 15 – Fuel burning	Fuel burning consists of using fuel burning equipment that is capable of burning at least 500 kg of fuel in an hour.	Fuel burning required to operate gas turbines at the LNG plant.
ERA 16 – Extractive and screening (dredging)	Extracting and screening (dredging) of material.	Dredging of project areas outside the Western Basin Dredging and Disposal Project. This will include construction dredging for the materials offloading facility (MOF) on Curtis Island, LNG jetty and mainland launch site.
ERA 17 – Abrasive blasting	Abrasive blasting consists of cleaning equipment or structures on a commercial basis using a stream of abrasives in either a wet or dry pressure stream.	Abrasive blasting will be necessary during construction and operation of the project.
ERA 18 – Boiler making or engineering	Boiler making or engineering consists of boiler making, assembling or manufacturing a total of 200 t or more of metal products a year.	Boiler making or engineering will be required during construction of the LNG plant.
ERA 43 – Concrete batching	Concrete batching consists of producing 200 t or more of concrete or concrete products in a year by mixing cement with sand, rock, aggregate or other similar materials.	May be required where concrete for facility construction is produced at a batching plant.
ERA 50 – Bulk material handling	Bulk materials handling entails loading or unloading materials at a port in conjunction with operations at a port. It also entails stockpiling bulk materials in conjunction with operations at a port.	Coordination of materials handling from the port on the mainland to the MOF on Curtis Island.

Table 2.1 Environmentally relevant activities that may be applicable to the project (cont'd)

ERAs	Description	Applicable Project Activities
ERA 56 – Regulated waste storage	Regulated waste storage consists of operating a facility for receiving and storing regulated waste for more than 24 hours.	Storage of regulated waste prior to treatment or transportation to licensed disposal facility.
ERA 57 – Regulated waste transport	Regulated waste transport consists of transporting on a non-commercial basis any quantity of regulated waste in a vehicle.	Transportation of waste to a licensed waste disposal facility.
ERA 58 – Regulated waste treatment	Regulated waste treatment (the relevant activity) consists of operating a facility for receiving and treating regulated waste or contaminated soil to render the waste or soil non-hazardous or less hazardous.	Treatment of regulated waste.
ERA 60 – Waste disposal	Operating a facility for disposing of regulated waste.	Disposal of waste generated at LNG plant and ancillary facilities.
ERA 63 – Sewage treatment	Operating one or more sewage treatment works at a site that has a total daily peak design capacity of more than 21 equivalent persons.	Sewage treatment during construction of the LNG plant project and ancillary facilities.
ERA 64 – Water treatment	Water treatment consists of carrying out a number of activities in a way that allows waste, whether treated or untreated, to be released into the environment.	Desalinization of water at reverse osmosis facility during construction and operation.

The survey work conducted under the petroleum survey licence is considered to involve minimal or low impact activities under both the Environmental Protection Act and P&G Act and as such level 2 environmental authority is required. This environmental authority will be given prior to the projects level 1 environmental authority and will only condition those activities associated with the survey work.

For an application to be valid, Arrow Energy will submit both level 1 and level 2 environmental authority applications in accordance with the Environmental Protection Act. Level 1 environmental authority applications require an environmental management plan (EM Plan). The purpose of the EM Plan is to propose environmental protection commitments to assist the administering authority to develop the conditions of the environmental authority. The EM Plan identifies and describes the environmental values that will be impacted by project activities and sets out how the environmental management measures identified in an EIS will be implemented. The Coordinator-General of the State of Queensland's (Coordinator-General's) conditions, derived as an outcome of this EIS, will be taken into consideration when preparing the level 1 environmental authority for the project. Arrow Energy must comply with the conditions of its environmental authorities, or have these amended, prior to undertaking any significant new works not identified in the project description.

An environmental management plan (EMP) has been developed as part of the Arrow LNG Plant environmental impact statement. The EMP meets the terms of reference for the Arrow LNG Plant and is presented in Attachment 7, Environmental Management Plan. The plan summarises the mitigation, inspection and monitoring measures identified in the EIS and will be used to develop the EM Plan that will accompany the environmental authority application for the project.

2.1.5 Material Change of Use of Premises

The LNG plant will be constructed on land within the Curtis Island Industry Precinct as identified in the Development Scheme for the Gladstone State Development Area. The Curtis Island Industry Precinct was established in 2008 to:

- Provide for the establishment of LNG facilities for processing operations (including liquefaction and storage) of a national, state, or regional significance requiring access to export wharf facilities.
- Provide for the establishment of infrastructure associated with LNG facilities, including transport linkages to wharf facilities. The Gladstone State Development Area Development Scheme states that an LNG site must be rezoned so that it is specifically designated for the processing of natural gas (liquefaction and storage), which the scheme defines as a high impact industry, and that no person may carry out a material change of use within the Gladstone State Development Area without the approval of the Coordinator-General. The Coordinator-General requires a copy of the EIS, as well as a report evaluating the EIS. The Coordinator-General will take into consideration any relevant supporting material, including any referral agency, and any properly made submissions by the public or stakeholders about the application. The Coordinator-General may impose conditions upon the material change of use, such as defining how long the Arrow LNG Plant may remain in place and any requirements for restoration of the site or decommissioning of the works.

Additional material change of use of premises and development permits may be required for the accommodation facilities, the LNG jetty and any ancillary facilities as specified under the *Sustainable Planning Act 2009* and the SDPWO Act. Further details regarding the Gladstone State Development Area and the Curtis Island Industry Precinct are provided in Chapter 30, Land Use and Planning.

2.1.6 Major Hazard Facility

The project requires a major hazard facility development permit as specified under the Sustainable Planning Act and the *Dangerous Goods Safety Management Act 2009* (Qld). The chief executive of the Queensland Department of Employment, Economic Development and Innovation will classify the facility as a major hazard facility if a hazardous materials emergency at the facility could pose a risk to persons, property or the environment outside the facility, or if the quantity of hazardous materials stored or handled at the facility is more than the quantity prescribed under the Dangerous Goods Safety Management Act.

2.2 EIS Process

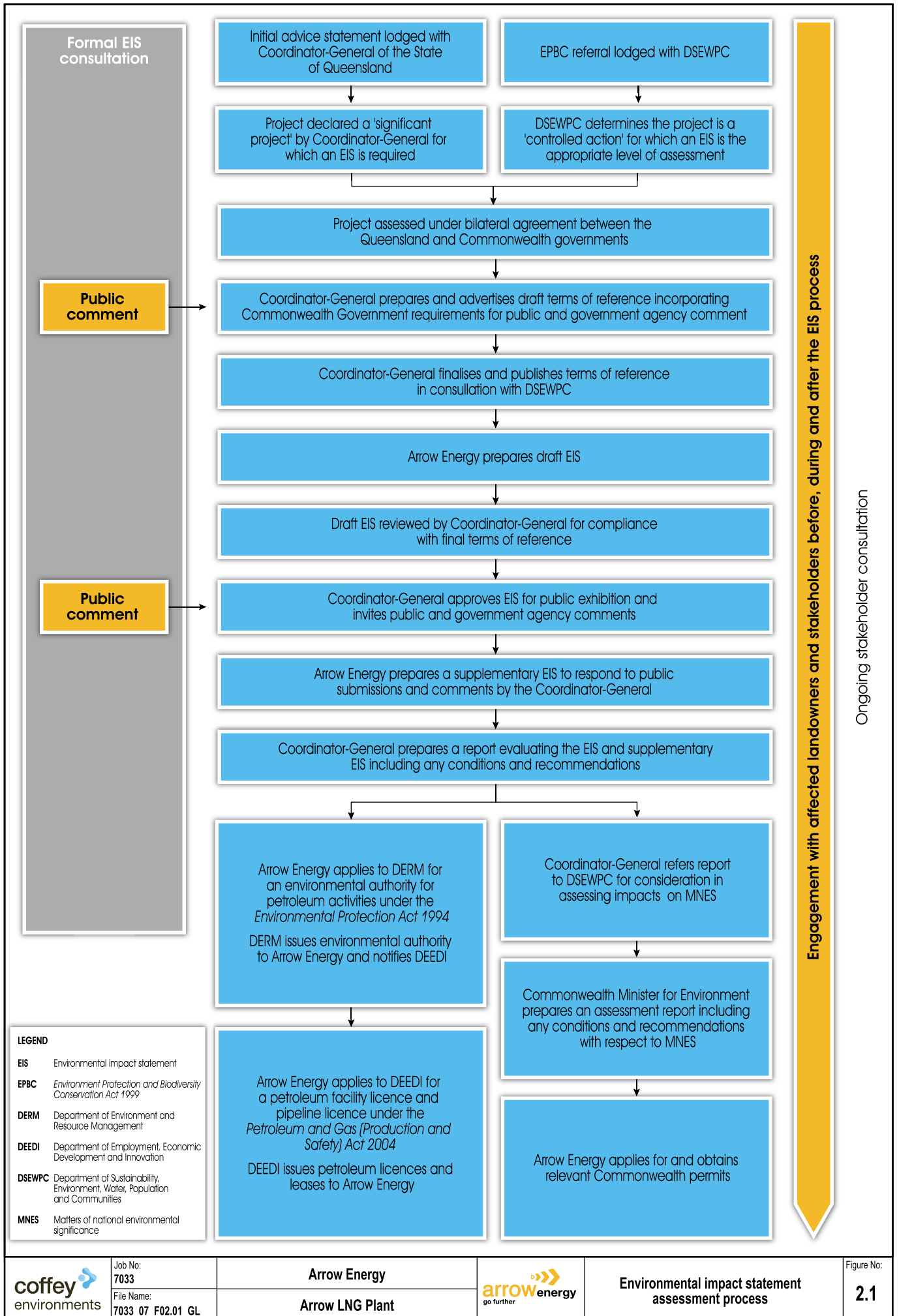
The EIS will provide information to evaluate the approval applications. This process is described in the following sections and Figure 2.1.

2.2.1 Need for an EIS

In May 2009, Arrow Energy submitted an initial advice statement to the Coordinator-General to request the Arrow LNG Plant be designated as a 'significant project' for which an EIS is required. On 12 June 2009, the Coordinator-General declared the project a 'significant project' under the SDPWO Act.

The Coordinator-General based the decision on:

- Details of the project provided in the initial advice statement.



Engagement with affected landowners and stakeholders before, during and after the EIS process

Ongoing stakeholder consultation

LEGEND	
EIS	Environmental impact statement
EPBC	Environment Protection and Biodiversity Conservation Act 1999
DERM	Department of Environment and Resource Management
DEEDI	Department of Employment, Economic Development and Innovation
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities
MNES	Matters of national environmental significance

- Relevant planning schemes or policies as specified by local, state or Commonwealth governments.
- The project's potential effects on the environment and on relevant infrastructure.
- The employment opportunities that will be provided by the project.
- Investment necessary for Arrow Energy to carry out the project.
- The local, regional and state strategic significance of the project.

The then project proponent, Shell CSG (Australia) Pty Ltd (now known as Arrow CSG (Australia) Pty Ltd), submitted referrals in July 2009 to the Commonwealth Minister for the Department of Sustainability, Environment, Water, Population and Communities. The referrals were made to determine whether the project constituted a controlled action under s. 75 of the *Environmental Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act). The referrals were for the LNG plant on Curtis Island (Referral No. EPBC 2009/5007), and the high-pressure feed gas pipeline from Gladstone City Gate to Curtis Island (Referral No. EPBC 2009/5008).

On 21 August 2009, the Department of Sustainability, Environment, Water, Population and Communities determined the project was a 'controlled action' for which assessment and approval is required under the EPBC Act. The assessment and approval of a 'controlled action' involves the evaluation of the impacts the project may have on matters of national environmental significance. The matters of national environmental significance that are considered in the EIS include:

- World Heritage Properties (s.12 and s. 15A).
- National Heritage places (s. 15B and s. 15C).
- Listed threatened species and communities (s. 18 and s. 18A).
- Listed migratory species (s. 20 and s. 20A).

Since these referrals were made, Arrow Energy has sought a variation to the scope of both referrals to include infrastructure associated with the establishment and operation of mainland facilities (Referral No. 2009/5007) and the nature of activities associated with installation of the feed gas pipeline (Referral No. 2009/5008).

In accordance with the Commonwealth Minister's decision, as well as the Coordinator-General declaring the project a 'significant project', the Arrow LNG Plant will be assessed under a bilateral agreement between the Queensland and Commonwealth governments. Under this agreement, the Commonwealth Government has accredited the Queensland SPDWO Act and EIS process to meet the impact assessment requirements under Commonwealth legislation.

Pursuant to this agreement, the EIS will be coordinated by the Queensland Department of Employment, Economic Development and Innovation. Relevant Commonwealth, Queensland and local government authorities have been invited to participate in the EIS process as advisory agencies.

2.2.2 Scoping and Preparation of the EIS

The SDPWO Act requires draft terms of reference to be developed as a first step in the EIS process. The terms of reference establishes the potential impacts, environmental issues and requirements that need to be investigated and addressed within the EIS. The process begins with the Coordinator-General preparing a draft terms of reference based on the project-specific

information provided in the initial advice statement. The terms of reference were then released for public comment.

The public were given 30 days (from 2 October 2009 to 2 November 2009) to make submissions to the Coordinator-General. During this period, stakeholders were invited to submit comments on the inclusiveness and accuracy of the terms of reference. The draft terms of reference were published in local, state, and national newspapers and were posted on the Department of Employment, Economic Development and Innovation's website. Government agency briefings were held in Brisbane on 13 October 2009 and in Gladstone on 14 October 2009 to provide information about the proposed development to key Queensland Government departments.

The Coordinator-General then finalised the terms of reference, taking into consideration comments received by the public, as well as recommendations put forward by the Commonwealth Government. The final terms of reference for the Arrow LNG Plant were completed and released to the public in January 2010. The terms of reference can be found on the Department of Employment, Economic Development and Innovation's website and in Attachment 2, Terms of Reference. Attachment 3, Terms of Reference Cross Reference Table, indicates where each item in the terms of reference is addressed in this EIS.

The terms of reference have been used to set the scope for a range of supporting studies which were undertaken by specialist consultants engaged by Arrow Energy. The specialist studies provide detailed information on the social and environmental aspects of the project area to identify and assess the potential impacts the project may have on the environment of the area, as well as the potential effects on the local community. The main report of the EIS has been prepared based on these studies and summarises the key findings of the assessments. The specialist studies are included in appendices 1 to 30.

2.2.3 Document Submission and Public Exhibition

The draft EIS was submitted to the Coordinator-General for comment on its adequacy in addressing the terms of reference. The Coordinator-General approved the EIS for public exhibition, and comments will be sought from the public and relevant government agencies during the period of exhibition. A public notice will be placed in local and state newspapers advising where copies of the EIS can be viewed or purchased, details of the submission period, and where submissions should be sent.

Once the public exhibition period is over, Arrow Energy may be required to prepare a supplementary EIS to address specific comments in submissions made by advisory agencies and members of the public. The supplementary report must also respond to any additional matters raised by the Coordinator-General, such as omissions or uncertainties about potential impacts.

2.2.4 EIS Assessment Report

Once the EIS and supplementary EIS have been submitted, the Coordinator-General will prepare a report evaluating the EIS in accordance with the SDPWO Act. The Coordinator-General's report will evaluate how well the EIS has addressed the terms of reference, as well as the adequacy of the EMP for the project. The report will also recommend conditions that will be considered when establishing the environmental authority and other applicable development approvals for the project.

2.2.5 Project Approval and Conditions

On receipt of the Coordinator-General's report, the following administering authorities will decide whether or not to approve the principal project approvals and, if so, under what conditions:

- Queensland Minister for Employment, Economic Development and Innovation. The Minister will decide if a petroleum facility licence and petroleum pipeline licence should be issued under the P&G Act. The petroleum survey licence will have been granted prior to the completion of the EIS.
- Queensland Minister for the Department of Environment and Resource Management. The Minister will decide whether to issue the environmental authority under the Environmental Protection Act.
- Minister of Infrastructure and Planning. The Minister will decide whether to grant the material change of use permit and a major hazard facility development permit as the LNG plant has been proposed to be located within the Gladstone State Development Area.
- Commonwealth Minister for Sustainability, Environment, Water, Population and Communities. The Minister or their delegate will assess whether the Commonwealth's requirements in relation to the matters of national environmental significance have been met and decide whether to approve the proposed action under the EPBC Act.

2.3 Additional Environmental Permits and Approvals

In addition to the principal project approvals, other environmental permits and approvals are needed before certain aspects the project can proceed. These will include but are not limited to:

- A native title agreement may be required under the *Native Title Act 1993*. The act, administered by the Attorney-General's Department, provides for the recognition and protection of native title. If a petroleum tenement is to be granted over land where native title has not been extinguished, Native Title Act requirements must be met before the petroleum tenement can be granted. In respect of a proponent, who may wish to secure an interest (lease, licence, title or the like) in land over which native title may exist, the Native Title Act provides valid statutory processes to allow the parties to reach agreement and for state and territory governments to grant interests over that land. Arrow Energy will need to seek agreements with relevant Aboriginal Indigenous groups to conduct petroleum activities on land where native title may exist.
- A cultural heritage management plan will need to be developed and approved in accordance with the *Aboriginal Cultural Heritage Act 2003* (Qld). The act binds all persons to meet duty of care provisions and to take all reasonable and practical measures to avoid harming cultural heritage. As such, either a cultural heritage management plan or a native title agreement or other agreement that addresses cultural heritage will be necessary to meet the intent of the duty of care provisions for the project. The act also provides an exemption from the requirement of a cultural heritage management plan where the project is the subject of either an existing agreement or a native title agreement (unless Aboriginal cultural heritage is expressly excluded from being subject to the agreement).
- A number of approvals will be required under the *Coastal Protection and Management Act 1995* (Qld). This may include approval to damage vegetation on state coastal land, as well as approval for the placement or removal of quarry material below the high water mark.
- Dredged material disposed of within the Western Basin Reclamation Area will be covered under existing approvals held by the Gladstone Ports Corporation and will be carried out in accordance with the dredge management plan for the site. Additional approval will be required under the Coastal Protection and Management Act for disposal of dredged material at alternative locations.

- An operational works permit will be required under the *Fisheries Act 1994* (Qld) to remove, destroy, or damage marine plants in the event that Arrow Energy needs to establish waterway barrier works to carry out activities through watercourses.
- A clearing permit is required to take or move protected plants under the *Nature Conservation Act 1992* (Qld). Protected plants include any plant prescribed under the act as threatened, rare or near threatened in the wild.
- Approval to take seawater will be required under the *Water Act 2000* (Qld) for the construction of the LNG plant, as well as for the operation of the reverse osmosis plant on Curtis Island.
- A licence is required to store flammable and combustible liquids under the Dangerous Goods Safety Management Act, which sets standards for the storage and handling of substances (such as flammable and combustible liquids).
- A rehabilitation permit under Division 6 of the Nature Conservation (Wildlife) Regulation 2006 may be required to allow the movement of wildlife in instances not otherwise authorised under the Nature Conservation Act. Such a permit may be required to allow relocation of wildlife accidentally trapped during construction.

Environmental Impact Statement
Arrow LNG Plant