



1 Introduction

1 INTRODUCTION

INPEX Browse, Ltd. (INPEX), as Operator of the Ichthys Gas Field Development Project (the Project), is seeking the approval of the Northern Territory and Commonwealth governments to develop the Ichthys gas and condensate field (the Ichthys Field) to produce liquefied natural gas (LNG), liquefied petroleum gases (LPGs) and condensate for export to markets in Japan and elsewhere.

The Ichthys Field is located in the Browse Basin, around 450 km north-north-east of Broome and 820 km west-south-west of Darwin. The field encompasses an area of approximately 800 km² in water depths ranging from 235 to 275 m. Appraisal drilling and development studies suggest that the P₅₀ resources¹ of the Ichthys Field are 12.8 tcf (trillion cubic feet) of sales gas and around 527 MMbbl (million barrels) of condensate^{2,3}, split between a Cretaceous reservoir in the Brewster Member and a Jurassic reservoir in the Plover Formation.

INPEX intends to install a floating central processing facility (CPF) for the extraction of natural gas and condensate at the Ichthys Field. The bulk of the condensate will be exported directly from the field at an average rate of 85 000 barrels per day (at the start of LNG production) after processing on a floating production, storage and offtake (FPSO) facility moored some distance from the CPF. Natural gas from the field will be directed through a gas export pipeline from the field to onshore facilities at a site zoned for industrial development at Blaydin Point in Darwin Harbour in the Northern Territory. The gas will be processed through a two-train 8.4-Mt/a LNG processing plant. This production rate represents the average plateau rate over the first 23 years of the Project. Thereafter, LNG production will gradually decline as the Project slowly runs out of gas but continues to produce LNG at rates below 8.4 Mt/a. Total annual production will vary from year to year depending on factors such as the composition of the gas from the reservoir and the duration and frequency of maintenance activities.

1 In the oil & gas industry, P₅₀ resources (often called “proved plus probable”) are in effect a median estimate of the resources expected to be extracted from a hydrocarbon field. A P₅₀ estimate refers to a value which has a 50% probability of being exceeded.

2 Note: the hydrocarbon resources reported in this document are based upon the “Statement of Hydrocarbon Resources” which was registered with Western Australia’s Department of Mines and Petroleum on 27 March 2009. The P₅₀ resources notified were 12.8 tcf of sales gas and 527 MMbbl of condensate. These figures were INPEX’s best estimates at the time of preparation of this document, but are subject to subsequent review. Modelling and emission estimates are based upon the registered 2009 figures.

3 In metric measure this equates to 361 Gm³ of gas and 83 GL of condensate.

The onshore processing plant will also produce up to approximately 1.6 Mt/a of LPGs and a residual 15 000 barrels per day of condensate which will be carried to the plant with the gas stream.

The construction phase of the Project will cover a period of 5 to 6 years from the final investment decision (FID) to the export of the first cargo of gas approximately five years later. Approval for the construction and operation of the Project requires environmental assessment by both the Commonwealth Government and the Northern Territory Government. It does not require assessment under Western Australia’s *Environmental Protection Act 1986* as Western Australia’s jurisdiction does not extend beyond the state’s coastal waters zone (which extends only 3 nautical miles seaward of the territorial sea baseline).

1.1 Project proponent

INPEX’s parent company INPEX CORPORATION has been involved in the development of oil and gas resources for more than four decades and has been steadily increasing its exploration and development activities in many countries around the world. It is, for example, currently taking part in a number of projects in Australian waters. These include the Van Gogh and Ravensworth oil extraction projects in the southern part of the North West Shelf in Western Australia, and, until it ceased production in October 2009, the nearby Griffin Fields oil & gas project. INPEX is also a partner in the Bayu–Undan oil & gas project in the Timor Sea Joint Petroleum Development Area (JPDA).

In early 1998, INPEX CORPORATION (as Indonesia Petroleum, Ltd.) bid for a petroleum exploration permit for permit area WA-285-P in the northern Browse Basin about 200 km off Western Australia’s Kimberley coast, at the western edge of the Timor Sea. This petroleum exploration permit was awarded to INPEX CORPORATION on 19 August 1998. The subsidiary company INPEX Browse, Ltd. was established immediately after the grant of the permit and became the permit holder, 100% equity holder and Operator.

The company’s drilling program from March 2000 to February 2001 in the north-western portion of the permit area resulted in the significant gas and condensate discovery in the Ichthys Field. Shortly afterwards INPEX commenced the Ichthys Gas Field Development Project.

In August 2004 the original permit expired and a new permit, WA-285-P R1, was issued for a reduced area of 3041 km².

In 2006 INPEX transferred a 24% participating interest in the Project to Total E&P Australia (Total). Total has had a long-standing partnership with INPEX elsewhere in the world and also has extensive experience and expertise with LNG and LPG projects in many countries.

In September 2009 Retention Lease WA-37-R was awarded to INPEX as the Operator of the Ichthys Field. The area covered by the lease is approximately 912 km².

Since the initial drilling program commenced in 2000, INPEX has drilled eight appraisal wells at the Ichthys Field and has operated two years of boat-based field studies at the Maret Islands off the Kimberley coast. These were undertaken without any reportable environmental incidents. INPEX has also been acknowledged by the Australian Petroleum Production & Exploration Association (APPEA) which awarded its 2008 Environmental Award (exploration company category) to INPEX for its low-environmental-impact approach to geotechnical drilling activities on the Maret Islands.

During this extensive exploration, INPEX has operated under well-developed management systems and has not experienced any major environmental incidents. INPEX reports on its global environmental performance annually through its corporate sustainability report.

Contact details

The addresses of INPEX's offices in Australia are as follows:

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1.2 Environmental assessment process

The Northern Territory Minister for Natural Resources, Environment and Heritage determined that the Project would require formal assessment under the *Environmental Assessment Act* (NT) (EA Act). In May 2008 INPEX referred its project proposal to the Commonwealth's Department of the Environment, Water, Heritage and the Arts (DEWHA) and the Northern Territory's Department of Natural Resources, Environment and the Arts (now NRETAS)⁴. Both agencies determined that the Project should be formally assessed at the EIS (environmental impact statement) level.

The Project was assessed by the DEWHA as having the potential to cause a significant impact on the following "matters of national environmental significance" that are protected under Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act):

- listed threatened species and ecological communities (sections 18 and 18A)
- migratory species protected under international agreements (sections 20 and 20A)
- the Commonwealth marine environment (sections 23 and 24A).

In order to ensure that these and other potential environmental, social and economic impacts from the Project are adequately investigated, in September 2008 the DEWHA and NRETAS developed a set of guidelines (*Guidelines for preparation of a draft environmental impact statement: Ichthys Gas Field Development Project*) to direct INPEX's production of a single environmental impact assessment document, the *Ichthys Gas Field Development Project: draft environmental impact statement* (Draft EIS). This is designed to satisfy the requirements of both the Commonwealth Government and the Northern Territory Government.

The EIS guidelines and a cross-referencing document comparing the EIS guidelines with this Draft EIS have been provided in Appendix 1 and Appendix 2. In addition, a cross-reference of the Draft EIS content against the requirements of the EPBC Act has been provided in Appendix 3.

Assessment of the Draft EIS will be undertaken in accordance with the Commonwealth's EPBC Act and the Northern Territory's EA Act. This combined environmental assessment process will be undertaken in stages as described in the following sections. The whole process, from initial proposal to final approval, is presented graphically in Figure 1-1.

1.2.1 Scope of the Draft EIS

The Draft EIS includes assessment of the following Project components:

- offshore infrastructure and activities at the Ichthys Field
- the gas export pipeline from the Ichthys Field to Darwin Harbour
- nearshore infrastructure, including the pipeline shore crossing and associated activities within Darwin Harbour and at the proposed offshore spoil disposal ground north of the Harbour
- onshore infrastructure on Blaydin Point, and Middle Arm Peninsula and associated activities that could cause off-site impacts, such as air emissions and traffic.

⁴ The Northern Territory's Department of Natural Resources, Environment and the Arts (NRETA) became the Department of Natural Resources, Environment, the Arts and Sport (NRETAS) in August 2008.

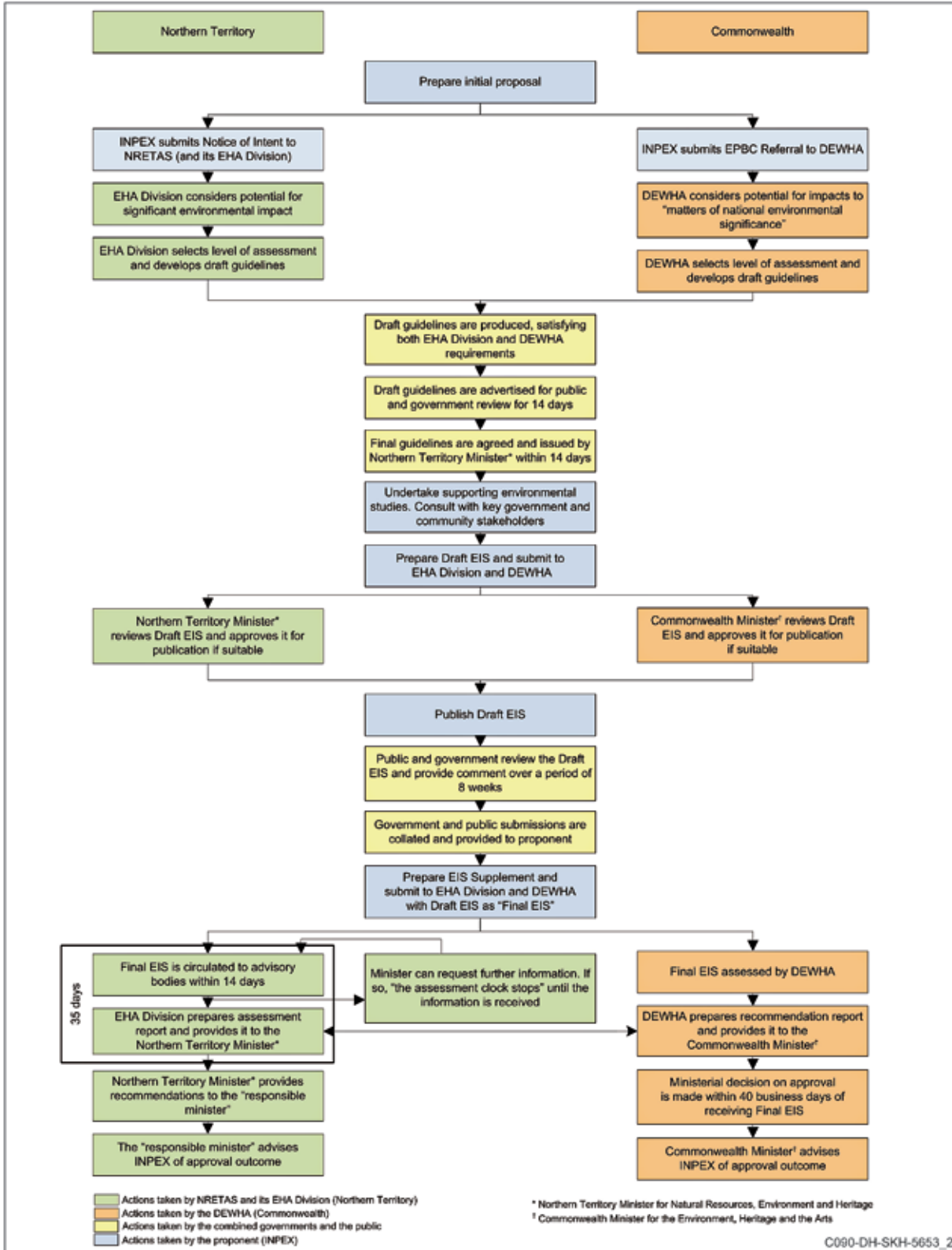


Figure 1-1: Environmental assessment process for the Project

As the accommodation village for the construction phase of the Project needs to be completed and available prior to commencement of works at Blaydin Point, a series of approvals separate from this Draft EIS are being sought. These approvals require the assessment of a range of environmental and social factors. However, the potential social and traffic impacts associated with introducing a construction workforce into the Darwin region are discussed in this Draft EIS.

An expansion of the production capacity beyond two LNG trains would be subject to future regulatory-authority approval but will depend on further gas reserves being identified as well as on market and supply variables. Consideration of any such expansion is therefore not within the scope of this Draft EIS.

1.2.2 Initial referrals

A “notice of intent” (NOI) for the Project was submitted to NRETAS in May 2008 to initiate the assessment process under the EA Act. The NOI provided an outline of the proposed development and its key potential environmental impacts to assist the Northern Territory Minister for Natural Resources, Environment and Heritage, on advice from NRETAS, in determining the appropriate level of environmental assessment. The NOI was also provided for public review on the department’s web site.

A referral for the Project was also submitted to the DEWHA in May 2008 to commence the assessment process under the EPBC Act. The referral provided an outline of the Project with particular reference to its potential impacts on matters of national environmental significance. The purpose of the referral was to enable the Commonwealth Minister for the Environment, Heritage and the Arts, on advice from the DEWHA, to determine whether the Project, a “proposed action” under the Act, should be considered a “controlled action”. A “controlled action” is one that is considered likely to have a significant impact on one or more matters of national environmental significance. The Minister would then identify an appropriate level of environmental assessment. This referral was provided for public review on the EPBC Act web site.

1.2.3 Level of assessment set for the Ichthys Project

The Northern Territory Minister determined that the Project should be formally assessed under an EIS, which is the highest level of assessment that can be undertaken under the Territory’s EA Act. The key environmental issues contributing to this decision included the following:

- visual amenity and public interest
- potential impacts from dredging
- the potential for disturbance to marine and terrestrial biodiversity
- the potential for disturbance of maritime heritage sites
- the increased shipping movements in the Port of Darwin
- potential impacts associated with the construction of new wharf facilities
- discharge of process wastewater to Darwin Harbour
- air emissions, including greenhouse gases.

On 16 July 2008 a representative for the Commonwealth Minister advised INPEX that the Project would be assessed through an EIS under the EPBC Act. This decision was taken because of the potential impacts of the Project on three matters of national environmental significance.

1.2.4 Public review of guidelines and assessment level

As noted above, the DEWHA and NRETAS adopted a joint approach to the preparation of a set of EIS guidelines for the development of a Draft EIS. The purpose of the guidelines is to identify matters of concern and to establish the scope of the environmental, social and economic studies required to properly assess the potential impacts of the Project and make a final decision on its acceptability.

A draft of the EIS guidelines was presented for public review for 15 business days. This public review period provided an opportunity for stakeholders to comment on issues relating to the Project and enabled the DEWHA and NRETAS to consider this input when finalising the guidelines. This review period also allowed INPEX to clarify the requirements of the draft guidelines in consultation with the DEWHA and NRETAS.

The DEWHA and NRETAS finalised the guidelines in September 2008 and provided them to INPEX to guide its preparation of this Draft EIS.

1.2.5 Stakeholder consultation

In order to identify the environmental and socio-economic aspects that could be affected by the Project and to investigate these potential impacts with appropriate rigour, INPEX undertook a stakeholder consultation process. This was initiated early in the assessment process, after submission of the initial referrals, and has continued throughout the development of the EIS guidelines and the Draft EIS.

The complete stakeholder engagement process associated with the environmental assessment process is described in Chapter 2 *Stakeholder consultation*.

1.2.6 Preparation of the Draft EIS

In order to assess the impacts from the Project and characterise the baseline conditions, a number of targeted environmental studies and surveys were undertaken by a range of specialists contracted by INPEX. In order to discuss and decide the scope of these studies and surveys, INPEX undertook a two-day workshop with NRETAS in April 2008.

Participants in the workshop included government experts from various divisions of NRETAS, some representatives from other Northern Territory government agencies (such as the Department of Planning and Infrastructure⁵), the INPEX environmental team and engineers, and environmental consultants. This process enabled the identification of significant environmental values in the Project area, a high-level assessment of relevant existing knowledge, and agreement on the scope and methods of further investigations to be carried out by INPEX. The complete list of studies and surveys undertaken is presented in Table 1-1.

This Draft EIS documents the outcome of the environmental impact assessment carried out by INPEX and, in doing so, demonstrates that the company has achieved the following:

- It has studied and understood the existing environment in enough detail to predict changes that could occur as a result of the Project.
- It has undertaken a risk assessment of the impact of predicted changes to the existing environment.
- It has incorporated environmental management controls into the design and planning phases of the Project to avoid or minimise impacts on the environment through all phases of the Project—construction, commissioning, operations and, where appropriate, decommissioning.
- It has generated and documented sufficient detail about the Project to allow appropriately informed feedback to be submitted by interested parties through the Draft EIS's public review period.
- It has generated and documented sufficient detail to allow appropriately informed recommendations to be developed by the Northern Territory Government's NRETAS and the Commonwealth Government's DEWHA for transmission to their respective responsible ministers.

⁵ The Northern Territory's Department of Planning and Infrastructure was restructured in December 2009 and its functions transferred to two new departments, the Department of Lands and Planning and the Department of Construction and Infrastructure.

Table 1-1: Studies conducted for the environmental impact assessment of the Project

Study	Organisation	Study components	Study period	Study areas
Offshore marine environment				
Marine sediments and water quality	RPS Australia, Perth University of Western Australia, Perth Marine and Freshwater Research Laboratory, Murdoch University, Perth CSIRO laboratories URS Australia, Perth	Water quality	March and September 2005 October and December 2006 May and June 2007 December 2008	Ichthys Field Pipeline route
		Sediment quality	September 2005 May 2007 December 2008	Ichthys Field Pipeline route
		Infauna	September 2005 March 2007 December 2008	Ichthys Field Pipeline route
Marine ecology	RPS Australia, Perth URS Australia, Perth	Subtidal habitats and communities	September 2005 October–November 2006 March–April 2007 December 2008	Ichthys Field Pipeline route
Cetaceans and other megafauna	Centre for Whale Research (Western Australia), Perth Centre for Marine Science and Technology, Curtin University of Technology, Perth RPS Australia, Perth	Marine megafauna	August–October 2006 July–September 2007	Browse Basin
Underwater noise	Centre for Marine Science and Technology, Curtin University of Technology, Perth SVT Engineering Consultants, Perth	Underwater noise	September 2006 – February 2009	Ichthys Field
Oceanography and oceanic discharges	RPS MetOcean Engineers, Perth Asia-Pacific Applied Science Associates (APASA), Perth	Acoustic Doppler current profiling (ADCP) measurements Wind and wave monitoring Oil-spill trajectory modelling Produced-water discharge modelling	July–December 2006 January 2007 – February 2009	Ichthys Field Pipeline route Darwin Harbour
Oil-spill risk	Environmental Risk Solutions (ERS), Perth	Primary risk assessment	October 2008 – February 2009	Ichthys Field Pipeline route
Condensate weathering	Geotechnical Services, Perth	Laboratory tests on weathering process and ecotoxicity of Ichthys Field condensate	August 2007	Ichthys Field condensate

Table 1-1: Studies conducted for the environmental impact assessment of the Project (continued)

Study	Organisation	Study components	Study period	Study areas
Nearshore marine environment				
Marine ecology	URS Australia	Marine and intertidal habitats and communities	April–June 2008	Subtidal and intertidal areas adjacent to Blaydin Point, around Middle Arm Peninsula, and throughout Darwin Harbour
		Marine sediment quality	March 2008	Darwin Harbour
Marine water quality	URS Australia	Water quality	April–August 2008	East Arm and Middle Arm, Darwin Harbour
		Light attenuation and turbidity	April–August 2008	East Arm and Middle Arm, Darwin Harbour
Underwater noise	SVT Engineering Consultants	Establishment of underwater noise baseline	March 2009	East Arm, Darwin Harbour
Oceanography, coastal processes and oceanic discharges	Asia-Pacific Applied Science Associates (APASA), Perth URS Australia, Perth	Local currents, waves and tides	April–December 2008	East Arm Wharf, Darwin Harbour and offshore spoil disposal ground
		Oil-spill trajectory modelling Wastewater discharge modelling	April 2008 – March 2009	Darwin Harbour
Hydrodynamic and sediment-fate modelling	HR Wallingford, United Kingdom Asia-Pacific Applied Science Associates (APASA), Perth	Modelling of dredge sediment movement and spoil disposal	August 2009 – January 2010	Darwin Harbour and offshore spoil disposal ground
Oil-spill risk	Environmental Risk Solutions (ERS), Perth	Primary risk assessment	October 2008 – February 2009	Darwin Harbour, East Arm and Middle Arm
Onshore terrestrial environment				
Geographic studies	URS Australia, Darwin	Topography, geology, geomorphology and soils	May–June 2008	Blaydin Point and Middle Arm Peninsula
Hydrology and hydrogeology	URS Australia, Darwin	Existing surface and groundwater	April–July 2008	Blaydin Point
Terrestrial ecology	GHD, Darwin	Plant and animal life	November 2007 – June 2008	Blaydin Point and Middle Arm Peninsula
Biting insects	Medical Entomology Section (Centre for Disease Control), Darwin	Mosquitoes and biting midges	October–December 2007	Blaydin Point and Middle Arm Peninsula
Socio-economic				
Airborne noise assessment	SVT Engineering Consultants, Perth	Ambient noise measurements and noise modelling	May 2008	Darwin and Palmerston
Traffic	URS Australia, Melbourne	Traffic surveys and modelling of traffic routes	June–October 2008	Blaydin Point and Darwin region
Visual amenity	URS Australia, Darwin ERM Australia, Perth	Simulation of the visual impact of the Project's onshore facility in Darwin	June–March 2009	Darwin

Table 1-1: Studies conducted for the environmental impact assessment of the Project (continued)

Study	Organisation	Study components	Study period	Study areas
Heritage (non-Aboriginal)	URS Corporation, Gaithersburg, Maryland, USA Begnaze Pty Ltd, Wanguri, Northern Territory	Maritime non-Aboriginal heritage (World War II wrecks)	April–August 2008	Darwin Harbour
Archaeology and historical cultural heritage	Begnaze Pty Ltd, Wanguri, Northern Territory	Cultural heritage archaeological site surveys and desktop studies	June 2007 – June 2008	Wickham Point and Blaydin Point on Middle Arm Peninsula
Sacred sites	Aboriginal Areas Protection Authority (AAPA), Darwin	Sacred-site survey	September 2007 – January 2009	Wickham Point, Darwin Harbour and around Cox and Shoal Bay peninsulas, subsea pipeline route
Public safety	Advantica (formerly British Gas Research and now Germanischer Lloyd Industrial Services), United Kingdom	Quantitative risk assessment of the safety of the onshore processing plant and pipeline	September 2008 – ongoing assessments	Blaydin Point, Darwin Harbour, Darwin region
Social impacts assessment	URS Australia, Melbourne	Interviews with stakeholders	May–June 2008	Darwin and Palmerston
Economic impacts assessment	URS Australia, Melbourne	Economic modelling	April–November 2008	Darwin, Northern Territory and Australian economies
Regional climate				
Air quality	Sinclair Knight Merz (SKM), Perth	Climate and meteorology	June–September 2008	Darwin region
		Existing air quality	June–February 2009	Darwin region
		Atmospheric emissions dispersion modelling	June–February 2009	Darwin region
Local meteorology	Asia-Pacific Applied Science Associates (APASA), Perth	Local meteorology	April–October 2008	Darwin Harbour

1.2.7 Government and public review of the Draft EIS

Following review of an earlier version of the Draft EIS, the DEWHA and NRETAS confirmed that the document complies with the EIS guidelines described in Section 1.2.3 *Level of assessment set for the Ichthys Project*, that it addresses all issues required, and that the document is suitable for publication and public review.

Permission to publish was granted to INPEX by NRETAS and the Commonwealth Minister for the Environment in early May 2010.

In accordance with statutory processes, this Draft EIS is available for public review and comment for a period of 8 weeks. During this period, any individual, business, or organisation may submit comments on the Project and associated impacts directly to INPEX (refer to “Invitation to Comment” at the front of this document for submission instructions).

1.2.8 Preparation of the Final EIS

Each issue raised during the public review and comment period will be addressed by INPEX in a separate document, the “EIS Supplement”, either by a simple clarification or through further investigations and studies. The time frame for development of the “Final EIS”, (which will consist of two documents, the original Draft EIS and the EIS Supplement), is therefore dependent on the volume and nature of issues raised through the public comment process.

1.2.9 Government assessment and final approval

When INPEX submits the Final EIS, the DEWHA and NRETAS will begin the final stages of environmental assessment for the Project.

Assessment under the EPBC Act

As required by Section 104 of the EPBC Act, within 10 business days of INPEX’s submission of the Final EIS to the DEWHA the company must make the Final EIS available to the general public by announcing its publication and availability in an advertisement in a national newspaper. It will also be distributed for public viewing in the same locations used for the Draft EIS and it will be accessible on INPEX’s Internet web site.

The Commonwealth Minister has 40 business days to make a decision on whether to grant approval for the Project. The DEWHA will prepare a “recommendation report” for the Minister during this 40-day period, with a suggested approval decision and any conditions that should apply to the approval.

Assessment under the EA Act

Under the Northern Territory assessment process, INPEX will submit the Final EIS to NRETAS for circulation to relevant government advisory groups. Within 35 days NRETAS will prepare an “assessment report” to advise the Northern Territory’s Minister for Natural Resources, Environment and Heritage on whether the Project should be approved and, if so, under what conditions such an approval should be granted.

The Northern Territory Minister for Natural Resources, Environment and Heritage will then provide his/her advice to the responsible minister. The minister makes the ultimate decision on whether the Project should be approved and, if approval is granted, sets the environmental licence conditions for the Project.

The responsible minister will provide a final assessment report to INPEX. This report is likely to include some or all of the recommendations made by NRETAS and it will be made available to the public by various means such as through distribution to selected public libraries or viewing sites and by posting on the NRETAS web site on the Internet.

1.3 Other government approvals

A range of approvals have already been obtained for the Project in order to characterise the Ichthys Field and to provide preliminary information on the environmental and geotechnical characteristics of the development areas. These are summarised in Table 1-2.

Table 1-2: Government approvals already obtained for the Ichthys Project

Type of permit	Relevant legislation and agency	Purpose
Offshore		
Drilling	<i>Petroleum (Submerged Lands) Act 1967</i> (Cwlth) ⁶ ; Western Australia's Department of Industry and Resources (now the Department of Mines and Petroleum)	Permission to conduct exploratory drilling in the WA-285-P permit area
Licence to take fauna for scientific purposes	<i>Wildlife Conservation Act 1950</i> (WA); Western Australia's Department of Conservation and Land Management (now the Department of Environment and Conservation)	Permission to conduct capture-and-release activities with marine turtles during baseline environmental surveys at Browse Island
Authority to enter Department of Conservation and Land Management land and/or waters	<i>Conservation and Land Management Regulations 2002</i> (WA); Western Australia's Department of Conservation and Land Management (now the Department of Environment and Conservation)	Permission to conduct capture-and-release activities with marine turtles during baseline environmental surveys at Browse Island
Access authorities (various)	<i>Petroleum (Submerged Lands) Act 1967</i> (Cwlth), <i>Petroleum (Submerged Lands) Act 1982</i> (WA) and <i>Petroleum Act 1967</i> (WA); Western Australia's Department of Industry and Resources (now the Department of Mines and Petroleum)	Permission to conduct geophysical surveys at the Ichthys Field, to inform the design of offshore infrastructure
Onshore and nearshore		
Permissive occupancy (various)	<i>Planning Act</i> (NT); Northern Territory's Department of Planning and Infrastructure (now the Department of Lands and Planning)	Permission to conduct preliminary geotechnical, geological, environmental and engineering studies at Blaydin Point
Authority certificates (various)	<i>Northern Territory Aboriginal Sacred Sites Act</i> (NT); Northern Territory's Aboriginal Areas Protection Authority	Determine the location(s) of any Aboriginal sacred sites in the nearshore and onshore development areas
Permit to take wildlife for commercial purposes	<i>Territory Parks and Wildlife Conservation Act</i> (NT); Northern Territory's Parks and Wildlife Commission	Permission to clear cycads (<i>Cycas armstrongii</i>) during preliminary physical surveys at Blaydin Point
Development permits (various)	<i>Planning Act</i> (NT); Northern Territory's Department of Planning and Infrastructure (now the Department of Lands and Planning)	Permission to clear vegetation and conduct minor earthworks at Blaydin Point, for preliminary geotechnical, geological, environmental and engineering studies
Bore construction permits	<i>Water Act</i> (NT); Northern Territory's Department of Natural Resources, Environment, the Arts and Sport	Permission to develop groundwater bores at Blaydin Point, to inform design of the onshore development area
Occupation licence	<i>Crown Lands Act</i> (NT); Northern Territory's Department of Planning and Infrastructure (now the Department of Lands and Planning)	Permission to access Blaydin Point and part of Middle Arm Peninsula for preliminary physical surveys
Road reserve work permit	<i>Control of Roads Act</i> (NT); Northern Territory's Department of Planning and Infrastructure (now the Department of Lands and Planning)	Permission to work in the road reserves of Wickham Point Road and Channel Island Road to conduct preliminary physical surveys
Crossing gas pipeline	<i>Energy Pipelines Act</i> (NT); NT Gas Pty Limited	Permission to drive vehicles across an existing onshore gas pipeline during preliminary physical surveys

In addition, there are other statutes and regulations under which the Project will operate and for which approvals or licences may be required. These include those summarised in Table 1-3.

⁶ Note that the *Petroleum (Submerged Lands) Act 1967* (Cwlth) was superseded by the *Offshore Petroleum Act 2006* (Cwlth) on 1 July 2008. This was superseded in turn by the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cwlth) on 21 November 2008.

Table 1-3: Government approvals that may be required for the Ichthys Project

Approval required	Legislation	Comments
Production licence	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i> (Cwlth)	This Act governs the exploration and development of petroleum resources in Commonwealth waters.
Infrastructure licence	<i>Energy Pipelines Act</i> (NT) <i>Energy Pipelines Regulations</i> (NT)	This Act and these Regulations apply to the construction and operation of pipelines for the purposes of hydrocarbon transportation in the Northern Territory.
Pipeline licence Pipeline management plan (offshore)	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i> (Cwlth) <i>Petroleum (Submerged Lands) (Pipelines) Regulations 2001</i> (Cwlth) <i>Petroleum (Submerged Lands) Act</i> (NT) <i>Energy Pipelines Act</i> (NT) <i>Energy Pipelines Regulations</i> (NT)	These Acts and Regulations relate to the construction, operation and maintenance of pipelines for the transport of petroleum.
Environment plan approval required	<i>Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009</i> (Cwlth) ⁷	These Regulations ensure that operations are carried out in accordance with the relevant approved environment plan.
Development approval	<i>Planning Act</i> (NT)	This Act requires the developer to obtain a development approval from the appropriate local-government authority.
Building licence	<i>Building Act</i> (NT) <i>Building Regulations</i> (NT)	This Act and these Regulations ensure that buildings are designed to comply with the health, safety and structural provisions of relevant legislation, building codes and standards.
Major hazard facility safety report and licence Dangerous goods transport licence	<i>Dangerous Goods Act</i> (NT) <i>Dangerous Goods Regulations</i> (NT) <i>Dangerous Goods (Road and Rail Transport) Act</i> (NT) <i>Dangerous Goods (Road and Rail Transport) Regulations</i> (NT)	These Acts and Regulations impose controls for the storage and handling of dangerous and explosive goods.
Security plan approval required	<i>Maritime Transport Security Act 2003</i> (Cwlth) <i>Maritime Transport and Offshore Facilities Security Regulations 2003</i> (Cwlth)	This Act and these Regulations require all gazetted port operators to prepare a maritime security plan in accordance with the provisions outlined in the Act and Regulations.
Clearance of development area for Aboriginal sacred sites or archaeological sites	<i>Northern Territory Aboriginal Sacred Sites Act</i> (NT) <i>Heritage Conservation Act</i> (NT) <i>Heritage Conservation Regulations</i> (NT)	These Acts and Regulations apply to the protection of registered archaeological, anthropological and historical sites and objects important to people of Aboriginal descent in the Northern Territory.
Approval required to interfere with any historic shipwreck covered by Commonwealth legislation	<i>Historic Shipwrecks Act 1976</i> (Cwlth)	This Act protects shipwrecks over 75 years old.
Shipping management	<i>Marine Act</i> (NT)	This Act regulates shipping in the Northern Territory and provides for the application to the Territory of the Commonwealth's <i>Uniform Shipping Laws Code</i> .
Licences or approvals from the minister responsible for the environment may be required for possible interference with protected species of plants or animals	<i>Territory Parks and Wildlife Conservation Act</i> (NT) <i>Territory Parks and Wildlife Conservation Regulations</i> (NT)	This Act and these Regulations provide for the protection of native plant and animal species.

⁷ Note that the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cwlth) superseded the *Petroleum (Submerged Lands) (Management of Environment) Regulations 1999* (Cwlth) on 17 December 2009.

Table 1-3: Government approvals that may be required for the Ichthys Project (continued)

Approval required	Legislation	Comments
Environmental protection approval Environmental protection licence	<i>Waste Management and Pollution Control Act</i> (NT) <i>Waste Management and Pollution Control (Administration) Regulations</i> (NT)	This Act and these Regulations provide for the protection of the environment through the encouragement of effective waste management and pollution prevention and control practices. The environmental protection approval is required for construction and the environmental protection licence is required for operations.
Weed management during construction and operations	<i>Weeds Management Act 2001</i> (NT) <i>Weeds Management Regulations</i> (NT)	This Act and these Regulations protect the Northern Territory's economy, community, industry and environment from the adverse impact of weeds.
Road reserve work permit	<i>Control of Roads Act</i> (NT); Northern Territory's Department of Lands and Planning	This Act governs the obtaining of permits to work in road reserves such as those of Wickham Point Road and Channel Island Road.
Waste discharge licence	<i>Water Act</i> (NT) <i>Water Regulations</i> (NT)	This Act and these Regulations provide for the investigation, allocation, use, control, protection, management and administration of water resources. This includes the management of dredging and dredge spoil disposal.

1.4 Structure of the document

This Draft EIS is structured generally in accordance with the *Guidelines for preparation of a draft environmental impact statement: Ichthys Gas Field Development Project*, which were prepared by the DEWHA and NRETAS. (The guidelines are attached to this Draft EIS as Appendix 1.) The Draft EIS has 12 chapters:

- Chapter 1 *Introduction* introduces the proponent and the Project concept and briefly describes the environmental assessment requirements for the Commonwealth and Northern Territory governments.
- Chapter 2 *Stakeholder consultation* describes the involvement of stakeholders in the planning of the Ichthys Project.
- Chapter 3 *Existing natural, social and economic environment* describes the physical, biological, cultural and socio-economic environment in which the Project will operate.
- Chapter 4 *Project description* describes the Project, its major components and activities through each of its phases from construction to decommissioning. This includes discussion of the criteria used in the design of Project components.
- Chapter 5 *Emissions, discharges and wastes* describes the volumes and characteristics of the air emissions, liquid discharges and the solid and liquid wastes that will be produced by the Project.
- Chapter 6 *Risk assessment methodology* provides the risk assessment methodology used to identify and categorise the environmental risks associated with the Project.
- Chapter 7 *Marine impacts and management* describes the potential impacts of the Project upon the marine environment and outlines the management controls to be undertaken by INPEX.
- Chapter 8 *Terrestrial impacts and management* describes the potential impacts of the Project upon the terrestrial environment and outlines the management controls to be undertaken by INPEX.
- Chapter 9 *Greenhouse gas management* describes the greenhouse gas emissions from the Project and the measures being investigated to manage these emissions.
- Chapter 10 *Socio-economic impacts and management* describes the potential socio-economic impacts of the Project and the management controls to be undertaken by INPEX.
- Chapter 11 *Environmental management program* outlines the proponent's Health, Safety and Environmental Management Process and includes a suite of provisional environmental management plans.
- Chapter 12 *Commitments register* provides the key environmental management commitments made by INPEX for the Ichthys Project.

Technical reports supporting the Draft EIS are provided as appendices to the main document.

