DREDGING DARWIN HARBOUR
SHIPPING CHANNEL, TURNING BASIN
AND TWO BERTHS

STATEMENT OF EFFECT

Document No.: L025-AG-STA-0001
Security Classification: Business - Commercially in confidence

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Description</th>
<th>Prepared</th>
<th>Checked</th>
<th>Line Manager Endorsed</th>
<th>Director / GM Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>19 JAN 2012</td>
<td>Issued for Review</td>
<td>D Meehan</td>
<td>G Collins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3 FEB 2012</td>
<td>Issued for Review</td>
<td>D Meehan</td>
<td>M Watson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>29 FEB 2012</td>
<td>Issued for Use</td>
<td>D Meehan</td>
<td>G Collins</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## DOCUMENT DISTRIBUTION

<table>
<thead>
<tr>
<th>Copy No.</th>
<th>Name</th>
<th>Hard Copy</th>
<th>Electronic Copy</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Document Control</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>01</td>
<td>David Gwyther</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>02</td>
<td>Mark Robertson</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>03</td>
<td>Thijs van Berkel</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>04</td>
<td>Jeremy Clifford</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>05</td>
<td>Jamie Carle</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>06</td>
<td>Paul Erftemeijer</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>07</td>
<td>Greg Oliver</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>08</td>
<td>Bass Randall</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>09</td>
<td>Godfrey Peek</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>10</td>
<td>Harutoshi Usui</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>11</td>
<td>Tim Larcombe</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>12</td>
<td>Ilka Burnham-King</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>13</td>
<td>Brad Williams</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>14</td>
<td>Geoff Collins</td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>
NOTICE

All information contained with this document has been classified by INPEX as Business - Commercially in confidence and must only be used in accordance with that classification. Any use contrary to this document's classification may expose the recipient and subsequent user(s) to legal action. If you are unsure of restrictions on use imposed by the classification of this document you must refer to the INPEX Information Security Classification Directive or seek clarification from INPEX.

Uncontrolled when printed.
## TABLE OF CONTENTS

1 STATEMENT OF EFFECT

1.1 Location of the proposed works

1.2 Landowner information

1.3 Proposal description

1.4 Dredge volumes and dredged materials

1.5 Application of Section 46 of the Planning Act (NT) to the development

1.5.1 Introduction

1.5.2 Application of Section 46(3)(a) of the Planning Act (NT) to the development

1.5.3 Application of Section 46(3)(b) of the Planning Act (NT) to the development

1.5.4 Application of Section 46(3)(c) of the Planning Act (NT) to the development

1.5.5 Application of Section 46(3)(d) of the Planning Act (NT) to the development

1.5.6 Application of Section 46(3)(e) of the Planning Act (NT) to the development

1.5.7 Application of Section 46(3)(f) of the Planning Act (NT) to the development

1.5.8 Application of Section 46(3)(g) of the Planning Act (NT) to the development

1.5.9 Application of Section 46(3)(h) of the Planning Act (NT) to the development

1.5.10 Application of Section 46(3)(j) of the Planning Act (NT) to the development

1.6 Other INPEX development consent applications

2 TECHNICAL INFORMATION

## LIST OF TABLES

Table 1-1: Status of development permits for the Ichthys Gas Field Development Project

Table 2-1: Technical information

## LIST OF FIGURES

Figure 1-1: The Ichthys Project’s dredging footprint—shipping channel, turning basin, and berthing area

Figure 2-1: Darwin Harbour—Main channel and turning basin dredging layout
TABLE OF APPENDICES

APPENDIX A: DARWIN PORT CORPORATION RECOMMENDATIONS ON DESIGN CHANGES TO THE INPEX SHIPPING CHANNEL ........ 14

APPENDIX B: LETTER FROM THE DEPARTMENT OF LANDS AND PLANNING AUTHORIZING INPEX TO APPLY FOR A DEVELOPMENT CONSENT FOR DREDGING OPERATIONS .................................. 16

APPENDIX C: ICHTHYS PROJECT APPROVAL LETTER FROM THE NORTHERN TERRITORY’S MINISTER FOR THE ENVIRONMENT .................. 18

APPENDIX D: ICHTHYS PROJECT APPROVAL LETTER FROM THE COMMONWEALTH’S MINISTER FOR THE ENVIRONMENT ........ 20
1 STATEMENT OF EFFECT

INPEX Operations Australia Pty Ltd proposes to conduct dredging operations in Darwin Harbour for the Ichthys Gas Field Development Project (the Project) on behalf of Ichthys LNG Pty Ltd.

The proposed dredging operations are required to achieve the following:

- to extend the existing safe shipping access from the vicinity of East Arm Wharf to the proposed product loading jetty at Blaydin Point
- to provide a turning basin large enough to permit the safe manoeuvring of ships that are up to approximately 350 metres long overall
- to provide a safe approach and departure area to and from the product loading jetty
- to provide two berthing pockets at the product loading jetty to accommodate two product export tankers.

Activities associated with the dredging operations include the following:

- transport of the dredged material through Darwin Harbour to an offshore spoil disposal ground
- disposal of the dredged material at the proposed offshore spoil disposal ground
- movements of crew transfer vessels within Darwin Harbour
- bathymetric surveys of the dredge footprint and the offshore spoil disposal ground
- near-field dredge-plume monitoring and model validation
- mid- and far-field monitoring to detect dredge-related impacts within Darwin Harbour.

On 10 November 2011 the Northern Territory’s Minister for Lands and Planning granted INPEX a development consent for the dredging required for the module offloading facility and gas export pipeline (Development Permit DP11/0775). At the time of making that application, a development consent was not required for the activities covered by the present application in respect of the shipping channel. INPEX has since been advised by the Department of Lands and Planning that as a result of recent changes to the Planning Act (18 January 2012) the proposed activities now require a development consent.

On 4 May 2011, the Darwin Port Corporation advised INPEX that on 17 January 2011 the Northern Territory Government’s Onshore Gas Development Taskforce had approved a number of the Corporation’s recommendations related to INPEX’s proposed operations in Darwin Harbour (see Appendix A).
1.1 Location of the proposed works

The locations of the Ichthys Project’s proposed shipping channel, turning basin and berthing area in Darwin Harbour are shown in Figure 1.1.

![Dredging footprint map](image)

**Figure 1-1:** The Ichthys Project’s dredging footprint—shipping channel, turning basin, and berthing area

1.2 Landowner information

It is understood that the Department of Lands and Planning owns the land in the dredging footprint and that the Darwin Port Corporation manages the waters of Darwin Harbour above the footprint that is the subject of this application. Refer to Appendix B for the letter from the Department of Lands and Planning giving its approval to INPEX to apply for this development consent.

1.3 Proposal description

Dredging needs to be carried out in Darwin Harbour to support the Project. The purpose of the dredging program which is the subject of this development consent application is as follows:

- to extend the existing safe shipping access from the vicinity of East Arm Wharf to the proposed product loading jetty at Blaydin Point
- to provide a turning basin large enough to permit the safe manoeuvring of ships that are up to approximately 350 metres length overall
- to provide a safe approach and departure area to and from the product loading jetty
• to provide two berthing pockets at the product loading jetty to accommodate two product export tankers.

Associated with the above dredging program is the requirement to transport and deposit the dredge spoil to the proposed dredge spoil disposal site.

The dredging program will require the following vessel types:

• trailing suction hopper dredger(s) (TSHD)
• cutter-suction dredger(s) (CSD)
• backhoe dredger(s) (BHD) or grab dredger(s) (GD)
• hopper barges (HBs)
• tugboats
• crew transfer vessels
• multi-cat workboats
• survey and monitoring vessels
• supply vessels
• materials barges.

Initially it is planned that a specialised CSD will be used to remove the large ridge of hard rock known as Walker Shoal which blocks the Project's shipping channel to Blaydin Point. If the CSD is unable to remove all the material, a BHD equipped with a hydraulic hammer or drum cutter will also be used. In the unlikely event that these methods will not be completely effective, blasting of the remainder of the shoal will be required. In this event, one or more self-elevating drilling platforms (SDPs) will be used for the drill-and-blast operations, which may last approximately four weeks. The Project will have best-practice procedures and a monitoring plan in place to reduce risks to marine animals.

1.4 Dredge volumes and dredged materials

Based on current estimates it is expected that 14.1 million cubic metres of spoil will be generated from the shipping channel, turning basin and berthing area dredging operations. This is in addition to the approximately 1.8 million cubic metres of dredging approved in Development Permit No. DP11/0775.

Dredging calculations for the shipping channel are based on the need to provide clearance for all product tankers, with appropriate allowances being made for the large tidal range experienced in the Harbour. The dredging footprint has also been designed to avoid maritime heritage sites, while at the same time maintaining the safety buffer necessary to protect the operations of the East Arm Wharf facilities. The Project's design vessels have a draft of 12 metres. The design depth of the channel, turning basin and berthing area has been set at 13.5 metres below LAT.

The spoil generated by the dredging will be composed of different types of material depending on the location of the dredging activities. The material has been categorised as follows:

• Sediments: high-moisture-content clays, silty sands, and gravels (estimated to be 50–70%)
• rock or rocklike material: fractured rock known as phyllite with lenses or dykes of quartz (estimated to be 30 - 50%)
• hard rock: metamorphic conglomerate intrusions such as those of Walker Shoal (estimated to be 5%).

A detailed dredging methodology and schedule will be included in the dredging and spoil disposal management plan (DSDMP) in accordance with conditions 10 (a) and (b) of the Commonwealth’s approval decision for the Ichthys Project (see footnote 2 below), which will be subject to review by the Ichthys Project Dredging Expert Panel (IPDEP) and approval by the Northern Territory’s Department of Natural Resources, Environment, the Arts and Sport, and the Commonwealth’s Department of Sustainability, Environment, Water, Population and Communities.

1.5 Application of Section 46 of the Planning Act (NT) to the development

1.5.1 Introduction

The Ichthys Project has been subjected to an environmental impact assessment by both the Northern Territory and the Commonwealth governments. These assessments included the dredging program that is the subject of this application.

On 17 May 2011 the Northern Territory Government formally advised INPEX that the environmental impact assessment of the Ichthys Gas Field Development Project under the Environmental Assessment Act (NT) had been concluded and that it had made recommendations identifying methods to mitigate and offset expected environmental impacts as far as possible (see Appendix C). A copy of the full assessment report is available on the Internet1.

The Commonwealth Government granted environmental approval to the Ichthys Project on 27 June 2011 (see Appendix D). The dredging program, part of which is the subject of this development application, was included in the environmental impact assessment process. A copy of the Commonwealth approval decision is available on the Internet2.

These government environmental approvals for the Project followed a rigorous three-year assessment process, comprehensive environmental studies and extensive engagement with the community and other stakeholders.

1.5.2 Application of Section 46(3)(a) of the Planning Act (NT) to the development

“… an assessment demonstrating how the proposed development will comply with any planning scheme that applies to the land;”

A small proportion of the proposed dredging area is zoned for development; the remainder of the area has not been assigned to a zone.

The primary purpose of Zone DV is to provide for the development of major strategic industries, including gas-based, road-, rail- or port-related industries.

The zone provides for major industrial development that is of strategic importance to the future economic development of the Territory.


The proposed dredging program, which is the subject of this application, is required for the Ichthys Project which will bring substantial economic benefits to the Northern Territory and to Australia as a whole. For this reason the proposed dredging is consistent with the designated purpose of a development zoning.

1.5.3 Application of Section 46(3)(b) of the Planning Act (NT) to the development

“... an assessment demonstrating how the proposed development will comply with an interim development control order, if any, applying to the land;”

Not applicable.

1.5.4 Application of Section 46(3)(c) of the Planning Act (NT) to the development

“... if a public environmental report or an environmental impact statement has been prepared or is required under the Environmental Assessment Act in relation to the proposed development – a copy of the report or statement and the results of any assessment of the report or statement under that Act by the Minister administering that Act;”

An environmental impact statement (EIS) consisting of a “Draft EIS”\(^3\) and the “EIS Supplement”\(^4\) was assessed and approved by the Northern Territory (17 May 2011 – see Appendix C) and Commonwealth governments (27 June 2011 – see Appendix D) in relation to this development.

As part of the ministerial approval conditions for the total Project, including dredging, INPEX is required to submit a DSDMP for the approval of the Commonwealth Minister for the Environment, which must include the following:

- final methodologies for this dredging program, including the methods and timing of dredging activities
- a schedule for dredging activities
- contingency plans to manage dredging if there is a significant departure from predicted impacts
- details of an ecological monitoring program
- the involvement of an expert panel in the development of the plan and monitoring program required to detect and manage impacts
- reporting and auditing arrangements.


---

Document no.: L025-AG-STA-0001
Security Classification: Business - Commercially in confidence
Revision: 0
Date: 29 FEB 2012
The three “beneficial uses” of Darwin Harbour (defined as all saline waters south of a line from Charles Point to Gunn Point and bounded by the high-water mark of tidal waterways), as specified in a declaration issued by the Administrator of the Northern Territory under Section 73(1) of the Water Act (NT) on 29 June 2010\(^5\), are as follows:

- aquaculture
- environment
- cultural.

The water quality objectives for Darwin Harbour are those specified in the document *Water quality objectives for the Darwin Harbour Region – background document*\(^6\). If particular water quality objectives relevant to a declared beneficial use are not specified in this document, then the applicable water quality objectives are those presented in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality\(^7\).

Potential impacts upon these beneficial uses and water quality objectives from dredging activities in the shipping channel, turning basin and berthing area will be mitigated through implementation of the monitoring and management plans described in the Ichthys Project’s environmental impact statement. The DSDMP, currently under development, will outline the various near-field, mid-field, and far-field monitoring packages and management plans relevant to dredging activities for the Project.

1.5.5 **Application of Section 46(3)(d) of the Planning Act (NT) to the development**

“… an assessment demonstrating the merits of the proposed development;”

- **Safety**
  
  Dredging is required to provide a safe approach and departure channel, a turning basin and berthing pockets capable of accommodating vessels with a draught of 12 metres. Without the proposed dredging, vessels will not be able to enter the shipping channel, turning basin or berthing area at Blaydin Point.

- **Economics**
  
  The Northern Territory component of the Ichthys Project cannot go ahead if the proposed dredging program does not proceed.

---


The Ichthys Project is forecast to expand the economy at both the national and Northern Territory level. The Australian economy is forecast to expand by up to $3.5 billion annually, which includes increases in taxation payments and household incomes of approximately $1.8 billion annually over the life of the operation.

At the Northern Territory level, the localised impacts of the Ichthys Project will be proportionally far greater given the relatively smaller size of the Territory’s economy. Modelling indicates that the Ichthys Project will have a significant positive impact on the Northern Territory economy, contributing on average almost 18% to the gross state product during each year of the Project.

Due to the economic stimulus provided by the Ichthys Project, total Northern Territory household spending will increase by an estimated $175 million annually.

1.5.6 Application of Section 46(3)(e) of the Planning Act (NT) to the development

“… a description of the physical characteristics of the land and a detailed assessment demonstrating the land’s suitability for the purposes of the proposed development and the effect of development on that land and other land;”

Introduction

The Ichthys Project has been subjected to an environmental impact assessment process at both the Northern Territory and Commonwealth government levels.

Both the dredging and dredge spoil disposal programs were assessed and approved, with conditions, by the two governments.

The conditions include a requirement that the current provisional DSDMP, which was included in the environmental impact assessment process, is to be updated once the dredging contractor has been appointed. The updated plan is to cover all the Commonwealth and Northern Territory government conditions related to the dredging component of the Project and is subject to Northern Territory Government and Commonwealth Environment Minister approval prior to the commencement of dredging. The DSDMP will also be reviewed by an independent expert panel, the Ichthys Project Dredging Expert Panel. The purpose of the panel is to provide independent advice to the Northern Territory and Commonwealth governments for the secondary approval process. The terms of reference for the panel are available on the Internet.

Detail

Potential impacts from the Project on natural, social, cultural or heritage values have been comprehensively assessed in the Draft EIS and the EIS Supplement. The assessment of environmental impacts is currently being updated using the proposed dredging contractor’s work method. Results and mitigation measures will be addressed in the DSDMP and will be accompanied by descriptions of associated near-field, mid-field, and far-field monitoring programs. In relation to the dredging of the shipping channel, turning basin and berthing area, the list that follows provides a summary of potential impacts and proposed management (the DSDMP will more fully describe predicted impacts and management and monitoring):

---

8 [http://www.ichthys-panel.org.au/].
in relation to sedimentation and turbidity in Darwin Harbour, three coral communities have been identified in proximity to the proposed dredging activities: Channel Island, South Shell Island, and a location to the north-east of Wickham Point. These communities will be monitored together with an additional community at Weed Reef acting as a reference site. A reactive monitoring program has been designed for the coral community at Channel Island in addition to routine monitoring programs for the other three communities.

Localised disturbance of seabed substrates and associated biota. Although similar substrates and biota are widespread in the Harbour and surrounds, a program will nevertheless be implemented to monitor seabed faunal assemblages.

Filter-feeder communities are widely represented in Darwin Harbour and also occur in areas remote from potential Project impacts.

A recreational fish species monitoring program will be instituted to document changes in key recreational fish species abundance and distribution.

It should be noted that no significant habitats or food resources for coastal dolphins, marine turtles and dugongs will be directly impacted by the shipping channel, turning basin and berthing area dredging works. The potential for indirect impacts will be monitored and adaptively managed through the DSDMP. Similar habitats and food resources occur elsewhere in the Harbour, remote from potential Project impacts. A monitoring program will be implemented to monitor dolphins, marine turtles and dugongs in Darwin Harbour and its surrounds.

Increases in sedimentation will affect only a very small proportion of the mangrove habitat within Darwin Harbour. Any areas subject to Project-related mortality will be rehabilitated. A comprehensive mangrove health monitoring program will be implemented.

Soft-sediment biota are typically sparsely distributed and adapted to living within mobile sediments. Similar habitats are widespread within the Harbour, remote from potential Project impacts. A soft-bottom benthos monitoring program will be implemented in zones that could potentially be affected by dredging.

No significant habitats or food resources for protected species are present in the immediate vicinity of the shipping channel, turning basin and berthing area dredging works. Suitable habitats and food resources occur elsewhere in the Harbour, remote from potential Project impacts. Consequently, underwater noise from dredging is not expected to have a significant impact on fish and large marine animals, including protected species.

Construction vessels will be assessed for biofouling risk and managed following the guidelines of the Fisheries Division of the Northern Territory’s Department of Resources, the Australian Quarantine and Inspection Service, and the Commonwealth’s Department of Agriculture, Fisheries and Forestry. Biofouling risk assessments and marine pest monitoring and management plans will be implemented.

In relation to vessel strikes on large marine animals (megafauna), or disturbance of their feeding activities or displacement from their normal habitat, the dredging contractor will have a protected marine species management plan. This will assist in identifying and mitigating risks to turtles.
dugongs, dolphins, and whales during dredging operations. In addition, a marine fauna awareness training program will be instituted. Marine fauna observation duties will be undertaken by selected personnel on vessels. They will be shown what to look for, how to react to reduce the likelihood of a vessel–fauna impact, how to record the location and time of sightings, and the type and number of species observed within Darwin Harbour and the offshore spoil disposal area during dredging operations. INPEX will collate these marine fauna observation records quarterly and use the data to produce maps of vessel-fauna interaction areas to be shared with Contractors to raise awareness. No critical breeding or foraging areas for protected species occur in the immediate vicinity of the shipping channel, turning basin and berthing area dredging works. Vessel procedures will be in place to reduce the risk of interactions with protected species.

- In relation to entrainment of marine protected species (especially turtles and sawfish) in dredging machinery leading to injury or death, no critical breeding or foraging areas for protected species are present in the immediate vicinity of the shipping channel, turning basin and berthing area dredging works. Suitable habitats and food resources occur elsewhere in the Harbour, remote from potential Project impacts. Exclusion devices for reducing the risk of entrainment will be applied to the trailing suction hopper dredger, which is the only dredge type recognised by experts as posing a threat of entrainment to marine turtles. Dredging contractors will develop a reporting procedure for recording any potential entrainment, injury or death of marine protected species by dredgers. Mitigation measures (e.g. deflection devices, draghead engagement procedures, etc.) for minimising impacts to marine protected species will be addressed in the DSDMP.

- Limitations will be placed on non-dredging vessel movements in the vicinity of the shipping channel, turning basin and berthing area dredging works construction equipment through, for example, notifications of safety zones around construction vessels to avoid potential collision with other vessels.

- accidental disturbance to maritime heritage sites (sacred sites, and sunken ships and aircraft) will be managed by the implementation of controlled zones around maritime heritage sites and by anchor management plans. Extensive maritime heritage surveys have been conducted to identify sensitive areas. Heritage management plans have either been prepared or will be prepared to manage operations that will occur in the vicinity of sensitive areas. INPEX is currently liaising with the Heritage Branch of the Department of Natural Resources, Environment, the Arts and Sport on how best to manage and relocate any potential marine heritage items identified during heritage surveys of the dredge footprint. Recommendations from the Heritage Branch will be considered in INPEX's Non-Aboriginal heritage management plan: onshore and nearshore development areas (INPEX Document No. C025-AG-PLN-0029), currently in development. These recommendations will also be addressed in the DSDMP, which will be submitted to the Ichthys Project Dredging Expert Panel, the Department of Natural Resources, Environment, the Arts and Sport and the Department of Sustainability, Environment, Water, Population and Communities as part of the secondary approval process.

Further, the Aboriginal Areas Protection Authority has issued the following authority certificates covering areas which include the proposed dredging areas:

- C2011/164
- C2011/166
INPEX's application for an authority certificate over its proposed dredge spoil disposal area is afoot.

The Larrakia Development Corporation, representing the Larrakia people, prepared on INPEX’s behalf, the Aboriginal heritage management plan: onshore development area and Darwin Harbour (INPEX Document No. C025-AG-PLN-0010) covering INPEX’s area of interest on Blaydin Point and in Darwin Harbour. The heritage management plan has been approved by the Larrakia Advisory Committee and accepted by NRETAS - Heritage Branch.

1.5.7 Application of Section 46(3)(f) of the Planning Act (NT) to the development

“… a statement specifying the public facilities or public open space available in the area in which the land is situated, whether land for public facilities or public open space is to be provided by the developer and whether it is proposed that facilities or open space be developed by the developer;”

Not applicable to this proposal.

1.5.8 Application of Section 46(3)(g) of the Planning Act (NT) to the development

“… a statement specifying the public utilities or infrastructure provided in the area in which the land is situated, the requirement for public facilities and services to be connected to the land and whether public utilities or infrastructure are to be provided by the developer or land is to be provided by the developer for the provision of public utilities or infrastructure;”

Not applicable to this proposal.

1.5.9 Application of Section 46(3)(h) of the Planning Act (NT) to the development

“… an assessment of the potential impact on the existing and future amenity of the area in which the land is situated;”

The areas in which the dredging will occur will modify the local visual landscape, for up to 4 years, the estimated duration of this dredging program. Potential impacts to the visual landscape are likely to occur as a result of suspended sediment concentrations from dredge plumes, and sedimentation build-up in mangroves.

Throughout the environmental approvals process no substantial concerns were raised about significant impacts upon the amenity of these specific areas. Further sediment transport modelling is currently being undertaken using the proposed dredging work method to determine the expected impacts to environmental receptor sites. The results of the model outputs will be included in the DSDMP to demonstrate zones of impact and influence and how the Contractor will adaptively manage potential impacts.

1.5.10 Application of Section 46(3)(j) of the Planning Act (NT) to the development

“… an assessment of the benefit or detriment to the public interest of the development;”
Water safety

Water safety will be managed via a communication process developed between the Contractor and the Darwin Port Corporation (DPC). The Corporation will maintain control over the Port through both VHF radio communication and maritime notices. The Contractor will be expected to provide updates on planned or forecasted dredging locations to the Corporation. Notices to the public will include details on safety zones around dredgers to improve safety and to increase awareness of the dredging program among all port users.

1.6 Other INPEX development consent applications

Separate applications for development consent assessment have been or will be submitted for the following activities:

<table>
<thead>
<tr>
<th>Application for</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dredging for the module offloading facility and gas export pipeline</td>
<td>Minister approved on 10 November 2011</td>
</tr>
<tr>
<td>Exceptional development permit for accommodation village</td>
<td>Minister approved on 28 December 2011</td>
</tr>
<tr>
<td>Blaydin Point LNG plant site (including module offloading facility and jetty,</td>
<td>Minister approved on 10 January 2012</td>
</tr>
<tr>
<td>extractive minerals area and utilities)</td>
<td></td>
</tr>
<tr>
<td>Ben’s Hill communication and security tower</td>
<td>Anticipated for first quarter of 2014</td>
</tr>
</tbody>
</table>
## 2 TECHNICAL INFORMATION

Table 2-1: Technical information

<table>
<thead>
<tr>
<th>Topic</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled start date</td>
<td>July 2012</td>
</tr>
<tr>
<td>Duration</td>
<td>Up to 4 years</td>
</tr>
<tr>
<td>Estimated volume of spoil to be removed</td>
<td>14.1 million cubic metres</td>
</tr>
<tr>
<td>Estimated cost</td>
<td>More than $200 million (currently under tender)</td>
</tr>
<tr>
<td>Current contours</td>
<td>Refer to INPEX Drawing No. L383-DW-LAD-0001.001 Rev. D. Approved by Darwin Port Corporation by letter ref. DCP2011/471 of 4 May 2011 (refer to Appendix A)</td>
</tr>
<tr>
<td>Depth of dredging</td>
<td>The areas which are the subject of this application will be dredged to 13.5 metres below LAT excluding dredging tolerances set to an average of 0.5 metres of over-dredge. Refer to the accompanying plan L025-DU-LAD-0001.001.</td>
</tr>
<tr>
<td>Likely equipment</td>
<td>Cutter-suction dredgers, trailing suction hopper dredgers, backhoe dredgers, barges, tugboats and material barges.</td>
</tr>
</tbody>
</table>
Figure 2-1: Darwin Harbour—Main channel and turning basin dredging layout
APPENDIX A: DARWIN PORT CORPORATION RECOMMENDATIONS
ON DESIGN CHANGES TO THE INPEX SHIPPING CHANNEL

Executive

Our Ref: DPC2011/471
Your Ref: C092-IPX-DRW-LE-0001

Mr. Atashi Sakamoto
Onshore Project Director
INPEX Browse Ltd.
Level 22
100 St Georges Terrace
Perth, WA 6000

Dear Sir

Re: Design Change to INPEX Shipping Channel

Thank you for your letter of 14 April 2011 and for your kind remarks regarding the co-operation of DPC personnel during the Kawasaki navigation simulation study in December 2010. We also wish to express our sincere appreciation for the co-operation and flexibility afforded to DPC by INPEX and Japan Marine Services personnel during the study.

Your comments regarding the channel design considerations and assumptions leading up to the simulation study are noted.

The DPC Chief Executive Officer and Harbourmaster reported on the study findings and made a number of recommendations to the NT Government Onshore Gas Taskforce on 17 January 2011. The following recommendations were approved:

1. The report on the INPEX Channel Design and Aids to Navigation Evaluation was accepted;
2. The proposed INPEX channel design, as simulated for the study, was approved;
3. The proposed channel depth of 13.5 metres below Chart Datum (which approximates Lowest Astronomical Tide) was approved;
4. The proposed Aids to Navigation being buoys, beacons, leading line towers and sector lights, as modelled during the study, were approved. Provision for minor adjustments for positions and descriptions in order to optimise aid to navigation capability was accepted;
5. The proposed tug configuration of four 70 tonne bollard pull tugs was approved as meeting the operational needs, with the provision for one 55 tonne bollard pull tug to be substituted at times of maintenance or breakdown; and

6. The need for continued work to establish operating parameters and procedures was approved.

On the basis of the above approvals, DPC confirms acceptance on the INPEX channel design and operability as confirmed during the simulation study and acceptance of a minimum (Static) UKC of 1.5 metres for the INPEX channel.

We note that, subsequent to the simulation study, INPEX has proposed the complete removal of Walker Shoal. DPC supports this proposal from a navigational and safety prospective. However, DPC recommends that INPEX makes provision for the appropriate marking of Walker Shoal should its complete removal not transpire.

Yours sincerely

TERRY O'CONNOR
AV Chief Executive Officer

4th May 2011
APPENDIX B: LETTER FROM THE DEPARTMENT OF LANDS AND PLANNING AUTHORISING INPEX TO APPLY FOR A DEVELOPMENT CONSENT FOR DREDGING OPERATIONS

[Image of letter from the Department of Lands and Planning]

Mr Mark Robertson
Government Approvals Manager
INPEX
Level 22, 100 St Georges Terraco
PERTH WA 6000

Dear Mr Robertson

Authorisation to lodge Planning Application – Darwin Harbour

Thank you for your letter dated 19 January 2012, seeking approval to lodge a Planning Application for the purpose of conducting dredging operations within the Darwin Harbour.

Approval is granted to INPEX Operations Australia Ltd (INPEX), or its agent to lodge the relevant planning application in accordance with the requirements of the Planning Act. This consent is limited to the dredging works identified on the attached map to be undertaken within Darwin Harbour.

In providing this authorisation, this Department in no way endorses the content of the application but merely provides authorisation for the application to be lodged and considered by the Development Consent Authority.

Should you have any queries in respect of this letter, please contact Ms Deborah Prichard on 8999 6596.

Yours sincerely

CRAIG BRADLEY
Director, Land Administration

19 January 2012
APPENDIX C: ICHTHYS PROJECT APPROVAL LETTER FROM THE NORTHERN TERRITORY’S MINISTER FOR THE ENVIRONMENT

20 MAY 2011
Ref: C075-MRN-IPX-LE-0004

MINISTER FOR NATURAL RESOURCES,
ENVIRONMENT AND HERITAGE

Parliament House
State Square
Darwin NT 0800
minister.hmann@nt.gov.au

Salva Ito
Managing Director
INPEX Browse Ltd
Level 22, 100 St Georges Terrace
Perth WA 6000

Dear Ito-san

I am pleased to advise that the environmental impact assessment of the Ichthys Gas Field Development Project, Bladyn Point, under the NT Environmental Assessment Act is now concluded. A copy of the Assessment Report for the Project is enclosed.

I have issued the Assessment Report, as my final advice and recommendations, to the Northern Territory Minister for Lands and Planning, the Hon Gerald McCarthy MLA.

Recommendations arising from this assessment address methods to identify, mitigate and offset environmental impacts as far as possible. It is now critical to the achievement of acceptable environmental outcomes that the commitments made by INPEX and the recommendations made in the Assessment Report are followed through to implementation.

The proposal will require a number of Northern Territory Government approvals, and the Assessment Report is intended to inform many of those approvals.

My Department will be providing a copy of the Assessment Report to the Department of Sustainability, Environment, Water, Population and Communities to inform the Australian Government’s environmental approval process under the Environment Protection and Biodiversity Conservation Act.

The Assessment Report will be published on the Department of Natural Resources, Environment, the Arts and Sport website.
Any queries in relation to this matter should be directed to Mr Matt Darcey, Executive Director Environment and Heritage, on telephone (08) 8924 4135 or email matt.darcey@nt.gov.au.

Yours sincerely

KARL HAMPTON
17 MAY 2011
APPENDIX D: ICHTHYS PROJECT APPROVAL LETTER FROM THE COMMONWEALTH'S MINISTER FOR THE ENVIRONMENT

The Hon Tony Burke MP
Minister for Sustainability, Environment, Water, Population and Communities

Mr Seigo Ito
President Director, Australia
INPEX Browse Ltd
Level 22
100 St Georges Terrace
PERTH WA 6000

Dear Mr Ito

Approval decision for the Ichthys Liquefied Natural Gas proposal (EPBC 2008/4208)

I refer to your proposal to develop the Ichthys Field in the Browse Basin, the installation and operation of offshore extraction facilities and subsea pipeline, and onshore processing facilities at Blayney Point, Northern Territory.

I have considered the proposal in accordance with Part 9 of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and have decided to grant an approval to INPEX Browse Ltd. The details of my decision are attached. The proposal must be undertaken in accordance with the conditions specified in the approval. In relation to the provision of offsets under condition 3, I confirm that this condition will allow offset levels to be met as an average over time, rather than precisely on an annual basis.

I would appreciate your assistance by informing me when you will provide the information specified in the conditions and who will be the contact person responsible for the administration of the approval decision. Please note, any plans required as conditions of approval will be regarded as public documents unless you provide sufficient justification to warrant commercial-in-confidence status.

You should also note that this EPBC Act approval does not affect obligations to comply with any other laws of the Commonwealth, state or territory that are applicable to the action. Neither does this approval confer any right, title or interest that may be required to access land or waters to take the action.

Parliament House, Canberra ACT 2600
Telephone (02) 6277 7640
Fax (02) 6277 6101
The Department of Sustainability, Environment, Water, Population and Communities (the department) has an active audit program for proposals that have been referred or approved under the EPBC Act. The audit program aims to ensure that proposals are implemented as planned and that there is a high degree of compliance with any associated conditions. You should be aware that your project may be selected for audit by the department at any time and all related records and documents may be subject to scrutiny.

If you have any questions about this decision, please contact Mr Chris Murphy on 02 6274 1821 or chris.murphy@environment.gov.au.

Yours sincerely

Tony Burke

Env