

**WESTERN AUSTRALIAN LEGISLATIVE ASSEMBLY -- ECONOMICS AND
INDUSTRY COMMITTEE SUBMISSION BY INPEX CORPORATION**

Inquiry into safety-related matters relating to FLNG Projects

This submission is presented in the following format:

INPEX Corporation
Ichthys Project Description
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This submission should be read in conjunction with the submission by the Australian Petroleum Production and Exploration Association which sets out the overall industry response to the current inquiry.

In particular INPEX would like to draw the committee's attention to the Key Points of the APPEA submission which reflect INPEX's experience with the oil and gas sector in Australia.

APPEA's key points:

- The Australian upstream petroleum industry takes the safety of its personnel and impacts on the environment very seriously. The industry is acutely aware that its social and regulatory licence to operate is based on maintaining high levels of performance in these areas.
- The offshore petroleum safety and environment regulatory regime in Australia is robust and considered to be leading practice in mature, developed petroleum producing jurisdictions.
- Industry and government continue to work cooperatively to review and refine the offshore petroleum safety and environment regulatory regime in Australia to ensure best fit for high technology, high hazard and dynamic industries, global best practice regulation and response to local and international incidents.
- Petroleum operators are best placed to identify and mitigate the specific safety and environmental risks of their individual activities.
- Good practice, incidents, experience and lessons need to be shared across the industry and regulators as effectively, widely and rapidly as possible. This open approach though is highly dependent on having in place a mature regulator(s) engaged with industry to share and problem solve but backed up by clear objective based regulation and firm but fair enforcement.
- The petroleum industry has in place a large number of emergency planning and response initiatives, both at an individual facility level and in collaboration with each other. The industry also works closely with a number of federal and state government agencies with responsibilities/oversight for maritime incident emergency response, and
- Industry has not identified a need for additional Federal or State government resources or infrastructure to support the growth in activities offshore north-west Australia.

INPEX CORPORATION

INPEX CORPORATION is a global oil and gas company headquartered in Tokyo, currently ranking 59 in Platts Top 250 global energy companies.

It is Japan's flagship oil and gas exploration and production company and is listed on the Tokyo Stock Exchange.

It has 1.46 billion shares on issue.

The Japanese Government retains a cornerstone investment (18.94 per cent as of 31 March 2014) and holds one special class (golden) share in the company.

The Corporation reported earnings of 52.5 million Yen in the three months ended 30 June 2014, an improvement of 74.7 per cent on the previous corresponding period.

INPEX is involved in more than 70 separate projects in nearly 30 countries.

It is one of the biggest - and longest engaged - global investors in liquefied natural gas projects including Bontang, Tangguh and Abadi in Indonesia, and Darwin, Ichthys and Prelude in Australia. (Bontang, which began operations in 1972, is one of the world's earliest LNG projects. With a maximum installed capacity of 22.5million tonnes a year it is among the largest.)

INPEX was founded in 1966 as an exploration company in Indonesia and has expanded to encompass growth in four geographic regions – Japan, Australia, Indonesia and Abu Dhabi and has other interests in the Caspian Sea region, Russia, Africa and the Americas.

INPEX has embarked on an ambitious growth strategy with the aim of becoming a top class international oil and gas exploration and production company.

We have a medium to long term target of lifting production from around 400,000 barrel of oil equivalent a day to more than 1 million boe within the next decade.

Our aim is the rapid commercialisation of oil and gas fields discovered outside Japan and implementation proactive overseas exploration, development and production.

A major component of the growth strategy is a USD44 billion investment in exploration and development from 2012 to 2016. Much of this is being spent offshore northern Australia.

As it expands INPEX has made an absolute corporate commitment to Anzen Dai Ichi - safety first - with the fundamental objective of ensuring every one of its employees and those of its contractors returns home safely every night.

Australia is a key to INPEX achieving its projected growth.

INPEX has been in Australia since 1986. Its Australian operations are headquartered in Perth which is the company largest global office with more than 1,000 personnel.

Australian interests are spread along the western and northern offshore waters and include Ichthys, Bayu-Undan/Darwin LNG, and Prelude in LNG and Kitan, Van Gogh, Coniston and Ravensworth oil fields.

It has also stakes in 13 exploration permits off the Western Australian coast, six as operator.

In LNG, INPEX has an 11.378122 per cent stake in the Bayu-Undan/ Darwin LNG operation which has been in production since 2006.

Last year it became a 17.5 per cent equity participant in the Shell-operated Prelude Project with the stated aim of securing expertise for a floating LNG development of the Abadi gas resource which is in Indonesian waters north of Darwin.

Abadi in the Arafura Sea is 60 per cent owned by INPEX, 30 per cent by Shell and the remainder by Indonesian interests.

The Ichthys Project in the Browse Basin is the first LNG project in which INPEX is operator. It is the crown jewel in the corporation's medium to long term growth strategy.

ICHTHYS PROJECT DESCRIPTION

The Ichthys LNG Project is a joint venture between INPEX group companies as operator, French (and global) oil and gas major, TOTAL, and the Australian subsidiaries of Tokyo Gas, Osaka Gas, Chubu Electric Power and Toho Gas.

A Final Investment Decision for the Project was announced in January 2012 with a project cost of USD34 billion and first gas scheduled for the end of 2016.

The Ichthys Joint Venture's funding for the Project includes USD20 billion in project financing, the largest global project financing deal yet arranged.

The Ichthys Project represents the biggest single Japanese investment in Australia while INPEX Corporation is the biggest Japanese investor in Australian oil and gas projects.

The Ichthys development project began with the award of exploration permit WA-285-P in August 1998 through an open tender process conducted by the Australian Government.

Thus INPEX is essentially licenced by the Australian Government on behalf of the Australian people to develop the gas it has discovered.

It is subject to Australian Government regulatory overview, currently encompassed by the National Offshore Petroleum Safety and Environmental Management Authority.

During 2000 to 2001 three exploratory wells resulted in the discovery of an extremely promising gas and condensate field now known as the Ichthys Field. Most likely resource estimates are 12.8 trillion cubic feet of gas and 527million barrels of condensate.

In oil and gas industry terms the Ichthys Field, located about 220 km off the Western Australian coast is ranked as a giant field: in oil alone it is the biggest discovery in Australian waters since Bass Strait in the 1960s.

The Ichthys Field covers an area of around 800 square kilometres and is made up to two reservoirs, Brewster (at a depth of 4000 metres) and Plover (depth of 4500 metres). The water depth is relatively shallow averaging 268 to 280 metres. To commercialise these resources INPEX Corporation has embarked on developing a world class project.

The Ichthys field development plan is designed to produce 8.4 million tonnes of LNG a year, 1.6 mtpa LPG and 100,000 barrels of condensate a day at peak production.

The Ichthys Project development comprises effectively three separate mega projects, each of significant scale, and small projects which are still substantial in global terms.

The Central Processing Facility which gathers natural gas from the field's subsea wells is located on a 110 metre by 110 metre semi-submersible platform, the biggest yet built.

The CPF will be linked to a floating production, storage and offloading (FPSO) vessel with a storage capacity of more than 1,000,000 barrels of condensate which will make it one of the largest FPSO's deployed in Australian waters.

The CPF and the FPSO are each designed to accommodate some 150 people when they are fully operational.

Gas processed on the CPF will be transported through an 889km, 40-inch sub-sea pipeline to Bladin Point in Darwin (the fifth longest subsea pipeline yet built) - where it will fuel two 4.2 million tonnes a year capacity LNG processing trains and associated gas production facilities.

There are a number of other substantial systems that are being developed so that the gas resource can be moved to market safely and efficiently.

HSE PERFORMANCE

The Ichthys Project celebrated recently a milestone of 50 per cent completion.

In reaching that point nearly 81 million man hours have been completed across some 40 operations globally.

The number of man hours involved in this Project ultimately is predicted to reach 160 million.

The total man hours Lost Time Incident (LTI) rate was (at 50 per cent completion):

- Offshore 23.8 million
- Onshore 32.7 million.

INPEX has Health, Safety and Environment teams on Ichthys Project all sites across the globe working closely with contractors' HSE teams.

Aside from health and safety performance, environmental monitoring programmes reveal impacts are in line with, or less than, original projections.

INPEX is a foundation member of the Subsea First Response Toolkit.

The SFRT comprises specialised equipment located in Fremantle for immediate mobilisation at the onset of a subsea well event.

The SFRT contains equipment needed to clean the area around the wellhead, enable intervention and prepare for relief well drilling and safe installation of a well capping or containment device.

The location of this equipment – funded collaboratively by the oil and gas industry – provides Western Australia with the capability of using the most sophisticated tools available to manage and control unplanned well events under the control of experienced oil and gas industry operators.

ANCILLIARY PROJECTS

Later this year INPEX will begin drilling and completing development wells in the Ichthys field using the semi-submersible drilling rig, the ENSCO 5006 which is now undergoing extensive modification in Singapore to meet Ichthys field requirements.

Phase 1 wells target the Brewster reservoir with 20 production wells planned.

The drilling campaign is scheduled to last about 40 months with each well taking around 60 days to complete.

The Ichthys Project includes also a sophisticated subsea production system necessary to completely the development wells and allows hydrocarbons to flow in a controlled manner to the CPF.

It involves:

- an installation and work over control system
- 22m vertical Christmas trees
- 21 well head (12 spare
- five manifolds
- distribution units and hubs
- five 42-inch connections.

The Project involves also a world-scale subsea umbilicals, risers and flowlines development providing seabed infrastructure to facilitate the production and gathering of gas from the drill centres for delivery to the CPF then onward transfer of the products to the FPSO and export of the processed gas through the gas export pipeline to Bladin Point.

AUSTRALIAN REGULATIONS

All INPEX's Australian activities are in Australian offshore waters or in the Joint Petroleum Development Area of the Timor Sea.

As such they come under the control of Australian Government regulatory authorities or the Joint Petroleum Development Commission.

All INPEX activity in the Browse Basin is under the regulatory control of the Australian Government.

In effect INPEX has been selected to manage the exploitation of the Ichthys gas resource by the Australian Government on behalf of the Australian people.

That selection process requires INPEX to submit to Australian regulatory authorities as identified by the Australian Government.

The development of a world-scale LNG industry has been bi-partisan policy in Canberra or nearly two decades. During that time Australia has promoted itself to foreign investors as a country with little or no sovereign risk and a stable regulatory regime.

Part of that promotion has been the development of single robust regulatory management system.

Successive governments in Canberra have recognised that conflicting regulatory requirements are a significant risk for financiers funding major offshore developments.

As far as the Browse Basin aspects of the Ichthys Project are concerned the regulator is the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA).

NOPSEMA operates under the Offshore Petroleum and Greenhouse Gas Storage Act 2006.

Under this Act a facility is defined as a vessel or structure (whether floating or fixed) whether or not it is capable of independent navigation while the vessel or structure is located in Commonwealth waters and is being used, or is being prepared for use, at the site for the recovery, processing, storage, or offloading of petroleum.

The OPGGSA also gives NOPSEMA a role in ensuring that the operator of offshore facilities ensures that:

- it is safe;
- work is safe;
- designated work groups, Health and Safety Committees and Health and Safety representatives are facilitated;
- accommodation and subsistence is provide to an OHS inspector;
- NOPSEMA be notified of accidents and dangerous occurrences are or near the facility; and
- records of accidents, etc. are kept.

NOPSEMA regulates offshore activities through the safety case model. A safety case is a document produced by the operator of a facility which:

- identifies the hazards and risks;
- describes how the risks are controlled; and
- describes the safety management system in place to ensure the controls are effectively and consistently applied.

The principle here is that those who create the risk must manage it.

As NOPSEMA states: "It is the operators' job to assess their processes, procedures and systems to identify and evaluate risks and implement the appropriate controls, because the operator has then greatest in-depth knowledge of their installation."

NOPSEMA assesses safety cases and 'accepts' a safety case if it is satisfied that the arrangements set out in the document demonstrate that the risks will be reduced to as low as reasonably practicable (ALARP).

Following this 'accepted' safety case, NOPSEMA will conduct inspections in relation to facilities to monitor the operator's application of the safety cases in practice.

The current situation is that NOPSEMA's authority does not extend to State waters (i.e. Western Australia's coastal or State waters) as a result of lack of agreement between the Australian and Western Australian governments.

The situation is that WA has not accepted NOPSEMA's authority over its waters and so the State of Western Australia continues to govern "safety" of its waters.

INPEX notes there have been reforms that have seen movement towards a "one stop shop" offshore regulator both vertically (across the whole petroleum value chain) and horizontally (across Australian - Commonwealth - and State waters).

For example, it used to be that NOPSEMA (or its predecessors) regulated the safety of an offshore platform while the joint authority (delegating to the designated authority of the relevant state/territory) regulated the safety (or integrity) of wells underneath the platform. NOPSEMA now regulates both the offshore platform and the underwater wells in Commonwealth waters.

It follows, of course, in the context of the Committee's current inquiry that quite apart from the regulation of "safety" upfront (i.e. obtaining the appropriate approvals such as an approved safety case for an offshore facility), when an incident has occurred the relevant regulator to become involved will depend on the jurisdiction impacted by the incident.

This can only be assessed at the relevant time on the facts then applying.

ICHTHYS PROJECT LOGISTICS

INPEX has kept the Western Australian Government informed, through the Department of State Development, of how Ichthys Project requirements will have an impact on Western Australia particularly at times of cyclonic activity and also through other emergency activities.

We provide the Committee with the following example of the information provided to the government.

Ichthys Project logistics support is split in the following main areas:

- personnel transport including SAR and cyclone de-man, medevac
- cargo transport
- fleet type of vessels used.

Personnel transport

Helicopters are used to transport personnel offshore. The types of helicopters used are Eurocopter EC225 and SikorskyS-92. These helicopters are considered as heavy carrier (19 passengers) and long range.

They are fitted for the oil industry with a life raft and auxiliary fuel tanks for long distances, external on the EC225 and internal on the S-92. For planning purposes, inbound available seats from offshore during de-manning operations have been calculated at 17 passengers.

The transport of personnel is operated from Broome with a stop for refuelling in Lombadina. Truscott and Darwin are used to support the crew change for pipe-laying operations only.

Search and rescue

In addition to the fleet, some helicopters are equipped with a winch to be used to rescue personnel at sea during daylight only. INPEX is working with other operators to share a helicopter able to operate 24h a day/seven days a week for these functions.

Cyclone/safety evacuation

Evacuation would be flown to a combination of the following destinations:

- **Broome:** If time permits, evacuation to Broome presents the least number of issues in terms of accommodation and onward travel requirements. Evacuees can either be housed in Broome itself or flown utilising RPT services to Perth.
- **Lombadina/Broome:** Using Lombadina as a "shuttle" destination allows one extra flight per day (within the constraint of daylight hours) but requires the use of a light fixed wing to transfer passengers between Lombadina and Broome. Due to runway width restrictions at Lombadina, fixed wing aircraft type options are limited to the use of 2x 9 seat aircraft or 1x 18 seat unpressurised aircraft of which there is only one operator in Australia.
- **Truscott:** Depending on whether or not Truscott is likely to be affected by the cyclone, it can be used as an evacuation point linking with onward fixed wing charter flights to Darwin. INPEX-contracted helicopters based in Truscott can initially fly Truscott – Ichthys – Broome to commence evacuation if required. Truscott is capable of accepting fixed wing with 30 passenger seats. Fixed wing charters from Truscott to Darwin can be provided by either Air North or Pearl Aviation, both of which are audited and approved to provide Aviation Charter services to INPEX.

CONCLUSION

INPEX CORPORATION is committed to the highest level of employee and personnel safety throughout its global operations.

Its corporate mantra of Anzen Dai Ichi - Safety Number One or Safety First - is adopted at the highest level of the Corporation and rigorously reinforced through all levels of the workforce and through active involvement of contractors' management and personnel.

All the equipment used in the Ichthys Project has been designed and selected with safety paramount, not only in the preparation and construction phases but for an operational life of assets, onshore and offshore, of more than four decades.

It follows that safety of INPEX and its contractors' personnel drives also the management of logistic programmes associated with the support of the project both during construction and for operations planned to last until well into the second half of this century.

INPEX is taking advantage of long standing oil and gas industry convention in collaborating and cooperating with its industry peers in ensuring that world's leading safety practice is adopted.

INPEX does not believe there is a need for a separate regulatory authority to manage safety aspects of supporting oil and gas development off the Western Australian coast.

INPEX as a foreign investor in Australia believes it is important for Australia's national interest that there is only one national regulator of activities involved in the development of offshore oil and gas projects.