Extract from BHP Billiton Petroleum Operational and Financial Review 2005



## NORTH WEST SHELF FACTSHEET

## HIGHLIGHTS

- Fifth LNG train expansion approved in June 2005
- LNG Train 4 commissioned in September 2004
- The Guangdong Dapeng LNG contract went unconditional in December 2004

The North West Shelf (NWS) Project is Australia's largest resource development. It has been developed in two major phases the domestic gas phase, which supplies gas to Western Australia's domestic market; and a number of LNG expansion phases, which currently supply Liquefied Natural Gas (LNG) for export primarily to Japan and Korea, and from mid 2006, will supply LNG to Guangdong in China. The project also produces crude oil, condensate and LPG, primarily for export.

The NWS Project involves the extraction and transport of natural gas and condensate by pipelines from offshore gas fields to the onshore gas treatment plant at Withnell Bay on the Burrup Peninsula, Western Australia. LNG, condensate and LPG are transported to market by ship. Domestic gas is transported for delivery to customers via the 1500 km Dampier to Bunbury Pipeline and the 220 km Pilbara Energy Pipeline to Port Hedland.

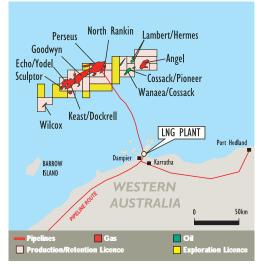
Raw gas is produced from the North Rankin, Perseus, Goodwyn, and Echo-Yodel fields. Production from the North Rankin and Perseus fields is through the North Rankin A platform, which has the capacity to produce 2300 MMcf/d of natural gas and 53,000 bbl/d of condensate.

Production from the Goodwyn and Echo-Yodel fields is through the Goodwyn Alpha platform, which has the capacity to produce 1450 MMct/d of gas and 110,000 bbl/d of condensate.

The Project also produces crude oil from the Cossack, Wanaea, Lambert and Hermes oil fields located about 30 km northeast of the North Rankin field. The oil is processed and stored on the Cossack Pioneer, a Floating Production, Storage and Offloading (FPSO) facility.

## **GROWTH STRATEGIES**

The expansion of existing LNG processing facilities at the NWS Project continued during the year with the commissioning of the fourth LNG train in late 2004.



The fourth train expansion involved constructing a 4.2 million tonnes per annum (Mt/a) liquefaction processing facility and installing a 42 inch diameter gas trunkline over a distance of 135 km from the existing production platforms to the onshore processing plant. The fourth train expansion was successfully completed, with start-up achieved in August 2004; the first significant LNG production occurred in September 2004.

In June 2005 BHP Billiton announced approval for a fifth train expansion of the LNG processing facilities. The approval covers a liquefaction processing train with a capacity of 4.2 Mt/a, additional processing facilities and associated infrastructure. Based on the operator's estimate, the total investment is approximately A\$2 billion (BHP Billiton's share approximately U\$250 million). When completed, the expansion will increase the NWS Project production capacity to 15.9 million tonnes of LNG per annum. Construction on the fifth train will commence in late calendar 2005, and first production is expected in late 2008.

## **PRODUCTION FY05**

Australia

#### Net production (our share)

Oil	5.9 MMbbl
Condensate	5.3 MMbbl
LNG	1.84 Mt
LPG	129,500 tonnes
Domestic Gas	14.6 Bcf

#### Gross (total) production

35.1 MMbbl
35.6 MMbbl
11.04 Mt
777,100 tonnes
175.4 Bcf

## OWNERSHIP

BHP Billiton has a one-twelfth share of domestic gas production, oneeighth of China LNG production, and a one-sixth share of production of all other products from the NWS Venture. The other venture participants are:

BP Developments Australia Pty Ltd		
Chevron Australia Pty Ltd		
Japan Australia LNG (MIMI) Pty Ltd		
Shell Development (Australia) Pty Ltd		
CNOOC NWS Private Limited		

Woodside Energy Ltd (operator)

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Australia

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Marketing highlights for the Project in FY 2005 include:

- The 3.3 Mt/a Guangdong Dapeng LNG contract became unconditional in December 2004, with the first commissioning cargo expected to be loaded for the new terminal in the first half of 2006.
- Due to the quicker than expected ramp-up of production from the new fourth LNG train, an additional six LNG cargoes were produced above forecast and sold into high value north Asian markets.

In order to meet forecast increased gas demand, the Perseus over Goodwyn (POG) and Perseus 1B projects were both sanctioned in FY 2005. The POG development consists of four subsea wells tied back to the Goodwyn A platform; the Perseus 1B project consists of three wells to be drilled from the North Rankin A platform. These projects are planned for start-up in FY 2006 and are required to provide gas to meet anticipated and new LNG contractual commitments.

The currently undeveloped Angel gas field is expected to be developed to meet anticipated market requirements from 2008.

## HSEC

HSEC performance improved during the year with five lost time injuries (LTIs) recorded. The operator has rolled out a safety improvement plan with a focus on leadership and accountability in order to achieve top quartile performance going forward.

### PRODUCTION

Operationally and financially the North West Shelf Project maintained its strong performance during FY 2005.

NWS oil production was 35.1 MMbbl gross (5.9 MMbbl net to BHP Billiton), or an average of 96,000 bbl/d (gross). This was below last year's production due to increased downtime resulting from operational problems with subsea equipment, and the natural decline of the reservoirs.

NWS LNG production in FY 2005 was 11.04 million tonnes gross (1.84 million tonnes net to BHP Billiton), or an average of 30,200 tonnes per day (gross). This was considerably higher than in FY 2004 due to the start-up of the fourth LNG train in August 2004 and the strong demand for LNG in North Asia.

NWS condensate production was 35.6 MMbbl gross (5.3 million barrels net to BHP Billiton), or an average of 98,000 bbl/d (gross), slightly lower than in FY 2004.

Total LPG production in FY 2005 was 777,100 tonnes gross (129,500 tonnes net to BHP Biliton) or an average of 2100 tonnes per day (gross).

NWS domestic gas production for FY 2005 was 175.4 Bcf gross (14.6 Bcf net to BHP Billiton), or an average of 480 MMcf/d gross. This is lower than in FY 2004 due to reduced demand from BHP Billiton's Boodarie Iron plant.





As part of the Perth office's annual activity day in April 2005, staff participated in the Business Clean Up Day. Within two hours, 34 cubic metres of rubbish had been collected from the beach and bushland clean up sites. A waterbird tangled in a fishing line was also rescued during the clean up. Efforts on the day helped in restoring a section of coastal banksia woodlands which is rapidly disappearing from the Perth metropolitan area.



Staff from the Perth office cleaning up coastal banksia woodlands