

INNOVATION AND TECHNOLOGY

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Angel Delivers on Promise and Plan

The Angel Gas Platform was designed and built to operate as “not normally manned”. With a focus on operability, reliability and maintainability the Angel development has achieved these aims as a highly reliable facility, operating at low cost and minimal safety risk to people.

The Challenge

The Angel project presented a new new challenge for Woodside as it would be the largest gas processing (separation and dehydration) “not normally manned” platform in Australia.

The project’s completion was also planned to coincide with the start up of a new LNG train at the Karratha Gas Plant. It was critical that Angel be completed on schedule to ensure Woodside maintained its reputation as a reliable supplier of contracted gas.

The Project

To ensure successful delivery, the Angel facility had to be made as simple as possible. The key was to minimize equipment and to select equipment and materials for reliability, minimum critical failures and ease of maintenance.

Woodside conducted extensive research across the world, as well taking onboard “lessons learned” from others companies for application at Angel.

Central to the approach was the integration of Woodside’s operations team in the design of the facility. Effective life cycle analysis was used to support decision making on equipment selection, with engineers and operations advisers jointly delivering the best outcome.

The result of this innovative thinking is a remotely operated, remotely powered gas dehydration offshore platform, fed from three large bore subsea wells. Operations and power are provided from the nearby North Rankin A platform.



Angel gas platform

The facility is unmanned on a daily basis and all operations and planned maintenance activities are carried out during a five-day visit every six weeks.

The approach developed for Angel is now being implemented on other Woodside projects including Pluto, Browse, and Greater Western Flank to deliver similar outcomes.

Achievements

Angel was completed on time and produced first gas in October 2008.

Production capacity for Angel was achieved two months after start-up and “not normally manned” operations were achieved after nine months of operation. The benchmark for achieving “not normally manned” status from first production is 18 months.

Since start-up Angel has achieved outstanding reliability, as well as achieving lower operating costs and reduced maintenance hours.

Greenhouse efficiencies have also been achieved, with the provision of power from North Rankin A, rather than dedicated Angel generators.

Local engineering design has meant many WA firms have strengthened their oil and gas capabilities, positioning them well for similar projects domestically and internationally.

The Angel Project was recently awarded the prize for Resource Development, and the overall prize, at the 2009 West Australian Engineering Excellence Awards.

More Information

All stakeholders are invited to contact Woodside for additional information at: sustainabledevelopment@woodside.com.au

