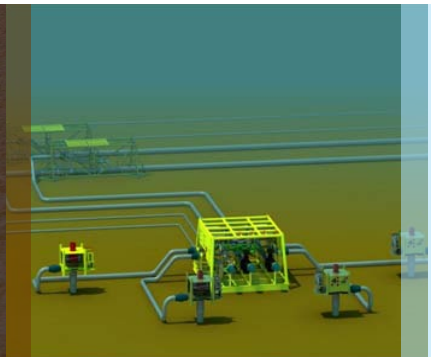
Wheatstone Upstream



FAR LEFT: The proposed Wheatstone platform

LEFT: An artist's impression of wells clustered around a manifold connected to the flowlines.

Scope

The offshore components of the Wheatstone Project are the facilities that take the gas and liquids from the wells on the seabed and deliver it to the onshore gas processing plant. The offshore scope has three sections:

- the subsea component, which is wells and associated infrastructure to tie-back the wells to the processing platform
- the processing platform, which is divided into the substructure and the topsides
- the export trunkline that delivers the gas onshore for further processing at Ashburton North.

Subsea system

Subsea manifolds will be installed at depths ranging from 100m-260m across the gas fields. Subsea trees will be clustered around the manifolds from which the development wells will be drilled. Each development well will be drilled to a depth of approximately 3 kilometres. The manifolds will be installed by heavy-lift vessels and the subsea trees by drilling rigs.

A system of corrosion resistant subsea pipelines will tie the wells back to the processing platform and will be installed by pipe-laying vessels.

Wheatstone Platform - substructure

The foundation for the Wheatstone processing platform will be a steel constructed gravity-based substructure weighing about 26,000 tonnes. The depth of the water at the site for the processing platform is 73m and the substructure will be 100m high. It will be transported to the site from its fabrication site in South Korea. Once at the site, it will be floated off the barge, ballasted into place and filled with approximately 60,000 tonnes of iron ore ballast to stabilise the substructure on the sea floor.

Wheatstone Platform - topsides

The Wheatstone processing platform will be Australia's largest offshore facility with a topsides weight of about 36,000 tonnes. The topsides will be fabricated as a single integrated unit in South Korea, transported to the offshore installation site on a barge, and installed on to the substructure using a procedure known as a float-over. Once the topsides are installed on the substructure, they will be about 28m above the sea level. They have been designed to withstand 12 storey-high cyclonic waves.

The platform topsides has a total deck area of 20,000 square meters and includes primary processing equipment and facilities.

- Inlet facilities to receive the incoming gas and condensate production
- Separation and cooling equipment to separate the gas from the liquids (condensate and water)
- Compression facilities to bring the gas to the required export pressure
- Dehydration equipment to dry the gas and de-water the condensate for transport to shore
- Export facilities to tie-in the export trunkline which takes the gas to the Ashburton North plant site for further processing.

To support the processing facilities, the platform has several support systems and utilities:

- a living quarter module to house up to 100 people
- waste treatment facilities
- a power generation system with a total generation capacity of 27 mega watts
- safety control systems.

Chevron will use micro-tunnelling for 2 kilometres under the shore to avoid disturbing the coastline at Ashburton North.

Export trunkline

The 1120mm diameter export trunkline will be the largest diameter gas pipeline in Australia. It will span about 225 kilometres from the processing platform to the Ashburton North plant site. The total weight of the line pipe is about 200,000 tonnes.

The trunkline will cross the shore via a method known as micro-tunnelling. This involves drilling a horizontal tunnel about 3m in diameter for 2 kilometres under the beach to avoid disturbing the coastline. About 40 kilometres of the trunkline will also require secondary stabilisation to protect against cyclone induced disturbance. The secondary stabilisation will be installed in water depths ranging from 6m to 50m and will comprise a combination of pre-lay trenching with backfill, selective rock-dumping and subsea mechanical trenching.

Micro-tunnelling will avoid impacting mangroves at the site of the crossing and mechanical trenching will reduce the impact on the environment.

Gas Supply for Wheatstone Project

The Wheatstone Project will be fed from two field developments. Chevron is developing the Wheatstone and Iago gas fields within the petroleum titles which make up the Wheatstone development.

Joint Venture Participants, Apache and KUFPEC, will develop the Julimar and Brunello fields as a separate project.

The gas from both of these developments will be processed through the Wheatstone platform and transported through the trunkline to the onshore gas plant at Ashburton North.

For more information on the Wheatstone Project:

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