Pioneering microgrid solution for offshore platform
Supporting Woodside’s efforts to optimize costs

The first time in the world that a microgrid solution will provide spinning reserve from a battery energy storage system for an offshore platform.

About the Woodside project

Woodside’s Goodwyn A Platform
Goodwyn A is an offshore production platform in Commonwealth waters about 135 km North-West of Karratha in Western Australia and has been operating since 1995 and produces dry gas and condensate from the Goodwyn, Perseus and Searipple area reservoirs. Gas and condensate from these reservoirs is transported via a network of pipelines to Goodwyn A and then on-shore to the Karratha Gas Plant for processing.

The Goodwyn A is more than 290 metres tall and stands in a water depth of 131 metres. The platform combines production, re-injection, utilities and accommodation facilities. The 55,000 ton production facility is secured to the seabed by 36 piles, which allow the structure to support its operating load and withstand cyclone conditions.

Goodwyn A is designed for up to 30 production wells, including five re-injection wells, and has a daily production capacity of up to 36,000 tons of gas and 11,000 tons of condensate.

Temporary remote operation
Temporary remote operation of the production facilities may be required in the event of demanning the platform for severe cyclones. In this mode of operation production is controlled from a remote operating station located onshore at the Karratha Gas Plant.

Benefits

World’s first offshore microgrid installation of a 1MWh PowerStore Battery energy storage system
Reducing spinning reserve and fuel gas use, providing incremental Liquefied Natural Gas production.

Lowered costs for operations and maintenance
A microgrid with a 1MWh battery system will reduce the 3.2MW gas turbine generators required for a spinning reserve on Goodwyn A to 3 from the original 6. The generators would then operate at a lower cost and higher efficiency. Maintenance cost can also be reduced by decommissioning 1 gas turbine generator.

2,000 tons per year lower fuel gas consumption
Delivering positive ROI and 5% lower CO₂ emissions.
PowerStore™ Battery acts as a virtual generator

The battery used includes state-of-the-art inverters and virtual generator control software that work in concert to stabilize power systems.

Microgrid Plus Control System

With the Microgrid Plus dedicated control system; PowerStore™ Battery maximizes fossil fuel savings by being able to optimize the control and dispatch between the existing gas turbines and PowerStore battery system. This further decreases dependency on fossil fuels and reduced carbon emissions.

Remote Operation

ABB’s cloud based remote operation and monitoring tool offers a comprehensive solution to increase productivity, improve energy efficiency and reduce operational costs and provides an alternative way to access the system in the event of extreme weather events.

Facility details

<table>
<thead>
<tr>
<th>Facility details</th>
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<tbody>
<tr>
<td>Location</td>
<td>135 km north-west of Karratha, Western Australia</td>
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<tr>
<td>Facility type</td>
<td>Fixed platform</td>
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<tr>
<td>No. of wells</td>
<td>19 currently, 30 maximum</td>
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<tr>
<td>Production capacity</td>
<td>36,000 tons of gas, 11,000 tons of condensate</td>
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<td>Commissioned</td>
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<tr>
<td>Coordinates</td>
<td>Latitude 19º 39’ 12” South, Longitude 115º 55’ 42” East</td>
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<td>Water depth</td>
<td>131 m</td>
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