

News Release from: Yokogawa UK

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North Sea platform revived by fieldbus technology

Yokogawa UK was selected to supply all process-control and safety systems for Brent Alpha using Foundation fieldbus systems, Centum CS3000 Integrated Production Control and ProSafe FandG/ESD systems

The revival project for the Brent Alpha Platform in the UK sector of the North Sea was initiated following an assessment by Shell Exploration and Production that showed the projected life of the hydrocarbon reserves to be greater than the expected life of the control equipment installed.

Shell Exploration and Production, on behalf of Shell, Esso and co-venturers, operates the Brent field, which is the largest hydrocarbon accumulation within the UK sector of the North Sea. The Brent Alpha platform is located in 140 m of water approximately 60 km north east of Shetland, and the oil and gas it produces is transported via pipeline to St Fergus.

A plan of action was initiated to replace the control and safety systems.

One of the key Shell requirements was for a system that would enable the normal operating condition of the platform to be unmanned. Unmanned operation results in a significant business benefit by reducing operating costs, but it also places stringent demands on the availability of a control system.

The solution was to use a system that could be relied upon not only to provide continuous and safe operation but also to report any out-of-specification operation to the adjacent Brent Bravo platform over 3 km away.

Yokogawa UK was selected to supply all process-control and safety systems for Brent Alpha.

The scope of supply covered [Foundation fieldbus](#) systems, including EJA transmitters, a Centum CS3000 Integrated Production Control System, a ProSafe-SLS [emergency shutdown](#) System and a ProSafe-SLS Fire and Gas protection system - all supplied as a fully integrated system.

Foundation fieldbus - a two-way, multi-drop communication link among intelligent measurement and control devices developed by the Fieldbus Foundation - is expected to reduce the life cycle total cost of ownership (TCO) of the platform.

Yokogawa is a strong contributor to the Fieldbus Foundation, and supplies a wide range of field devices with a Plant Resource Management tool and a fully redundant interface to Centum CS3000.

Shell is leading the way with this first Fieldbus installation in the UK Sector of the North Sea.

Foundation fieldbus gives Shell the opportunity to reduce operating costs on a daily basis.

In fact the main justification for this expenditure was to improve asset management.

Yokogawa's Plant Resource Manager (PRM) was selected as the tool to achieve this improvement in asset management

Plant Resource Manager (PRM) minimises the Total Cost of Ownership (TCO) and maximises the Total Value of Ownership (TVO) through plant-wide fieldbus device management.

The core of the integrated control and safety system is the Yokogawa Centum CS3000 Integrated Production Control system.

Yokogawa's CS3000 represents a new era in control systems, integrating the high reliability of its predecessors with the open environment of a personal computer.

Simplified and cost-effective engineering, easy operation and superior control functions mean that this control system will rapidly pay for itself in today's severe business environment.

Its openness for integrating with enterprise resource planning and manufacturing execution systems makes it easy to create a strategic management information system.

Yokogawa is a leader in the provision of safety and fire and gas protection systems with the ProSafe-SLS safeguarding system. ProSafe-SLS has been selected by Shell for more than 70 installations in the UK.

The tight integration of ProSafe-SLS with CS3000 provides an extremely well-integrated system that reacts to emergency problems in less than one millisecond.

Full integration means that all events are logged by CS300 with time stamps and in chronological order.

Shell will reduce their operating costs using Yokogawa and [fieldbus technology](#) with an extremely cost-effective and high-reliability solution that lowers total life-cycle costs and maximises total value of ownership.

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