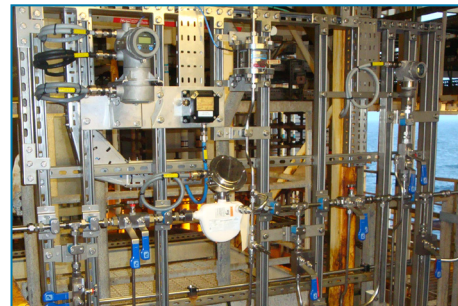


CASE STUDY

Corrosion Inhibitor Injection System - Wood Group PSN



Background

Woodgroup PSN has a long-term integrated services contract (ISC) with BP in the UKCS and this includes the Eastern Trough Area Project (ETAP) comprising nine reservoirs in the Central North Sea developed through platform facilities and subsea-tie backs.

Hydrasun has had a long-term relationship with Wood Group PSN supplying a variety of fluid transfer products and in 2010 signed a Framework Agreement for the provision of Instrumentation products and associated added value solutions.

Customer Requirements

Corrosion in oil production systems has severe implications for safety and productivity. While system design and effective surface coatings reduce the likelihood of corrosion, the practice of injecting preventative chemicals greatly improves the prevention of corrosion.

Wood Group PSN had a requirement for the provision of a Corrosion Inhibitor Injection System which would facilitate the measurement and automated flow control of corrosion inhibitor media being injected into wellhead lines, on the ETAP Central Processing Facility and Mungo platforms.

The scope required the supply of a complete bespoke system in line with Wood Group's outline specification requirements supported by design expertise, project management, manufacture, testing and provision of a complete documentation package.

Hydrasun's Solution

Hydrasun consulted with Wood Group's engineering team to review the initial "general arrangement" proposed, before finalising the detailed design & manufacture of a fully automated Corrosion Inhibitor Injection System that measures corrosion inhibitor fluid mass, flow and temperature whilst transmitting all measurement information back to the asset control system.

Design enhancements proposed and accepted for incorporation on the final system included improved frame rigidity to protect against the effects of vibration, identification of suitable compression couplings, re-positioning of the cable tray, orientating handles to face the operator, design and provision of drip trays and provision of more effective tube clamps than originally specified.

Specialist increased corrosion resistance longer life products and materials were used, including 6Mo material for tube runs, Parker's range of twin ferrule 6Mo A-lok compression fittings, 316 Stainless Steel for the frame and manifolds, whilst high quality, high integrity Emerson pressure transmitters and mass flow meters were the preferred instrument options.

Initially a single frame for the Mungo Platform was proposed for the flow of corrosion inhibitor from the ETAP Central Processing Facility frame, however as a result of handling concerns offshore, Hydrasun recommended splitting the Mungo Platform frame into two separate frames. This resulted in reduced weight, increased frame strength and improved safety throughout any lifting operations.

Hydrasun completed relevant factory acceptance tests (FAT), which involved pressure testing, flow control valve powering and stroke testing at our facilities, ensuring the necessary third party design approval and certification was secured to satisfy customer requirements.

At a glance

Customer

Wood Group PSN

Location

North Sea UKCS, BP's ETAP (Eastern Trough Area Project)

Customer Requirements

Provision of a bespoke designed Corrosion Inhibitor Injection System

Hydrasun Solution

General Arrangement review, design, manufacture, test and supply of a Corrosion Inhibitor Injection System, with ability to measure and automate the flow of corrosion inhibitor fluid, inline with the customers design specifications.

Benefits

- Fast track on-time delivery
- Bespoke single source design, manufacture and testing solutions
- Project Management
- Enhanced technical integrity & reliability
- Cost savings

Result

Hydrasun's experience in control panel manufacturing was complemented by our ability to project manage each stage of the design & production process - providing improvement recommendations, managing change, co-ordinating the supply of materials, building and testing the Corrosion Inhibitor Injection System within an extremely challenging timescale & budget.

The compact design enabled the final product to fit within the specified envelope on-board the customers asset whilst specific design features allowed for improved operator interface and facilitated the accurate measurement and control of corrosion inhibitor injection adding real value to asset operations.

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