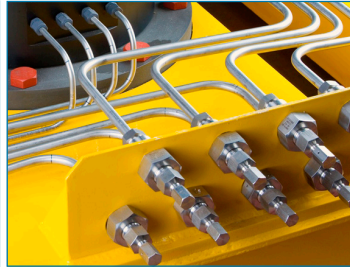


CASE STUDY

Small Bore Tubing Integrity Management Services on Enquest Assets



Background

Small Bore Tubing (SBT) assemblies are extensively used in process service including hydrocarbon, chemical and high pressure fluid power systems.

Degradation of SBT assemblies can occur when they are incorrectly designed, constructed, operated or maintained, which can include, inadequately managing the effects of corrosion. SBT assemblies are vulnerable to failure due to poor installation practice, vibration fatigue or lack of effective inspection programmes. This means that if good practice is not being applied through the whole SBT assembly life cycle, there is an increased probability that an integrity failure event will occur at some time during service, potentially leading to injury of personnel and loss of containment.

The significant risks posed by these systems were highlighted by statistics collated by the Health and Safety Executive (HSE) 1997 for the offshore UKCS. These indicated that SBT assemblies were the single largest contributor to the loss of process containment in the Oil and Gas industry. The report stated that there was considerable room for improvement in terms of installation, inspection and maintenance practices.

Customer Issue

Enquest has a number of assets – Thistle, Heather, Northern Producer, Enquest Producer, Magnus and Sullom Voe Terminal – located both offshore and onshore within the UK.

A requirement was identified for a robust and consistent management programme with respect to SBT assemblies to be developed and implemented on these assets in line with both in-house and industry good practice guidelines as defined within The Energy Institute document, Guidelines for the Management, Design, Installation and Maintenance of Small Bore Tubing assemblies – May 2013.

Hydrasun Solution

Through their involvement in the development of the Energy Industry Guidelines, Hydrasun was ideally placed to implement a fully compliant and effective programme focused on the criticality of the equipment or system the SBT assemblies were part of on a specific asset, as well as the consequence of failure and factors that would influence the life of the assembly.

To support this Hydrasun could provide Enquest with a web based customer interface tool - Hydralink - which allows the effective management of data gathered from inspection surveys. Beyond the control of data collection this tool facilitates condition analysis across individual or multiple sites, status reports, cross installation comparisons, failure trends and historical analysis.

Furthermore, survey data gathered would include an outline bill of materials and definition of any remedial work to be completed for inclusion in the customer maintenance management system. Hydrasun thereafter could provide skilled SBT fitters to complete the remedial work and training for existing customer personnel to ensure the effective execution of maintenance work.

Result

Hydrasun was awarded a contract in late 2016 to cover all Enquest assets within the UK.

Working closely with Enquest, Hydrasun has developed risk based inspection (RBI) programmes with P&ID drawings reviewed and used to prepare work packs for the survey team to inspect the critical SBT systems. Inspection data has been recorded and uploaded into Hydralink enabling both immediate remedial actions to be undertaken as well as facilitating long term strategic decision making in relation to future inspections and maintenance strategies.

Through a focus on customer needs, Hydrasun has delivered a fully compliant and effective Integrity Management programme for SBT assemblies across all Enquest UK assets that has significantly reduced the potential for operational disruption and progressively reduces health, safety, environmental, production and reputational risks associated with hydrocarbon leaks.

At a glance...

Customer

Enquest

Location

UK - Offshore & Onshore Assets

Customer Issue

- Manage risks associated with hydrocarbon leaks from SBT systems

Hydrasun Solution

Develop risk-based SBT system integrity management and maintenance programme specific to customer requirements

Benefits

- Improved production, reliability and safety performance
- Application of industry best practice
- Safe and competent execution of integrity management programme
- Risk based inspection programme
- Prevention of hydrocarbon leaks & associated HSE risk
- Compliance with regulatory authorities
- Fully integrated management system



Hydrasun
Gateway Business Park
Moss Road
Aberdeen
AB12 3GQ

Tel: +44 (0)1224 618618
e-mail: integritymanagement@hydrasun.com
www.hydrasun.com

