

OIL AND GAS CASE STUDY - CENTRICA STORAGE LIMITED, UK

## A step change in integrity management



— Centrica Rough offshore gas storage field.

CSL is a wholly owned subsidiary of Centrica Plc. It owns and operates the Rough offshore gas storage field and Easington onshore terminal and operates the Langede Reception Facilities (LRF) for the Norwegian consortium GASSCO. All of these assets are of strategic importance to the security of the UK's future energy supplies.

CSL wanted a step-change improvement in their understanding of the asset condition to tackle issues such as ageing, life extension and maintaining safety and reliability of the assets. These were key to the future performance of the business.

ABB carried out a review which identified a number of opportunities for improvement in performance and the need for a more holistic approach to integrity management. This further strengthened CSL's desire to engage an integrity management contractor in place of a more traditional inspection authority.

After a competitive bid process, ABB were appointed to provide integrity management and inspection services for CSL's onshore and offshore assets.

ABB provides Centrica Storage Limited (CSL) with a step change in integrity management.

### Solution

ABB were awarded a 5 year contract to manage the performance, productivity and delivery of the pressure systems, structures and pipelines on the four CSL assets.

ABB took full responsibility for the inspection of the facilities, managed external contractors whilst meeting all client, company and regulatory requirements.

ABB's pRIME optimised inspection programme was selected to review the pressure system inspection schemes. An assessment was made of the level of risk involved, determined by factors such as history, operating conditions and deterioration mechanisms. Then inspection methods, timing and frequency were optimised for minimum interference and a scheme of examination (inspection plan) was produced to focus on the areas of most risk. This ensured that resources were focused in the right places.

This methodology was applied both onshore and offshore, maximising the use of non-invasive and online techniques whenever possible. Requirements were clearly defined in the scheme of examination and this was seen positively not only by CSL but all stakeholders including the independent verification body and the HSE.

When a further independent integrity audit was carried out 18 months into the contract it gave positive feedback on all aspects of the integrity management programme and in particular the quality and extent of the pRIME optimised inspection, schemes of examination and inspections. It showed that all of the previous non compliances such as management of anomalies and inconsistency of inspection plans had either been fully addressed or clear strategies put in place for future management, helping to reduce costs and avoid unplanned downtime.

During the project ABB worked closely with CSL personnel and key integrity management providers. This teamwork was essential in building the collaborative approach needed to ensure the integrity of the assets. This partnership allowed ABB to transfer relevant skills for ongoing client improvement.

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“Managing the integrity of a gas storage facility poses a number of challenges, the maintenance of high integrity systems is the key to the future performance of this business. ABB have provided a step change in the integrity management of CSL’s assets. Successfully delivering our pressure systems integrity KPI for 2009”

Steve McKenny, CSL Integrity Manager



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Centrica Easington onshore terminal.

### Benefits

Using ABB’s pRIME optimised inspection the average thorough inspection interval was increased by 8 months, saving costs and operations time. Internal inspection frequencies were decreased or increased where necessary to ensure that resources were focused in the right areas. Through an understanding of the process conditions and real hazards the number of invasive inspections was decreased by 34%.

This resulted in a cost saving of £300k per annum (approx), which equates to £7million over the anticipated life of the asset. The contract gave CSL access to ABB’s highly skilled, specialist engineers with operational heritage who used their experience to take a pragmatic approach and offer solutions that were cost effective.

CSL were able to have complete confidence in the integrity of their vital assets. The Rough gas storage facility must be able to perform when required, meaning its integrity was paramount. Due to ABB’s approach they were able to meet demand and are confident in continued safe operation up to the expected asset life of 2029 and beyond.

Invaluable data for life extension work, particularly in line with the HSE’s (UK Regulator) KP4 Integrity Programme was gathered as a by-product of the work. This will enable CSL to demonstrate an understanding of the condition of their equipment, identify ageing mechanisms and carry out repair vs replace scenarios.