

Case Study Total E & P Structural Integrity Management



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1 Introduction

icorr have been involved in the integrity of Alwyn North and Dunbar topsides and MCP01 topsides and subsea in 2001 as a one year project for Total. Following the successful completion of this project **icorr** was awarded the same contract for another 5 years as part of an open bid, with average value £80,000/yr. This gives a good indication and reflection of the quality of work performed and also indicates the level of client satisfaction with the quality of work

2 Job Scope

iicorr have been involved in the integrity of Alwyn North and Dunbar topsides and MCP01 topsides and subsea in 2001 as a one year project for Total. Following the successful completion of this project iicorr was awarded the same contract for another 5 years as part of an open bid, with average value £80,000/yr. This gives a good indication and reflection of the quality of work performed and also indicates the level of client satisfaction with the quality of work.

This high level of quality of work has continued as can be proven by the high score of 8 as an average for the FPAL assessment at the end of 2002 work. That the completion of the FPAL exercise was completed in about 2.5 to 3 hours with the representative of Total.

In order to perform this work, the team had to gather and review all the history of the three topsides, review of all available fabrication and design information as well as structural drawings, carrying out all the structural inspection. The work carried out involved the following:

- 1) The preparation of Questar®-S Risk Based Inspection Strategies for the three structures including:
 - Risk Assessment to establish critical components.
 - Review of Structural History and Performance taking into account the most recent structural survey.
 - Optimised inspection program for each structural component
 - 2) The preparation of structural inspection workbooks for the three Topsides consisting of the following:
 - Type of inspection required for each component.
 - Anomaly criteria.
 - Inspection procedures.
 - Operations reporting requirements.
 - Work instructions for visual inspection and related tasks.
 - Datasheets for structural visual inspection.
 - 3) Conducting structural surveys for the three topsides, as part of this, great efforts were made to check all previously reported anomalies. These have been reviewed initially for the purpose of preparing the risk assessment strategy.
 - 4) Comprehensive and detailed inspection integrity reports have been prepared for the three Topsides after the completion of the inspection surveys. The reports consist of the following sections as recommended by the Alwyn Area Asset Integrity Management System:
 - Introduction
 - Conclusions
 - Recommendations (Structural Maintenance/Repair, Fabric Maintenance Monitor).
 - Failures/Concerns
-

- Inspection/maintenance
- Monitoring
- Mitigation
- Other Integrity issues

5) A database has been created which has the following:

- Inspection history.
- Associated risk with each component.
- Future inspection programme.
- Relevant integrity data.
- Risk based inspection philosophy definition and risk assessment results.
- Workscope preparation

The contract was subjected to a performance measurement system, using Key Performance Indicators (KPIs), including budget control, key dates for workscope preparation and dates for final deliverables to the client. All the key dates and deliverables were achieved as agreed. The contract was also subjected to a competency measurement system, which required a submission of a Competency Assurance Document to the client at least once a year. This document highlights any changes to resources deployed for the contract and gives details of their qualifications and training. It also gives details of the Project Quality Plan.

In addition, **iicorr** has contributed in a series of Global Integrity Presentations run by the Client. This contribution has helped to enhance communication between **iicorr** and Total and also to ensure that all Structural Integrity Issues are explained to all other interfaces within the Integrity Management System.
