

## Case Study



Sheet Ref:09Q151

Marine Terminal – Installation Reliability and Integrity Programme

<b>Summary:</b>	A Marine Terminal was suffering high incidence of piping system leaks and shutdowns. This Project was to introduce an integrity management system and process to stabilise system integrity and manage risk in accordance with international best practice.
<b>Asset Sector:</b>	Marine Terminal, Process Facilities, Static Equipment, Pipeline Decommissioning and Abandonment
<b>PIMS Service Components:</b>	Strategic Planning, Criticality Analysis, Direct Assessment (DA), Fitness for Service (FFS), Risk Based Inspection (RBI), Emergency Response Procedures, Technical Training, Pipeline decommissioning and Abandonment,
<b>Customer:</b>	Latin American Oil and Gas Operator
<b>Customer Brief:</b>	Stabilise the integrity of the 20 most critical piping systems by base-lining system condition, evaluating integrity and establishing corrective action plans. Also included was a review of the terminals' maintenance practices and the development of a pipeline decommissioning and abandonment strategy for 30" offshore pipelines.
<b>PIMS Approach:</b>	<p>The PIMS project team of Integrity Engineers, pipeline decommissioning consultants and piping inspectors were used to carry out the following:-</p> <p><i>Strategic Planning</i> – Facilitation of a Multi-disciplined Team strategic workshop to define the project scope, Goals &amp; Objectives, Key Performance Indicators</p> <p><i>Criticality Analysis</i> – Developed the Criticality model to prioritise and rank each piping system.</p> <p><i>Data Gathering, and Validation</i> – Conducted a detailed review of drawings, system parameters, failure history etc.</p> <p><i>Visual Inspection</i> – Conducted detailed 100% visual inspections of the piping systems to identify and confirm damage mechanisms and establish follow-up NDT scope.</p> <p><i>Post Inspection Evaluation</i> – Reviewed and evaluated the results of the visual inspections and NDT inspections and carried out Fitness for Service (FFS) assessment to establish immediate corrective actions and RBI plan in addition to a routine maintenance plan per system.</p> <p><i>Emergency Response</i> – Evaluated ERPs and carried out a gap analysis and improvement plan based on international best practice</p> <p><i>Pipeline Decommissioning and Abandonment</i> – Conducted an evaluation and engineering study to national and international best practice to determine the strategy, methodology and programme for the decommissioning of 30" crude oil offshore loading pipelines.</p>
<b>Project Outcome:</b>	Failure rates were reduced to international best practice levels and the MAOP of the 20 systems could be uprated by 20% resulting in cost savings of US\$25M per year. The project also saved the cost and operational disruption of replacing 10Km of piping (US\$10M) and the Terminals' Insurance Premium was also reduced by US\$5M per year.
<b>Project Reference:</b>	To discuss this Case further with the end-user, please first liaise with PIMS of London.