

Oil & Gas Pipeline Integrity Management



Revealing the very latest integrity and flow innovations crucial to extending the lifetime of pipelines in challenging conditions

7th – 8th October 2010, Aberdeen, UK

Agenda – Day one – 7th October 2010

KEYNOTE: Uncovering innovative solutions to keep safety and integrity at the top of the agenda when operating pipelines beyond their intended lifetime

- Reviewing pipeline design issues by evaluating its fitness for purpose and future integrity projections
- Extending the lifetime of your pipeline: revealing the latest life-cycle analysis technologies
- Ensuring future integrity by accurately assessing extended life beyond intended design limits
- Conducting baseline inspections and surveys with precision: the importance of planning your inspection strategy

CASE STUDY: Meeting the design, installation and technological challenges associated with the operation of pipelines in the North Sea

- Uncovering successful ways in which to ensure cost effective ultra-deep pipeline construction and maintenance
- Understanding how to get the most out of High Integrity Pipeline Protection Systems (HIPPS): coping with high pressure in deep waters
- Assessing time efficient ways in which to achieve bottom stability and outlining best practice
- Successfully employing Remote Operated Vehicles (ROVs): allowing for access in structural design

PANEL: Effectively negotiating the challenges presented by corrosion issues offshore: identifying the winning strategies

- Assessing the practicalities of installing replacement cathodic protection to ageing offshore pipelines
- Ensuring that the installation procedure and hardware design are fit for subsea conditions
- Understanding the key factors to consider when accurately assessing corrosion growth rates offshore
- Applying high density concrete to pipes without damaging the underlying anti-corrosion coating

PRESENTATION: Effective ways in which to compare data sets and the significance of data gathering and analysis on pipeline integrity

- Providing an accurate overall review of pipeline integrity by effectively gathering and analysing information from condition monitoring, process control and production control

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- Demonstrating how effective surveys and analysis can determine extended pipeline life beyond original design limits
- Ensuring the pipeline is adequately prepared to enable good quality data acquisition
- Successfully forecasting future degradation by conducting accurate data comparisons: reducing the uncertainties
- Defining your pipeline data model: data storage, maintenance and usage

ROUND TABLES (Delegates may chose three, one hour, discussions from the following)

Outlining the key strategies required to achieve reliability when operating pipelines in extreme temperatures

- Assessing the impact which extreme temperatures have on design, management, inspection and maintenance of pipelines
- Evaluating the materials capable of withstanding very high reservoir temperatures and revealing the cost effective options available
- The impact of extreme temperatures on design flexibility: understanding the parameters and capabilities of the manufacturer
- How sophisticated pipeline insulation methods can go further in helping to meet the challenges posed by extreme low temperatures
- Exploring the current innovations in artificial lift technology crucial to effective operations in marginal wells

How the multiple internal and external inspection tools and techniques can ensure cost effective and time efficient pipeline management

- Revealing how to successfully employ the very latest inspection technologies to ensure reliable and efficient transportation of hydrocarbons
- The specifics of condition monitoring revealed: leak detection, corrosion monitoring, product composition, atmospheric, subsea and internal inspection
- Understanding how the latest condition monitoring systems can allow you to monitor pipe – and flowlines continuously to reduce downtime
- Evaluating the innovations in inspection software and what to expect in future years: overall asset management and optimisation

George Frank, Senior Corrosion & Integrity Engineer, MOBIL PRODUCING LLC (EXXONMOBIL)

Location, detection and remediation of anomalies in High Pressure / High Temperature (HPHT) conditions: how to effectively mitigate the impact of pipeline fault

- Understanding the limitations inherent in high pressure, high temperature maintenance work and identifying strategies to overcome these challenges.
- Evaluating the different inspection techniques for defect detection in CRA materials
- Clarifying the uncertainty of material performance at elevated temperatures
- Meeting the challenges presented by corrosion and corrosion protection in hotter systems
- Ensuring that you have the right materials at the right time: the importance of rigorous equipment specification
- Revealing winning strategies for the operation of HP/HT flowlines

Paul Benstead, Pipelines Engineering Team Leader, BP

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Identifying how ultrasonic and satellite monitoring systems and help achieve safe levels of operation

- Assessing the outlook for ultrasonic detection methods and understanding its practical limitations
- Outlining how mounted ultrasound probes can achieve a higher level of accuracy in the measurement of wall thickness and monitoring of cracks
- Evaluating the viability of Long Range Ultrasonic Technology: rapid screening for in-service degradation and the inspection of inaccessible areas
- Exploring the availability of new satellite monitoring software and its role in improving the characterisation of reflected targets

Jens Erik Thygesen*, Senior Technical Consultant, DONG ENERGY

Re-assessing aging pipeline infrastructure to ensure safety, integrity and reliability

- Assessing the potential of ageing infrastructure to provide the same level of service as newly constructed facilities
- Identifying the key threats to the integrity of a pipeline in later life
- New solutions for old pipelines: revealing how new technologies can help ensure reliability of older infrastructure and assessing the future outlook for mature pipes
- Taking the necessary steps to make sure that older pipelines are operated within regulatory requirements
- Tackling the inspection difficulties associated with ageing pipes

Dr. Henry Tan, Senior Lecturer, UNIVERSITY OF ABERDEEN; NATIONAL SUBSEA RESEARCH INSTITUTE (NSRI)

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Agenda – Day two – 8th October 2010

ROUND TABLES (Delegates may chose three, one hour, discussions from the following)

Understanding the specific impact which chemical injections can have upon the internal condition of your pipeline

- Evaluating the extent to which chemicals used to manage wax can impact on the integrity of your pipeline
- Demonstrating the importance of executing an effective pipeline integrity inhibition programme and outlining best practice
- Understanding how specific fluid characteristics can impact upon flow assurance and pipeline integrity: indentifying the risks

Greg Jones, Team Leader - Subsea & Pipelines Operations, TOTAL E&P UK LTD

Revealing how the very latest developments in slugging technology and effective slug control can help optimise existing pipelines

- Ensuring an active and effective slug control system to produce stable well stream flow and financial benefits
- Increasing the pressure drop across slugs: the use of static choking
- The significance of faster control systems in achieving constant flow and increased stability
- Winning strategies employed to limit the slugs impact on separation facilities
- Achieving smoother compressor operation and keeping wells operating for longer

Uncovering successful ways in which to negotiate the problem of unpiggable pipes: determining a cost effective solution

- Making sure that unpiggable pipes do not result in replacements, diversions or other costly alternatives
- Cleaning unpiggable pipes: best practice explored
- Assessing the viability of non-conventional in-line inspection processes
- Multi-Diameter Technology: from the unpiggable to piggable

Dr. Glenn Light, Director NDE Technology, SOUTHWEST RESEARCH INSTITUTE

Overcoming the flow assurance challenges associated with pipelines serving mature wells and reservoirs

- Successfully negotiating the changes in fluid characteristics and flow rates
- Understanding the significant impact of reservoir performance on your pipeline operation
- Evaluating different strategies for the effective operation of a pipeline during the end of a field life
- Negotiating the difficulties of extreme high and low reservoir pressures and ensuring adequate preparation: from piping metallurgy to artificial lift mechanisms

Brian Melan, Pipeline Integrity Engineer, MARATHON OIL

The latest coating technology revealed: how internal and external coating can help tackle corrosion, flow assurance and project lead time demands

- Clarifying the extent to which existing coating technologies are meeting the current and future requirements of end-users

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- Evaluating the ways in which innovations in pipeline coating systems can exceed the anti-corrosion properties of traditionally specified systems
- Revealing the long term performance capabilities of both internal and external coatings and outlining the impact this has on your pipeline life-cycle
- Exploring how newer coating technologies can provide pipeline systems with higher physical properties, reduced costs over time and greater chemical resistance

Highlighting winning strategies to ensure that your pipeline integrity management process falls within your budget

- Revealing how to effectively implement more targeted inspection intervals and inspection points to help reduce your costs
- Winning strategies to successfully balance pipeline safety and reliability with cost: employing a well designed Pipeline Integrity Management System

Durga Murti, Superintendant Asset Integrity Division, CHEVRON CORPORATION

PRESENTATION: Assessment of the current multiphase flow modelling methodologies and their utility and limitations in flow assurance

- Evaluating how pipeline simulation tools can optimise pipeline and processing equipment design and operation.
- Examining the mathematical models used in pipeline simulation and uncovering the factors affecting simulation accuracy
- Understanding the merits and limitations of steady-state and transient and two-phase flow simulation
- Assessing the latest developments in two-phase simulation

Dr. Raad Issa, Deputy Director of Transient Multiphase Flow Programme, IMPERIAL COLLEGE LONDON

PANEL: The specifics of risk management uncovered: effectively employing risk models when dealing with threats and high risk areas

- Providing a suitable framework to select and implement risk mitigation measures
- Understanding and assessing the different risk models and risk priorities
- Revealing the very latest technologies crucial a to successful risk management approach
- Understanding the importance of local regulatory requirements when implementing your process safety and risk management system
- Sourcing the best-suited service providers for qualitative and quantitative risk assessments: from risk screening activities to determination of potential incidents

CASE STUDY Emergency response and repair

- Establishing an effective Emergency Pipeline Repair System (EPRS) to swiftly restore a damaged or inoperable pipeline and reduce downtime
- Evaluating and balancing the environmental and cost impact of pipeline faults
- Preparing for potential emergencies by identifying the essential pre-investments necessary
- Challenging the conventional wisdom: assessing different repair scenarios involving the various technologies, materials, equipment and resources