

Managing Offshore Asset Integrity Challenges Under Current Conditions

8 - 10 SEPTEMBER 2020 | VIRTUAL [UTC+8]



Who Should Attend

Professionals involved in:

- Asset Management, Integrity and Reliability
- Corrosion
- Facilities, Design and Engineering
- Health, Safety and Environment (HSE)
- Infrastructure and Structural
- Pipeline
- Process
- Production and Operations
- Project and Construction
- Subsea, SURF and Deepwater
- Wells
- Technical

The drivers for safe production of hydrocarbons towards and beyond asset design life can be attributed to a number of factors. These may include, and is not limited to, exploration in adjacent areas, improved hydrocarbon recovery through enhanced recovery processes or favourable economics prevalent with lowering operating costs or favourable market conditions, all potentially elongating field life. Each has its own unique challenges and it is pertinent that predicted operating conditions along with lessons learnt from past operations are understood when considering the longevity of field life.

Common integrity and reliability threats associated with operating mature assets include change in operating parameters versus design stage, material degradation, obsolescence of equipment and parts, accidental and extreme events and higher unplanned downtime. Keys to mitigating and managing the aforementioned threats are the acquisition and analysis of relevant data, risk assessment, and planning and acting based on robust principles demonstrable from statutory, local and international requirements, company policies/strategies and best industry practices. Stakeholders must also pay attention to technological advancements, developments and applications that assure new challenges to integrity; deepwater and ultra-deepwater, aging assets, HPHT, flow assurance and many more; and ensure that these new challenges are mitigated.

The recent downturn in the oil and gas industry posts even greater challenges in ensuring asset integrity towards the end of field life. These include operating and equipment strategies for production sustainment, increased scrutiny in the justification of operational expenditure, allocation of budget and resources for preventative and corrective maintenance activities. With such challenges, opportunities exist such as cross-skilling of operations and maintenance teams, revised operations and maintenance commercial models and exploitation of surplus expertise, vessels and equipment available in the market. A prudent cost-effective approach in managing and operating mature assets based around the knowledge of threats and associated mitigations opportunities is required.

Session Highlights

Strategic Approaches to Asset Integrity

Managing Continuity under Current Conditions for Late Life and Mature Assets

Case Study - Applications of Emerging and Current Technologies for the Present Environment

Solutions to Current and Future Challenges of Deepwater Assets

Well Integrity - Enhancing Value Through Effective Installation, Maintenance and Monitoring

Optimising Process Safety Management and Maintenance Programmes

GROUP REGISTRATIONS AVAILABLE
Contact us at apweb@spe.org to arrange your group.

go.spe.org/20WM04W

Workshop Objectives

The objective of the workshop is to highlight asset integrity challenges in the operations and maintenance of aging assets and share best practices to manage integrity effectively. The workshop will investigate the consequences of the recent industry downturn in relation to asset integrity and the utilisation of digital platforms as an enabler to better understand asset performance and act accordingly. Topics covered will include assets such as conventional and subsea assets, floating structures, pipelines, wells, and more.



hours of peer-to-peer networking opportunities



hours of knowledge sharing and technical discussion



expert-led technical discussion topics



Technical Programme Committee

CO-CHAIRS



Muin B Masri,
General Manager,
Production Sabah
PETRONAS Carigali Sdn Bhd



Jeff Pearman
General Manager –
Kuala Lumpur
Wood

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Baker Hughes Company

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Mubadala Petroleum

Syed Razif bin Syed Ahmad
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Group Technical Solutions
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Siti Aisyah binti Abdul Ghani
Senior Manager Well Intervention & Services
PETRONAS Carigali Sdn Bhd

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Site Planner
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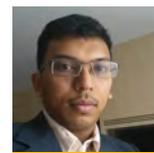
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Advisor Process & Facility – Upstream
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Member, SPE Asia Pacific
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Programme Schedule

Tuesday, 8 September 2020	
1000 - 1130 hours	Welcome Remarks and Session 1 Strategic Approaches to Asset Integrity
1130 - 1200 hours	Networking Break
1400 - 1530 hours	Session 2 Managing Continuity under Current Conditions for Late Life and Mature Assets
1530 - 1600 hours	Networking Break
Wednesday, 9 September 2020	
1000 - 1130 hours	Session 3 Solutions to Current and Future Challenges of Deepwater Assets
1130 - 1200 hours	Networking Break
1400 - 1530 hours	Session 4 Case Study - Applications of Emerging and Current Technologies for the Present Environment
1530 - 1600 hours	Networking Break
Thursday, 10 September 2020	
1000 - 1130 hours	Session 5 Well Integrity - Enhancing Value Through Effective Installation, Maintenance and Monitoring
1130 - 1200 hours	Networking Break
1400 - 1530 hours	Session 6 Optimising Process Safety Management and Maintenance Programmes
1530 - 1600 hours	Networking Break

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TUESDAY, 8 SEPTEMBER 2020

1000 - 1005 hours Welcome and Introduction

 1005 - 1010 hours **Welcome Remarks**
Co-Chairs: *Muin B Masri, PETRONAS Carigali Sdn Bhd; Jeff Pearman, Wood*

 1010 - 1130 hours **Session 1: Strategic Approaches to Asset Integrity**
Session Managers: *Dinna Geraldine Ramlan, Mubadala Petroleum; George Bell, Dialog Energy Sdn Bhd*

In the current situation of low oil prices due to the impact of the global Pandemic, operators are facing challenges to continue production at lower operation cost than usual. The focus is to manage assets as such; to maximise production whilst maintaining assurance of technical integrity at minimum cost. In addition, this emphasis will ensure economic viability of assets through to cessation of production, prior to commencement of abandonment and decommissioning process.

Asset integrity strategies have evolved from prescriptive to risk-based and require a good understanding of the consequences of failures, potential degradations and failure modes. Integrity threats are typically influenced by a host of circumstances such as change in operating parameters, material degradation, corrosion, fatigue, and a general lack of reliability, together with obsolescence of equipment and systems. Service history and data analysis are essential in predicting threats, estimating remaining life and planning of intervention activities. Data digitalisation has, in practice, proven essential in undertaking complex assessment and analysis and has significantly improved the understanding of the asset integrity status across facilities.

To be technically sound and cost-effective, asset integrity strategies and performance monitoring must be integral components within the on-going work planning process. This session will address the strategies, processes, lessons learnt and technology applications (both existing and developing) that impact maintaining integrity in a cost-effective manner.

1130 - 1200 hours Networking Break

 1400 - 1530 hours **Session 2: Managing Continuity under Current Conditions for Late Life and Mature Assets**
Session Manager: *W Muhamad Aminin b W M Izzuddin, PETRONAS Carigali Sdn Bhd - Sarawak Oil*

Late life asset operators face challenges particularly in managing depleting reservoirs and ageing facilities. These challenges can become even more complicated when operators intend to boost production at lower costs with the aim to generate profit and at the same time, aim to recover the abandonment cost. A systematic approach is required to ensure a successful business model is implemented for late life assets; hence, maximising production, flow assurance and managing integrity risk will be key factors that should be considered.

Innovation in artificial lift, production enhancement, production improvement should be considered to maximise the production. Operators are also able to embrace new technology and digitalisation to reduce integrity risk to the wells and the surface facilities. The original production facilities and utilities are generally designed to cater for high

flow, to operate with existing systems, below the low turndown, may not be economically viable. Low cost methods are required to rationalise operations, especially involving rotating equipment such as pumps, compressors or power generators. Similarly, fluid separation and conditioning unit operations, methods that require minimum modification to improve the performance will provide a great advantage in late life facilities.

Throughout the producing lifecycle, late life asset may experience drastic increase in water production, sand production and existence of contaminant (such as scale, mercury, emulsion, corrosion and more). Integrated fit for propose treatment packages, couple with effective production chemistry, will be required to manage this issue.

1530 - 1600 hours Networking Break

WEDNESDAY, 9 SEPTEMBER 2020

 1000 - 1130 hours **Session 3: Solutions to Current and Future Challenges of Deepwater Assets**
Session Manager: *Martin Forsyth, PETRONAS Carigali Sdn Bhd*

As the oil and gas industry steps out further into the deepwater region, asset integrity challenges become even more pronounced. Deepwater development experiences various challenges, involving SURF (Subsea, Umbilical, Riser and Flowline) and structural (mooring and tendon) design, operation and maintenance. Challenges to deepwater integrity could come from properties of process fluids (HPHT, sand erosion, corrosion, hydrate and more), geohazards (gas hydrates, seafloor pockmarks, shallow gas and more), environmental loads (wind, wave, current, marine growth and more) and accessibility.

New technologies are already transforming deepwater operations across the lifecycle of a field with operators utilising digital applications to improve operating efficiencies. While still developing, remote operations enabled by technology and analytics will be part of future operating models.

1130 - 1200 hours Networking Break

 1400 - 1530 hours **Session 4: Case Study - Applications of Emerging and Current Technologies for the Present Environment**
Session Managers: *Suresh Sinnappu, Baker Hughes Company; Partha Pratim Dev, ROSEN Australia Pty Ltd*

The recent oil price slump resulted in our industry recognising the need to embrace the digital revolution and to move away from decades of poor cost management, bespoke but cost-inefficient practices and technophobia. Trying to make up for lost time, rapid strides in advancements are now being made in our industry in the fields of AI, machine learning and cloud computing, to name a few, to unlock new life from existing assets and improve asset integrity management. This session will deliberate on new ideas from emerging technologies to trigger thought leadership and focus on case studies that highlight the latest advancements in extending life of facilities, pipelines and wells using digital twin concepts, transformations in digital data and other disruptive technologies.

1530 - 1600 hours Networking Break

THURSDAY, 10 SEPTEMBER 2020

1000 - 1130 hours **Session 5: Well Integrity - Enhancing Value Through Effective Installation, Maintenance and Monitoring**
Session Manager: Siti Aisyah binti Abdul Ghani,
PETRONAS Carigali Sdn Bhd

The recent oil and gas downturn has changed the oil and gas industry strategy to enable the adaption to hydrocarbon price fluctuations. Efforts for any conceivable pace for improvement in cost-saving initiatives and operational efficiency are today's main agenda for both operating and services companies to remain profitable in the current volatile oil and gas market. At the same time, efficient well planning, cost-effectiveness in maintenance and reliability in predicting failures of wells are becoming a major area of focus for all companies to assure the integrity of their assets and to ensure prudent financial spending.

The session on well integrity will discuss challenges the industry is facing with productions fields in harsher environments, naturally declining production rates and ageing facilities. Simultaneously, the industry is also looking to manage operating cost (on low side) by implementing smart well completion solutions, for lesser intervention. The discussion will also focus on well maintenance, planning and strategy, P&A, late life decommissioning, lesson learnt and good practices on existing installations.

The question is, what are operators currently practicing in terms of advanced investment during well planning and at the development stage? How will this benefit well integrity sustainability and maximise oil recovery?

1130 - 1200 hours Networking Break

1400 - 1530 hours **Session 6: Optimising Process Safety Management and Maintenance Programmes**
Session Manager: Syed Razif bin Syed Ahmad,
PETRONAS

With the downturn of the industry, it has never been more important to have oil and gas facilities running at optimal efficiency. Maintenance programmes are more and more scrutinised to have the best balance between cost, risk and desired outcome. Strategies for all life stages of assets (Green Field to End of Field Life) differ significantly yet they all remain vital to the safety, reputation and profitability of oil companies.

Major accidents still happen hence the oil and gas industry must be alert to the importance of having a robust and resilient safety management system as an integral part of asset integrity management. In addition, included in this requirement are suitable provisions for process and technical safety. Depressed oil prices are likely to continue to divert industry focus to reducing costs in every aspect, including asset integrity and process safety.

1530 - 1600 hours Networking Break

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- 0730 hours - New Delhi
- 0830 hours - Yangon
- 0900 hours - Bangkok / Hanoi / Jakarta
- 1000 hours - Bandar Seri Begawan / Beijing / Kuala Lumpur / Perth / Singapore
- 1100 hours - Tokyo / Seoul
- 1130 hours - Adelaide
- 1200 hours - Brisbane
- 1400 hours - Wellington

Workshop Guidelines

1. Documentation

- a. Presentation slides / Proceedings will not be published; therefore, formal papers and handouts are not expected from Discussion Leaders.
- b. Work in progress, new ideas, and interesting projects are sought.
- c. Resource documents may be provided as pre-reads and during the live event.

2. Workshop Deliverables

- a. An on-demand version of the live event sessions will be made available to registered participants only.
- b. Provision of the live event sessions and presentation materials by Discussion Leaders will signify their permission for SPE to do so.

3. Commercialism

In keeping with the Workshop objectives and the SPE mission, excessive commercialism in presentations are not permitted. Company logos must be limited to the title slide and used only to indicate the affiliation of the presenter.

4. Certificate of Attendance

All attendees will receive a certificate of attendance. The certificate will be made available during the live event once participants have completed the required viewing/participation time.

5. Continuing Education Units

This Workshop qualifies for SPE Continuing Education Units (CEU) at the rate of 0.1 CEU per hour of the Workshop.

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SPE VIRTUAL WORKSHOP: Managing Offshore Asset Integrity Challenges Under Current Conditions

8 – 10 September 2020 | 10:00 hours (GMT +8)



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Workshop	Member	USD 420	USD 450	USD 480		
	Non-Member	USD 440	USD 470	USD 500		
Group Registration - Register 5 save 15%, Register 10 save 20% (Refer to Group Registration Form or contact apweb@spe.org for more information)						
TOTAL AMOUNT (USD)						

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