

SPE WORKSHOP:

# Decommissioning - Innovative Approaches to Shallow Water Platforms and Wells

23 - 26 OCTOBER 2017  
HILTON KUALA LUMPUR, MALAYSIA



Decommissioning, taken in the context of simply being the reverse of construction, is far from the truth and often misleading. The reality is, it happens to be one of the biggest challenges and liabilities in the oil and gas industry. With fields being marginal or below economic threshold, coupled with stricter regulations, operators tend to delay or give little attention to their commitment to decommissioning. In the current low oil price environment and uncertainties, well and facilities decommissioning activities are now requiring innovative approaches to keep the cost down and allow operators to fulfil their commitments while maintaining investment programmes in ongoing assets production.

The technical challenges for facilities decommissioning revolve around the structures' final disposal, including alternative usages. For wells abandonment, the goal is to provide the equivalent of a rock-to-rock seal across the wellbore system as an eternal barrier. Improper abandonment execution may lead to serious HSE consequences down the line. Thus the primary objectives of decommissioning is to ensure compliance with relevant international and local legislation and regulation, while finding the best practicable environmental option which minimises the future risks for other users of the sea. The interpretation and application of decommissioning law and regulations and well plug and abandonment (P&A) standards will determine the final work scope.

## Session Highlights

This workshop will focus on:

- Keeping up with the latest trend on current best practices, technology and emerging innovation in decommissioning shallow water wells and facilities
- Dissecting the significant constraints related to platform removal such as heavy lift vessels and cutting technologies from various perspectives
- Gaining strategic insights through recent case studies of regional and international projects that implemented innovative processes and technologies
- Promoting greater synergy between operators and service providers to drive innovative solutions to efficiently retire their shallow water assets

**POST-  
WORKSHOP  
TRAINING  
COURSES**

**Offshore Facilities  
Decommissioning**  
25 - 26 October 2017  
Hilton Kuala Lumpur,  
Malaysia

**Well Plugging and  
Abandonment (P&A)**  
25 - 26 October 2017  
Hilton Kuala Lumpur,  
Malaysia



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FOR SUPER EARLY BIRD DISCOUNT!**

## Who Should Attend

Professionals involved in designing, managing and operationalising decommissioning of wells and facility:

- Abandonment Project Manager
- Decommissioning Engineer
- Drilling Engineer
- HSE
- Marine Biologist
- Production Engineer
- Reservoir Engineer
- Rig Designer
- Solutions and Technology Provider
- Structural Designer
- Structural Integrity
- Well Integrity and Decommissioning
- Wells Workover



## Technical Programme Committee

### CHAIRPERSONS

M Zaki Ibrahim  
Head of Front End Engineering Wells  
**PETRONAS Carigali Sdn Bhd**

Ir. Mohamad Ikhranizam Mohamad Ros  
GPD, Project Delivery and Technology  
**PETRONAS**

Thomas Leeson  
Principal Consultant & Well Abandonment Manager  
**Reverse Engineering Services Ltd**

### COMMITTEE MEMBERS

M Redzuan A Rahman  
GPD, Project Delivery and Technology  
**PETRONAS**

Mohd Fahrul Nizam Engan  
Head of Project Implementation - Asset Decommissioning  
**PETRONAS**

Nurul Ezalina Hamzah  
Head Wells Workover and CTD  
**PETRONAS**

Nik Aman Manaf  
Head Wells Integrity and Decommissioning  
**PETRONAS Carigali Sdn Bhd**

Darwin Tangkalalo  
General Manager  
**PCPP OC Sdn Bhd (Pertamina)**

Brian Twomey  
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**Reverse Engineering Services Ltd**

Md Yusoff Mohamad Noor  
Vice President - Business Development & Marketing  
**Sapura Energy Berhad**

Ken Beck  
Director - International Business Development  
**TETRA Technologies Inc.**

Robert C. Byrd  
Vice President - Consulting  
**TETRA Technologies Inc.**

Noor Amila Wan Zawawi  
Head of Department & Associate Professor, Civil Engineering Department  
**Universiti Teknologi PETRONAS**

Seyri Anuwa Jahari  
General Manager  
**Vantage Well Services**

### WORKSHOP ADVISOR

Mohd Abshar Mohd Nor  
Head - Well Fluids & Cementing  
**PETRONAS Carigali Sdn Bhd**  
SPE Asia Pacific Regional Technical Advisory Committee Member


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Contact us at [spekl@spe.org](mailto:spekl@spe.org) to arrange your group.

[www.spe.org/go/18WM08](http://www.spe.org/go/18WM08)


# Workshop Objectives

The goal of this workshop is to provide an avenue for presentations and engaged discussions in trying to achieve verified well isolations i.e. decommissioning of shallow water wells at sustainable levels for the future and to propose efficient removal of facilities by exploring innovative and potential cost-effective methods in the current economic outlook. The focus will be on both methods currently available, and what are emerging technologies and practices to drive the cost down.


The industry is seeking out-of-the-box approaches to mitigate all these challenges, specifically, in shallow water environment where abandonment activities ought to have wider options technically, with less complication and cheaper compared to deep water facilities or those with subsea trees. Hence it is imperative that innovative and creative solutions are explored to turn decommissioning projects into a more cost-effective option. Decommissioning is undeniably a complicated and much debated topic, thus requiring extensive knowledge and experience to understand the practices and challenges involved to ensure efficient operations and economics.



**10+**  
hours of peer-to-peer networking opportunities



**20+**  
hours of knowledge sharing and technical discussion



**30**  
expert-led technical discussion topics

## LEAGUE OF VOLUNTEERS



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## Preliminary Workshop Schedule

MONDAY, 23 OCTOBER 2017	
0800 - 0850	Arrival of Delegates and Registration
0850 - 0900	Safety Announcement by Hotel
0900 - 1000	<b>Session 1: Welcome, Introduction and Keynote Address</b> Co-Chairpersons: M Zaki Ibrahim, <b>PETRONAS Carigali Sdn Bhd</b> ; Ir. Mohamad Ikhranizam Mohamad Ros, <b>PETRONAS</b> ; Thomas Leeson, <b>Reverse Engineering Services Ltd</b>
1000 - 1030	Group Photo / Coffee and Tea Break
1030 - 1230	<b>Session 2: Panel Session – Asia Pacific: Unique Challenges and Approaches</b> Session Managers: Brian Twomey, <b>Reverse Engineering Services Ltd</b> ; Mohd Fahrul Nizam Engan, <b>PETRONAS</b> <ul style="list-style-type: none"> <li>• Importance of the interpretation and application of Well P&amp;A guidelines and effect on scope of work</li> <li>• Lack of execution experience in subsea wells</li> <li>• As-Is status of the wells</li> <li>• Execution challenges and lesson learnt, replication of best practices from other regions</li> <li>• Importance of legal instrument and guidelines to the implementation of shallow water and well abandonment activities</li> <li>• Lessons learned from other regions</li> <li>• Possible cost reduction strategies applicable for Asia Pacific</li> <li>• Role of new technology and alternative approach</li> <li>• Role of new technology in Well P&amp;A</li> <li>• Status of shallow water and well abandonment activities</li> <li>• Well P&amp;A contracting strategies</li> <li>• Law and regulations applicable to shallow water platforms</li> <li>• Technologies to remove shallow water platforms and pipelines with lower cost and with higher local content</li> <li>• Challenges of onshore waste disposal of shallow water platforms and pipelines</li> </ul>
1230 - 1330	SPE Luncheon
1330 - 1530	<b>Session 3: Lessons Learnt – Pre-Decommissioning Preparation</b> Session Managers: Ken Beck and Robert Byrd, <b>TETRA Technologies Inc.</b> Over 2,000 platforms have been decommissioned in the Gulf of Mexico's shallow water. The benefits of pre-planning have been experienced and unfortunately when proper planning was not carried out we have observed consequences. Case studies will be presented with actual platform locations, conditions, photographs, and resources used, to illustrate the benefits of proper planning and lessons learnt.
1530 - 1545	Coffee and Tea Break
1545 - 1745	<b>Session 4: Rigless Options for Dry Tree</b> Session Manager: Nurul Ezalina Hamzah, <b>PETRONAS</b>

## POSTER SOLICITATION & INFORMATION

All participants are encouraged to prepare a poster for the Workshop. Presentations on both research and field experience are welcomed. Posters, including unconfirmed / partial results, are to be presented at an assigned time and are open for discussion. Posters will be on display for the entire Workshop period.

- When preparing your poster:
- Avoid commercialism. No mention of trademarks / product name
  - Poster size should be approximately 0.8m x 1.2m (W x H) or size A0 in portrait layout
  - Identify topic by title, affiliation, address, and phone number
  - Include a brief abstract that summarises the technology to be addressed
  - Make the display as self-explanatory as possible
  - Place the information in sequence: beginning with the main idea or problem, method used, results, etc. (Draw a plan keeping the size and number of illustrations in mind)
  - Keep illustrations simple by using charts, graphs, drawings, and pictures to create interest and visually explain a point
  - Use contrasting colours
  - Use large print for narrative materials. (We suggest a minimum of 24 points or 3" high letters for the title)

\*Note that the Workshop Programme Committee will review all poster abstracts / materials prior to display, and reserves the right to refuse permission to display any poster considered to be commercial in nature. If you are interested to participate, please email your proposed topic with a short abstract (between 200-300 words) to Jenny Chong, SPE Senior Event Manager at [jchong@spe.org](mailto:jchong@spe.org) by **15 September 2017**.

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Many alternatives for wells P&A and platform decommissioning are being explored as one of the efforts to optimise total operation cost. Methods such as offline rigless intervention using coiled tubing, E-line and rigless marine spread (RMS) are chosen over big rigs due to more simplified and cost-effective operations. This session will provide an avenue for participants to discuss methods for rigless wells P&A and platform decommissioning that are currently available in the market. Participants will also share best practices and experiences from past operations utilising rigless methodologies.

1745- 1845

#### Session 5: Poster/Interactive/Breakout Session

Session Managers: Darwin Tangkalalo, **PCPP OC Sdn Bhd (Pertamina)**

1845 onwards Welcome Dinner

### TUESDAY, 24 OCTOBER 2017

0830 - 1030

#### Session 6: Unconventional Solutions

Session Managers: Nik Aman Manaf, **PETRONAS Carigali Sdn Bhd**; M Redzuan A Rahman, **PETRONAS**

Alternative facilities removal approaches considering technologies that can reduce the offshore duration should be explored especially in the current oil price economy as the conventional decommissioning operation involving Heavy Lift Barges incur a significant cost. The methods on optimising execution strategies and minimising the decommissioning project cost will be covered in the session as well as the applications of unconventional technologies and approaches that has proven to improve operational efficiency of well P&A and facilities removal. In reducing the cost of wells abandonment, operators and regulators are improving the P&A performance including completion removal, annular cementation verification and permanent P&A barrier placement while service providers are developing the tools to increase the efficiency.

1030 - 1045

Coffee and Tea Break

1045 - 1245

#### Session 7: Case Studies – Solutions to Alternative Decommissioning Options

Session Managers: Md Yusoff Mohamad Noor, **Sapura Energy Berhad**; Noor Amila Wan Zawawi, **Universiti Teknologi PETRONAS**

Alternative decommissioning options such as reeving and reuse have indeed benefited operators and other sea users. Proper implementation of alternative decommissioning options through collaborative efforts by both operators and service providers have proven the viability and sustainability of such options for the future. In the past, issues surrounding alternative decommissioning options were merely academic exercises which were later discarded during the execution stage. Engineering solutions for issues such as reeving have enhanced the confidence level of stakeholders and other key decision

makers to opt for these options. Coupled with mastery in heavy lift engineering and integrated engineering solutions, alternative decommissioning options have become an ideal way forward in the emerging offshore platform decommissioning sector.

1245 - 1345

SPE Luncheon

1345 - 1545

#### Session 8: Managing Well Integrity, Risk and HSE

Session Manager: Seyri Anuwa Jahari, **Vantage Well Services**

This session will cover the operator/contractor view on well integrity with uptrend of well decommissioning requirement and activities. The integrity stand point shall cover ageing well conditions, method of assessments, and tool/technique/solution required to make it possible to perform the final operation on the well. Next, it will take participants to the most critical part of well decommissioning which is the evaluation, understanding, and managing of risks and HSE – implementing permanent/near-permanent solutions with a strong emphasis on safety. Focus will be on cementing techniques, materials and tools. Finally, what will be the benefit of going low-cost now versus future remedial cost.

1545 - 1600

Coffee and Tea Break

1600 - 1800

#### Session 9: Decommissioning Execution Lesson Learnt

Session Managers: Noor Amila Wan Zawawi, **Universiti Teknologi PETRONAS**

This session will focus on lesson learnt from assets that had underwent decommissioning projects. As the oil and gas assets in SEA becomes more mature, more facilities will begin implementing and executing decommissioning strategies most beneficial for them. As this happens, new organisations will be exposed to the unavoidable phase of the decommissioning process. With any new activity, there are difficult times and a learning curve for new participants.

Decommissioning activities have been performed since the early 1980's and over time, experience has been gained. Historically, many mistakes were made but executions were improved over time. In reality, an organisation will only plan and implement a decommissioning project once with limited experience, hence the industry must learn from the experience of past projects in the decommissioning field. In view of this, it is timely to open up information exchange amongst operators, service providers and regulators on lessons learnt during the planning and implementation of past and ongoing decommissioning projects.

1800 - 1830

#### Session 10: Workshop Summary and Closing Remarks

Co-Chairpersons: M Zaki Ibrahim, **PETRONAS Carigali Sdn Bhd**; Ir. Mohamad Ikhranizam Mohamad Ros, **PETRONAS**; Thomas Leeson, **Reverse Engineering Services Ltd**

1830

Workshop Concludes

### SPONSORSHIP SUPPORT INFORMATION

Sponsorship support of the event helps offset the cost of producing workshops and allows SPE to keep the attendance price within reach of operation-level individuals, those who benefit most from these technical workshops.

Supporters benefit both directly and indirectly by having their names associated with a specific workshop. While SPE prohibits any type of commercialism within the workshop room itself, the Society recognises that supporting companies offer valuable information to attendees outside the technical sessions.

#### SPONSORSHIP CATEGORIES

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In addition to onsite recognition, SPE will recognise sponsors on the SPE website and in all printed materials for the workshop. Based on the category selected, supporting companies also receive logo visibility on promotional workshop items.

#### FOR MORE INFORMATION

For a detailed list of available sponsorship opportunities, including benefits and pricing, contact **Jenny Chong** at [jchong@spe.org](mailto:jchong@spe.org)

### GENERAL INFORMATION

#### DOCUMENTATION

- Proceedings will not be published; therefore, formal papers and handouts are not expected from speakers.
- Work-in-progress, new ideas, and interesting projects are sought.
- Note-taking by attendees is encouraged. However, to ensure free and open discussions, no formal records will be kept.

#### WORKSHOP DELIVERABLES

- The committee will prepare a full report containing highlights of the Workshop and the report will be circulated to all attendees.
- Powerpoint presentations will be posted online and provided to attendees after the Workshop. Provision of the materials by Discussion Leaders will signify their permission for SPE to do so.

#### COMMERCIALISM

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

#### ATTENDANCE CERTIFICATE

All attendees will receive a Workshop attendance certificate. This certificate will be provided in exchange for a complete Attendee Survey Form.

#### CONTINUING EDUCATION UNITS

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

#### TRAVEL/VISA

Attendees are advised to book their airline tickets early. All travellers must be in possession of passports valid for at least six (6) months with proof of onward passage. Contact your local travel agent for information on visa requirements.

#### DRESS CODE

Business casual clothing is recommended. The Workshop atmosphere is informal.

#### REGISTRATION FEE

- Registration fee ONLY includes all workshop sessions, coffee breaks and luncheons for the registrant.
- Accommodation is NOT included. SPE will provide details of recommended hotels upon receipt of your registration.

#### REGISTRATION POLICY

- Registration fee MUST be paid in advance for attending the Workshop.
- Full fixed fee is charged regardless of the length of time the registrant attends the Workshop, and cannot be prorated or reduced for anyone.



**Course Description**

The 2-day course will cover a one-day training followed by a one-day hands-on group discussions and facilitated dialogues. The theme of this course is “an outlook for decommissioning of offshore platforms on uncertainties, opportunities and techniques”.

The course will deliver these following core areas of competencies to participants:

- Decommissioning roadmap: Past-present-future
- Decommissioning of offshore platforms: Dealing with uncertainties
- Various facets of decommissioning alternatives: Opportunities to be tapped
- Challenges ahead and gaps to be strategised
- Best Practicable Environmental Options (BPEO) as a decommissioning option assessment tool

**Objectives**

- Provide an outlook of oil and gas (O&G) industry decommissioning
- Gives an overview on opportunities, risk mitigation and techniques in the field of decommissioning planning and management
- Gain insights into different legislations and regulations affecting decommissioning and its importance
- Have an understanding on drivers affecting offshore decommissioning and strategies in industrial best practices
- Understand the application of BPEO through hands-on experience in case studies
- Experience an interactive environment with the instructors where you may poll and share your thoughts. This will create and encourage knowledge sharing, experience / knowledge acquisition and assimilation in solving decommissioning challenges of today and tomorrow

**Your Instructor**



**Noor Amila Wan Abdullah Zawawi** is Associate Professor and Head of the Department of Civil & Environmental Engineering, Universiti Teknologi PETRONAS (UTP). She obtained her MSc and PhD from Malaysia in Building Engineering and Built Environment. She has 18 years of academic experience, with research related to offshore rigs decommissioning. Amila is the lead researcher of the Decommissioning Initiatives division of the Offshore Engineering Centre, UTP (OECU). She provides training on decommissioning to the industry in Malaysia and South Korea, working closely with various industry/university collaborators and institutions. She works with non-profit organisations and NGOs such as the Malaysia Structural Steel Association (MSSA) and MOGSC.

Since 2015, she has been appointed as chair for Rigs.volution Working Group in MSSA (a joint initiative between UTP - MSSA - CIDB). She is listed in the National Industry Expert Directory as a Panel member for the National Occupational Skills Standard (NOSS) for Oil & Gas, by the Department of Skills Development, Ministry of Human Resources Malaysia. Dr Amila has published over 70 articles on her research findings, and passionately championed development of local capability in decommissioning.

**Daily Technical Agenda**

**DAY 1: 25 OCTOBER 2017**

- 0900 - 0945 **Outlook to Oil and Gas**  
A broad outlook of latest trends in oil and gas
- Fundamentals – Introduction to petroleum exploration, oil and gas history, challenges, players and value chain
  - International oil and gas areas
  - Understanding key elements of offshore engineering
- 0945 - 1045 **Overview of Offshore Decommissioning**  
An overview of decommissioning from wide perspectives i.e. project management, legal, regulatory and drawing the experiences of other regions
- Project management, engineering and planning
  - Law, regulation and guidelines applied to decommissioning
  - Global decommissioning experiences and best practices
  - Regulatory issues and competent authorities

**1045 - 1100 Morning Coffee / Tea Break**

- 1100 - 1230 **Decommissioning Alternatives**  
Introduction to decommissioning alternatives, stakeholders, liabilities and waste issues
- Decommissioning alternatives, requirements and drivers
  - Stages in the abandonment process
  - Public perception, governance and reputation management
  - Cutting techniques, risks and cost
  - Liability issues and management
  - Waste management and HSE issues

**1230 - 1400 Group Lunch**

- 1400 - 1530 **Reusable Facilities and Structures**  
Introduction to the concept of reuse for facilities and structures
- Reassessment process and feasibility study (No guideline, reuse check API, inspection for reuse/decommissioning)
  - Reuse of static equipment and rotating, electrical, and Instrument equipment, integrity assessment, codes and standards (Thailand standards draft for Mechanical and Electrical Engineers)
  - Structural reuse, considerations and inspection, integrity assessment, codes and standards
  - Risk considerations

**1530 - 1545 Afternoon Coffee / Tea Break**

- 1545 - 1630 **Structural Integrity of Offshore Structures**  
Review of structural integrity for the purpose of asset life extension and decommissioning
- Structural integrity management system for offshore structures
  - Structural integrity and design/evaluation for decommissioning
  - Asset life extension: Requirements, new design standards and techniques for evaluation
  - Structural integrity management system for offshore structures
  - Structural integrity and design/evaluation for decommissioning
  - Asset life extension: Requirements, new design standards and techniques for evaluation

**1630 - 1700 Q & A / recap of key concepts delivered/ expectation for workshop**

**DAY 2: 26 OCTOBER 2017**

- 0900 -1030 **Evaluating Decommissioning Alternatives using Best Practicable Environmental Option (BPEO) Assessment**  
Introduction to BPEO as a tool for decommissioning alternative selection
- Key principles of BPEO Studies
  - BPEO study framework
  - Identification and screening of options
  - Attribute analysis
  - Weighting factors
  - Integration into decision-making
  - Definition of purpose and scope

**1030 - 1045 Morning Coffee / Tea Break**

- 1045 - 1100 **Guided Workshop: BPEO Assessment- Case Study of a Local Platform**  
Participants will be assigned as groups of 5-6 members and work on a case study using BPEO. This will be a guided session, with the assistance of a team of facilitators
- 1100 - 1230
- Guided case study on a local platform
  - Gaps identification

**1230 - 1400 Group Lunch**

- 1400 - 1530
- SWOT analysis
  - The way forward

**1530 - 1545 Afternoon Coffee / Tea Break**

- 1545 - 1745 **Group Presentation**  
Each group will present their recommendations to the members of the floor
- Facilitating team will minute the discussion, provide and invite comments and feedback where applicable.
  - The discussion will be captured and the compilation will be shared with participants 2 weeks after the workshop.



### Course Description

This 2-day course is an introduction to the new and growing discipline of well abandonment. This course will introduce the complex cross-discipline nature of well plugging and abandonment (P&A). The course is a mixture of presentations, discussion, videos, animations and workshop exercises.

What will be discussed:

- Objectives of well abandonment
- Overview of historical and global activities and performances
- Impact of law and regulation, and other key drivers
- Abandonment standards and their applications
- Decision-making processes
- Abandonment design process
- The applicability of rigless alternatives
- Cost estimation processes and the identification of risk
- Cost control options

### Objectives

Delegates will be introduced to the fundamentals of well abandonment with the objective of understanding the following:

- The range of design standards currently in use and how to apply these to meet the objectives of abandonment at minimum cost
- The concept of an 'Abandonment Barrier'
- The importance of identifying unknowns and uncertainties to minimise potential cost overruns
- The principles of Good Practise in cost estimation
- The importance of recognising the potential cost impact of technical risks and uncertainties
- The options for, and limitations of, rigless abandonment of platform and subsea wells
- The key principles of good cementing practice
- The key aspects of controlling abandonment costs

In addition the delegates will become familiar with the design and cost estimation processes through undertaking tutorial examples.

### Your Instructors



**Thomas Leeson** has over 25 years' experience in well operations and more than 12 years' experience of well abandonment. Responsibilities have included the development and implementation of rigless techniques for both platform and subsea wells, and project management of several offshore projects, both with and without a rig. Thomas has experience of the regulations and working environments in the UK, Norway, Angola, Brazil, Australia, Indonesia and many other countries, Thomas' areas of expertise range from initial well reviews and cost estimation through strategic project planning to project team set-up and project management of operations.



**Brian Twomey** is responsible for decommissioning and abandonment operations planning, engineering, peer review work, cost analysis and strategic work in well P&A. Brian has worked on oil & gas facilities decommissioning onshore, offshore, subsea issues for over 33 years and more recently well P&A for over 6 years. He has carried out studies/work on over 780 offshore installations worldwide and has written decommissioning and well abandonment guidelines for 12 countries. Brian has presented over 100 papers and over 40 workshops on all aspects of decommissioning and given numerous public and private training courses on all aspects of decommissioning.

### Daily Technical Agenda

#### DAY 1: 25 OCTOBER 2017

- 0900 - 1030 **Introduction to Well Abandonment**
- Course Introduction
    - Purpose, themes, historical and global perspectives
  - Objectives of Abandonment
  - Law and Regulation
    - Layers and regulation effecting decommissioning
    - International law, regulations & guidelines
    - Regional regulations
    - National regulations
    - Production sharing agreements

#### 1030 - 1045 Morning Coffee / Tea Break

- 1045 - 1200 **Good Practices and Processes**
- Well Abandonment Standards and Regulation
    - Barrier concept
    - Common applications
    - Prescriptive versus Goal-setting
  - Decommissioning and Abandonment Processes
    - Decision-making processes
    - Strategic, tactical and operational activities

#### 1200 - 1330 Group Lunch

- 1330 - 1515 **Abandonment Design**
- Design Process
    - Design objectives
    - What do we need to know?
    - What data do we want?
    - Barrier schematics
    - Material choice
    - Cementing best practices
    - Failure modes

#### 1515 - 1530 Afternoon Coffee / Tea Break

#### 1530 - 1700 Design Tutorial

#### DAY 2: 26 OCTOBER 2017

- 0900 - 1030 **Practical Considerations and Operational Challenges**
- Rigless Alternatives for Platform and Subsea Wells
    - Workover units
    - Coiled tubing
    - Lightweight subsea intervention
    - Subsea wellhead severance and recovery
  - Technical Challenges
    - North Sea experience over the last 40 years
    - Lessons learnt from the North Sea decommissioning projects

#### 1030 - 1045 Morning Coffee / Tea Break

- 1045 - 1200 **Well Abandonment Cost Estimation**
- Estimation Practices
    - Why accurate cost estimating is key
    - Classes of estimate
    - Estimation process
    - Basis of estimate
    - The importance of the "base case" cost estimate model
    - Accuracy and uncertainty

#### 1200 - 1330 Group Lunch

- 1330 - 1515 **Cost Estimation**
- Cost Estimate Example
    - Base case vs. Opportunity case
    - Probability
    - Handling risks and contingency
  - Cost Estimate Tutorial

#### 1515 - 1530 Afternoon Coffee / Tea Break

- 1530 - 1700 **Cost Control**
- Cost Control in P&A
    - Why do costs overrun?
    - Where can we make the most impact?
    - The drilling legacy
- What can we do now to minimise future costs?

# REGISTRATION FORM

SPE WORKSHOP:  
**Decommissioning - Innovative Approaches to  
 Shallow Water Platforms and Wells**  
 23 - 26 October 2017 | Hilton Kuala Lumpur, Malaysia



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**Would you be willing to give a brief (10-15minutes) presentation?**  Yes  No

If yes, please attach the topic with a short abstract of your proposed presentation.  
 One of the Programme Committee members will contact you to discuss your presentation.

**\*IMPORTANT: REGISTRANTS FOR SPE WORKSHOPS ARE ACCEPTED ON THE BASIS OF INFORMATION SUBMITTED BY EACH REGISTRANT.**

**Technical Disciplines (Check One)**

- Drilling  Health, Safety, Security, Environment, and Social Responsibility  Reservoir Description and Dynamics
- Completions  Production and Operations  Projects, Facilities and Construction
- Management and Information

**Primary Responsibility (Check One)**

- Drilling  Economics  Geology  Geophysics  Management
- Operation  Production  Reservoir  Surveillance  Other \_\_\_\_\_

**Listing background and experience. (Use additional paper if required)**

**List your expectation for the Workshop, so that the committee can tailor a portion of the Workshop to answering attendees' concerns. (Use additional paper if required)**

Registration Fees (Please tick appropriate box)	SUPER EARLY BIRD REGISTRATION BY 31 AUGUST 2017		EARLY BIRD REGISTRATION BY 22 SEPTEMBER 2017		REGISTRATION AFTER 22 SEPTEMBER 2017	
	SPE MEMBER	NON-MEMBER	SPE MEMBER	NON-MEMBER	SPE MEMBER	NON-MEMBER
Workshop & Training Course A	<input type="checkbox"/> USD 2,500.00	<input type="checkbox"/> USD 2,860.00	<input type="checkbox"/> USD 2,600.00	<input type="checkbox"/> USD 2,960.00	<input type="checkbox"/> USD 2,700.00	<input type="checkbox"/> USD 3,060.00
Workshop & Training Course B	<input type="checkbox"/> USD 2,500.00	<input type="checkbox"/> USD 2,860.00	<input type="checkbox"/> USD 2,600.00	<input type="checkbox"/> USD 2,960.00	<input type="checkbox"/> USD 2,700.00	<input type="checkbox"/> USD 3,060.00
Workshop only	<input type="checkbox"/> USD 1,500.00	<input type="checkbox"/> USD 1,700.00	<input type="checkbox"/> USD 1,600.00	<input type="checkbox"/> USD 1,800.00	<input type="checkbox"/> USD 1,700.00	<input type="checkbox"/> USD 1,900.00
Training Course A only	<input type="checkbox"/> USD 1,100.00	<input type="checkbox"/> USD 1,300.00	<input type="checkbox"/> USD 1,200.00	<input type="checkbox"/> USD 1,400.00	<input type="checkbox"/> USD 1,300.00	<input type="checkbox"/> USD 1,500.00
Training Course B only	<input type="checkbox"/> USD 1,100.00	<input type="checkbox"/> USD 1,300.00	<input type="checkbox"/> USD 1,200.00	<input type="checkbox"/> USD 1,400.00	<input type="checkbox"/> USD 1,300.00	<input type="checkbox"/> USD 1,500.00

**Group Registration Available - Please contact us at [spekl@spe.org](mailto:spekl@spe.org)**

Note: Fee includes workshop sessions, workbook, certificate, daily luncheons and coffee breaks. Registration fees do not include accommodation.

**Payment by Telegraphic Transfer**

- Telegraphic Transfer (Bank details will be provided on the tax invoice)



**BASED ON THE MERIT  
OF EACH APPLICANT**

**Payment by Credit Card**

Credit Card Payment will be in U.S Dollars only

- American Express  Master Card  Visa  Diners Club

\_\_\_\_\_  
 CARD NUMBER

\_\_\_\_/\_\_\_\_  
 EXPIRY DATE (MM/YY)

\_\_\_\_\_  
 Security code (3 digits on back of card/4 digits on the front of Amex)

\_\_\_\_\_  
 Credit Card Billing Address & Zip/postal Code

\_\_\_\_\_  
 Name Of Card Holder Signature

**Cancellation Policy**

- A processing fee of USD150.00 will be charged for cancellation received thirty (30) days prior to the first day of the workshop.
- 25% refund will be made for cancellation received between twenty nine (29) - fifteen (15) days prior to the first day of the workshop.
- No refund on cancellation received fourteen (14) days prior to the first day of the workshop.
- No refund will be issued if a registrant fails to show up on-site.

**This form may be used as a company invoice.**

Mail completed registration form with remittance and any supporting material to:

**Society of Petroleum Engineers**

Suite 12.01, Level 12, Menara IGB, Mid Valley City  
 Lingkaran Syed Putra, 59200 Kuala Lumpur, Malaysia

**T** 60.3.2182.3000 **F** 60.3.2182.3030 **E** [spekl@spe.org](mailto:spekl@spe.org)

Note: Forms will not be processed and space cannot be guaranteed unless accompanied by payment for total amount due.