

**Course Extended to 4 days!  
Greater Coverage and Depth  
in Course Modules**

**Introduction to**  
**Offshore Drilling &**  
**Production Facilities**

**23 – 26 April 2012, Kuala Lumpur, Malaysia**

**4<sup>th</sup> Run in Asia!**



**Expert Trainer: Dr. John Preedy**

Formerly with for BP for 28 years as a Research Associate and Team Leader, working on Feasibility Studies and acting as a trouble shooter covering all aspects of BPs businesses. These covered field Development Project in the North Sea and several novel resource recovery techniques which were taken from Concept to Field Pilot trials in Canada.

- ❖ Very effective!, Sapuracrest Petroleum
- ❖ The information received from this course is enormous. The presenter is good and accommodating in sharing his knowledge, Petronas Carigali
- ❖ Excellent training with experienced trainer, good presentation, materials and animation, Petronas Carigali
- ❖ Excellent!, TL Offshore Sdn Bhd

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## Course Overview

This 4 day (separately bookable) intensive training course will cover the details of drilling rigs and how they operate, especially for deepwater activities. Current drilling rigs are highly automated and efficient. These advances will be illustrated with animations and videos. The relationship between drilling and production will be explored with examples of current field developments

The course also covers offshore production hosts, their technical components and systems will be described together with examples of the floater as part of the field development concept. Current safety and environmental issues will also be addressed.

Numerous case studies are presented throughout the course to provide the participants with a full view of the total field development activity. While the course is very intensive, with many areas to cover, the presentation includes many animations and videos illustrating the technical issues and challenges.

## Target Audience

This course is intended for Oil & Gas professionals who wish to learn how offshore technology is integrated into a successful full field development. The course is also suitable for both new engineers or management moving into offshore field development areas as it provides the basics of drilling and production technologies.

## Objectives

**Upon completion of the course participants should understand:-**

- Types and Functions of Drilling Rigs
- How Drilling Rigs Operate
- How Wells are Drilled from Platforms and Subsea
- Latest Advances in Deepwater Drilling
- Deepwater Floating Production Systems
- The FPSO Equipment and How it Operates
- The Requirements of the full Deepwater Field Development
- Safety and Environmental Issues

# Introduction to Offshore Drilling & Production Facilities 23 - 26 April 2012, Kuala Lumpur, Malaysia

## 4 DAY SEPARATE BOOKABLE COURSE OUTLINE IN DETAIL

### DAY 1

#### Introduction

#### **08.45 L1 INTRODUCTION TO OFFSHORE DRILLING RIGS, MARINE DRILLING ACTIVITIES AND FLOATING PRODUCTION**

Introduction and Background. Background and General Trends in Offshore Drilling and Production. General arrangement, operational capability and drilling equipment facilities on typical fixed platforms, jackups, barges, drillships and semi-submersibles; Review of Fields developed with Floaters and Subsea Production Systems

#### **10.00 L2 GLOBAL ENERGY REVIEW**

10.30 Break

World Oil Reserves and Production. World Gas Reserves and Production. What Oil Price? World Energy Consumption. The Important Future for Gas and LNG. Alternative Energy Approaches

#### PART A - DRILLING TECHNOLOGIES

#### Offshore Drilling Rigs

#### **10.45 L3 - JACK-UP RIGS**

Background, jacking mechanism, spud cans, moveable cantilever, drill derrick and several examples of jackup drilling rigs including general layout and storage capacity and rig regulations.

#### **11.30 L4 - SEMI-SUBMERSIBLE DRILLING RIGS**

Background, vessel details and semisubmersible examples including general layout for equipment and storages, vessel motions and motion compensation devices and rig regulations. Examples.

12.15 Lunch

#### **13.15 L5 - DRILL SHIPS**

Background, vessel details and drill ship examples including general layout for

equipment and storages, vessel motions and motion compensation devices and rig regulations. Examples.

#### **14.15 L6 - DRILLING BARGES & TENDER ASSISTED DRILLING**

Background, vessel design and drill barge examples. Tender assisted Drilling vessels. Self-erecting tender assisted Drilling vessels.

15.00 Break

#### **15.15 L7 - POSITION AND STATION KEEPING FOR FLOATING DRILLING RIGS**

**Part A - Mooring:** mooring requirements, mooring regulations for drilling vessels, mooring system design, setting and moving the mooring pattern.

**Part B - Dynamic positioning:** background, dynamic position concept, basic feedback and control, position measurement, thrusters and dynamic position rig design.

#### **16.15 L8 - DRILLING RIG COMPONENTS (Rig Equipment / Drill Strings / Muds**

Drilling Power System. Hoisting Systems. Rotating Systems. Pipe handling system: Drill pipes, collars and stabilisers, bottomhole assembly etc.

Background and Requirements. Mud Formulations. Circulation Equipment. Mud cleaning Equipment.

17.30 Q&As + Close of Day One

### DAY 2

#### Marine Drilling Systems

#### **08.30 L9 - OFFSHORE DRILLING COMPONENTS**

Drilling template, temporary and permanent guide bases, guide wire and guide line less systems, subsea wellheads including subsea BOPs, marine riser, LRP, motion compensation and drilling control system.

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## **L10 - BLOWOUT PREVENTORS**

Integral components and operating principles of different subsea BOP equipment and choke line manifolds, hook up and testing of BOP equipment.

Break

## **10.45 L11 - MARINE RISER TENSIONERS**

Riser Tensioner Requirements, Wire Line Tensioners, Direct Tensioners  
Floating Host Drilling and Production Tensioners, Operations and Suppliers

## **11.30 L12 - RIG MOTION COMPENSATORS**

Harsh Weather Drilling, Requirements for Motion Compensators, General Types, Mounted on Crown Block, Mounted on Travelling Block, Drilling Line Compensator Components, Operations

12.30 Lunch

### **Drilling Offshore Wells**

## **13.30 L13 - DRILLING REQUIREMENTS FOR PLATFORMS & PRODUCTION HOSTS (SPARS & TLPs)**

General requirements, drilling guides and templates, well Control and well completion.

15.00 Break

## **15.15 L14 - DRILLING A SUBSEA WELL**

Sequence of drilling a Subsea Well.

## **16.30 L15 - WELL DESIGN**

Well Design, Drilling Formulae, Casing sizing and Weight, Formation Pressure Control.

17.00 Q&As + Close of Day Two

### **DAY THREE**

### **Examples of Drilling Activities**

## **08.30 L16 - DRILLING EXAMPLE - DRILL THRU XMAS TREE**

**Dalia Field, Angola.** Drill thru Xmas Trees. Drilling Process – Jetting the Conductor –

Drilling the Surface hole – Running and Cementing the Casing – Running the Tree – Running the BOP – Completing the Well.

## **09.30 L17 - DRILLING EXAMPLE - BATCH DRILLING WITH DUAL ACTIVITY RIG**

**Greater Plutonio Field, Angola.** Details of Dual Activity Rig. Batch Setting Process. Complete sequence of drilling activities.

10.30 Break

## **10.45 L18 - REVIEW OF DEEPWATER HORIZON INCIDENT IN GoM**

Deepwater Horizon Rig; The Blowout Event; The Sinking; BPs efforts to stop the spill. Future changes.

## **11.45 L19 - ADVANCED DRILLING RIGS / NEW RIG CONCEPTS**

Drilling rigs with dual drilling activity: design of twin drilling derricks for semis and drillships, working principles – Main and Auxiliary Rotatys, operational capabilities in relation to drilling and equipment and casings. Automated Tubular Handling Systems. Tubular stacking and handling, Joint Make-up systems, loading systems. 6<sup>th</sup> Generation Rigs. Sevan Cylindrical Drilling Vessel. Huisman Itrec Drilling Tower.

Lunch 12.30

### **PART B - OFFSHORE PRODUCTION TECHNOLOGIES**

## **13.30 L20 BOTTOM FOUNDED PLATFORM PRODUCTION HOSTS**

Steel Jacket Platforms. Concrete Platforms. Design, fabrication and Installation.

## **14.30 L21 FIELD LAYOUT REQUIREMENTS**

Field Layout Requirements. Subsea Wells. Mooring Patterns. Operations and Vessel Movements in the Field. Drilling Issues. Seabed / Geohazards. Workovers

15.15 Break

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## **15.30 L22 FPSO / FLOATING SYSTEM REQUIREMENTS**

Functional Requirements. Monohull, Semi-Submersible, Deep Draught Semi-Sub, SPAR and TLP Options. Layout and Safety. Newbuild or Conversion. New Developments (Sevan). Floater Design – Hydrodynamics and Model Testing. Turret Design. Export Systems

17.00 Q & A followed by Close of Day Three

## **DAY FOUR**

### **08.30 L23 SUMMARY OF SUBSEA PRODUCTION BUILDING BLOCKS**

Main building blocks :- Well Completions and Xmas Trees, Manifolds and Templates, Flowlines and Pipelines. Subsea Control Systems. Umbilicals.

10.15 Break

### **10.30 L24 RISERS (FLEXIBLE DYNAMIC / TOWERS / STEEL CATENARY)**

Systems requirements. Flexible Dynamic Risers – Design & Fabrication. Integrity Monitoring. Deepwater requirements. Integrated Production Bundle Risers. Hybrid Risers and Riser Towers. Steel Catenary Risers

### **11.15 L25 INTRODUCTION TO TOPSIDES PROCESSING SYSTEMS**

Function of process and utility plant (Reservoir Interaction, Typical Reservoir Fluids, Product Specifications, Environmental Constraints). Processing Facilities (Separation,

Compression, Produced Water, Water Injection, Utilities). Effect of Motion, Process Equipment Examples.

12.30 Lunch

### **13.30 L26 CASE STUDY - GAS FIELDS**

Shallow and Deepwater developments. Small shallow water gas fields. Deepwater well to shallow water hosts. Well to Beach developments.

### **14.30 L27 CASE STUDY - DEEPWATER OIL FIELDS**

Deepwater issues and Range of Production Systems. Current Worldwide Status – Brazil, Gulf of Mexico, North Sea, West Africa, South East Asia and Australia

15.30 Break

### **Safety and Environmental Issues**

### **15.45 L28 - DRILLING AND PRODUCTION SAFETY AND ENVIRONMENTAL REQUIREMENTS**

Safety Requirements for drilling and production, Review of past incidents involving loss of lives. Environmental requirements offshore Drilling and Production, environmental impact assessments, use and discharge of drilling muds and fluids and cleaning and disposal of drill cuttings.

17.00 Q&A Followed by Presentations of Certificates of Attendance and Close

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**ABOUT YOUR EXPERT TRAINER: DR. JOHN PREEDY**



*Director of Course and Senior Consultant*, worked for BP for 28 years as a Research Associate and Team Leader, working on Feasibility Studies and acting as a trouble shooter covering all aspects of BPs businesses. These covered field Development Project in the North Sea and several novel resource recovery techniques which were taken from Concept to Field Pilot trials in Canada. His specific work in the offshore area covered Subsea Robotics / Automation , Seabed Production Concepts, Seabed Excavation Methods, Underwater Repair Techniques, Flexible Riser Studies and Maintenance Cost Reductions.

After leaving BP in 1992, he has continued working in the offshore oil industry through Azur Offshore Ltd, including activities in the assessment of Emerging and Novel Technologies, Technical and Economic Audits, Studies, Production Sharing Agreement Evaluations, Safety and Environmental issues.

Clients have included Chevron UK, BP Exploration, British Gas , Technomare, Trident Consultants, Fina UK and Cameron France. John is regular University lecturer at Cranfield School of Industrial Sciences (UK) and is a course Group Project external examiner for Cranfield. He also lectures on offshore oil industry activities at ENSIETA (France), the Technical University of Delft (Holland) and the Northern Territories University in Darwin (Australia).

He is an active member of the UK Society for Underwater Technology (SUT) and serves on their Subsea Engineering and Operations Committee.



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# REGISTRATION FORM

Kuala Lumpur, Malaysia 23 – 26 April 2012	Early Bird Price	✓	Normal Price	✓	TEAM DISCOUNTS
<b>4 - day Introduction Offshore Drilling &amp; Production Facilities</b>	<b>SGD 3299</b>		<b>SGD3499</b>		PetroEdge recognises the value of learning in teams. Group bookings at the same time from the same company receive the following:  3 or more at 5% off 5 or more at 7% off 8 or more at 10% off  Early bird pricing is exclusive of team discounts and other promotions.
<b>OR BOOK SEPARATELY</b>					
<b>2 - day: Introduction to Offshore Drilling</b>	<b>SGD 2399</b>		<b>SGD 2599</b>		
<b>2 – day: Floating Production Facilities</b>	<b>SGD 2399</b>		<b>SGD 2599</b>		
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 Mr  Mrs  Ms  Dr  Other

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Job Title: -----

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Department: -----

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- indicate if you have already registered by Phone  Fax  Email  Web
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