Subsea Awareness Course
22nd – 26th June, 2015
Hotel Jen
1A Cuscaden Road, 249716, Singapore

This four and a half day Course has been designed to be suitable for contractors, engineers, operators and those new to the offshore industry, those transferring from other disciplines within the industry and those who have worked in subsea previously but would benefit from a refresher course and exposure to the latest technology. Whilst most of the course will be presented in a ‘classroom’ environment, the sessions will be interactive, with the opportunity to ask questions and discuss what has been learnt.

Day 1: 09.00 – 18.00
General Introduction to the Subsea Sector Overview
• Why subsea?
• What other options are available, including option evaluation and election?
• Examples of different systems used on existing fields
• What are the current design philosophies and the technology drivers?
Subsea Development Options
• Single well tieback, template, cluster/manifold etc
Tea/Coffee
Components of Subsea Systems/Building Blocks’
• What is the purpose of each and how do they fit into the overall system?
Development Areas
• Deep water/ultra deep water
• Complete subsea solutions
12.30 - 13.30 Lunch
Flow Assurance
• Understanding the nature of fluids, thermal management of subsea systems
Tea/Coffee
• Deep- and ultra-deepwater development, seabed processing
17.00—18.00
Networking session

Day 2: 09.00 - 17.00
Subsea Wellheads/Trees Introduction
Getting to know the Technology and Terminology
• Drilling Vessels
• The basics of Drilling a Well
• An overview of Key components and their methods of operation
• Xmas Tree Applications
• Completion risers
Tea/coffee
Wellhead Systems
• UWD-15 Wellhead System Overview
• UWD-15 Wellhead Installation Animation
Tree systems
• HXT and VXT System Overview
• HXT & VXT Installation & Tooling Overview
• HXT Installation Animation
• VXT Installation Animation
12.00 – 12.45 Lunch
Templates Manifolds and Connections
Tea/coffee
2.15 pm Depart Hotel for site visit to FMC’s base at Gul Circle.
17.00 Return to Hotel, Day end

Day 3: 09.00 – 16.45
Subsea Control Systems
Types of Control System
• Advantages/disadvantages of each type
Tea/coffee
Typical Equipment
• Hydraulic power unit, electrical power unit, master control station, subsea control modules
Subsea Options
• Hydraulics, electrics, umbilicals, sensors
Operator Interface
• Master control station, functionality and options
Future
• Technology drivers
12.30 – 13.30 Lunch
Subsea Control Fluids
• The control fluid as a component of the system
• Anatomy of a control fluid
• Environmental impact
Tea/coffee
Umbilicals
• Design • Manufacture • Project Uses
16.45 Day end

Day 4: 09.00 - 16.45
Installation
Field Architecture Overview
• Subsea tieback • Subsea floater
Installation Vessels
• Vessel Types, Positioning
Structures
• Structure types, Foundation types, Foundation installation, Structure Installation
Pipelines - Flexibles
• Flexible Types, Critical success Factors, Installation methods
Pipelines - Rigid
• Rigid types, Critical success factors, Installation methods
Tie Ins
• Rigid spools, Flexible jumpers, Flying leads, Critical success factors
12.30 - 13.30 Lunch
Remote Intervention
Introduction
• Safety, current environment, technology drivers, water depth
ROV Technology
• Introduction, system types
• Typical system components
• Operational systems & capabilities, launch & recovery systems
Tea/coffee
AUV Technology
• Introduction, system components, capabilities, sensors, trials & testing
Systems
• Tooling standards, interfacing, component replacement systems
• Connection systems, diverless pipeline repair
16.45 Day end

Day 5: 09.00 - 12 Noon
Workshop Tour
Fugro Subsea Technologies Pte Ltd.
From drawing board to reality: You will have the opportunity to follow the stages involved in creating and building the FCV 3000 - Next Generation Work Class ROV & the FCV 600. You will be taken through the stages from concept/drawing/building to FAT.
You will also have the opportunity to view the ROV control cabins with the latest generation pilot console.
12 Noon, return to Hotel Course Close

Registration form overleaf - For more information on this course, please contact Joyce Bremner on j.bremner@sut.org
To register, please e-mail completed registration form to Joyce Bremner on J.Bremner@sut.org

**Registration Fees**
SUT Members  3000.00 Singapore Dollars  
Non Member  3250.00 Singapore Dollars  
Please note that all payments will be charged in British Pound Sterling, an exchange rate of S$2.00 Singapore Dollars to £1 will be used  
Included in the Fees: All refreshments during the Course, transport to and from site visits a copy of the Course notes in handout format and USB memory stick containing PDF versions of the presentations.

**Preferred Payment Methods:**
Credit Card: Mastercard or Visa ONLY. We cannot accept payment by other cards.  
Bank Transfer: (exclusive of transfer fees and currency exchange rates) details will be provided upon request  
Invoice: Please provide Po no. if required, contact name, company name & address as should be shown on invoice.

**Joining Instructions:**
Joining instructions will be e-mailed to the registered delegate (as shown on the registration form). All details of presenters and updates to the programme will be included in the joining instructions.

**Site Visit:**
All costs for the site visits are included in the registration fee, transport will be arranged by the SUT.

**Cancellations:**
Refunds will be made on written cancellation received up to ten working days in advance of the event, but will be subject to a 15% handling charge. 50% will be deducted up to three working days in advance and 100% thereafter up to the start of the event. No refund will be given for non-attendance. Delegates may wish to nominate a substitute in their place.

**Transport During the Course:**
Delegates are responsible for their own travel arrangements to and from the Traders Hotel.

---

**Registration Form**
Please e-mail completed registration form to Joyce Bremner on J.Bremner@sut.org

SUT Member No.______________  
Please tick to indicate your preferred payment method:

Credit Card ______  (Visa or MasterCard)  
Invoice (PO No.) ________  
Bank Transfer _______

Name of attendee__________________________________________________________

Company __________________________________________________________________

E-mail address ____________________________________________  Tel No. ___________________________

If paying by credit card, please provide the following information:

Credit Card No: VISA or MASTERCARD ONLY _______________/________________/______________/___________

Exp. _________ / _________  Security no ____________ (last 3 digits on the back of your card)

Name on the card ___________________________________________________________

Billing Address __________________________________________________________

Amount to be charged _________________  Signature ________________________________

E-mail address to send payment receipt _______________________________________

If you require an invoice please provide the following information:

PO No. should it be required ___________________________  Amount to be charged ___________________________

Company Name  and address  as it should be shown on invoice ____________________________________________

E-mail address where soft copy invoice should be sent _________________________________________

(Singapore June 2015 V1)