

T W O - D A Y C O U R S E

# THE LIFE-CYCLE OF FLEXIBLE RISERS AND FLOWLINES

AWARENESS COURSE

ABERDEEN



## PROGRAMME AND REGISTRATION FORM

- The course is aimed at those who specify, purchase, approve, install, operate, manage the integrity of, or decommission flexible risers or flowlines, including jumpers.
- It should provide enough knowledge for them to feel comfortable with their responsibilities.
- It is likely to apply to both engineers and non-engineers at various stages in their careers.

The course has been developed by all three flexible pipe manufacturers, and key companies associated with system design, failure mode analysis, integrity management and decommissioning of flexible flowlines and risers, so that delegates will get the best possible grounding in the subject.

ORGANISED BY

**SOCIETY FOR UNDERWATER TECHNOLOGY**

INNOVATION CENTRE, ABERDEEN SCIENCE & ENERGY PARK, BRIDGE OF DON, ABERDEEN AB23 8GX

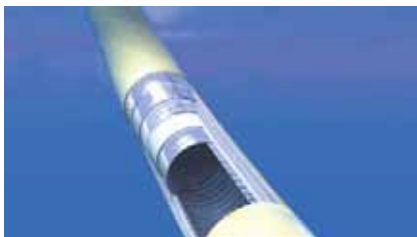
TEL: +44 (0)1224 823637 FAX: +44 (0)1224 820236 E-MAIL: [events@sut.org](mailto:events@sut.org) WEB: [www.Aberdeen.sut.org.uk](http://www.Aberdeen.sut.org.uk)

Head Office: 80 Coleman Street, London EC2R 5BJ

Tel: +44 (0)207 382 2601 Fax: +44 (0)207 382 2684 E-mail: [info@sut.org](mailto:info@sut.org) Web: [www.sut.org](http://www.sut.org)



# The Life-Cycle of Flexible Risers and Flowlines Course



Images courtesy of NKT Flexibles I/S and Technip UK Ltd.

## PROGRAMME

### DAY 1

09.00

#### Welcome and Introduction

#### Design of Flexible Flowlines and Risers

- The structure of different types of flexible pipe
- Materials: plastics and their selection; corrosion considerations for steel
- Static flowline design issues, including flow assurance and impact protection
- Dynamic riser design issues, including dynamic analysis and fatigue analysis

Lunch

#### Design of Flexible Flowlines and Risers Cont.

- How flexible pipe is manufactured
- Overview of ancillary equipment
- Future technology (including deep water issues)

#### Corrosion Mechanisms

- Stainless steel (pressure vault)
- Carbon steel (armour wires)

#### Integrity Management – Operator's Perspective

- Legislative drivers
- Business drivers
- How flexibles are managed

16.45 Close

19.00 Course Dinner

### COMPANIES CONTRIBUTING TO THE COURSE:

Aceryg ▪ Atkins Boreas ▪ Fairfield Energy ▪ Flexlife ▪ iicorr Ltd  
▪ J P Kenny ▪ MCS ▪ NKT Flexibles I/S ▪ Technip UK Ltd ▪  
Wellstream International Ltd

## DAY 2

09.00

### Installation of Flexibles

- Installation of equipment (reels, carousels, etc)
- Considerations for selection of method, equipment, installation vessel, etc
- Installation analysis: load prediction, sea state limitations, minimum bend radius, etc
- Tie-in operations



### Damage, Degradation and Failure Modes

- How design takes account of failure modes
- Practical experience – use, damage and failure
- Flexible pipe failure modes, and their mechanisms
- How integrity management is linked to failure modes
- UKOOA Guideline on Flexible Pipe Integrity Management

*Lunch*

### Integrity Management Techniques

- Approach to risk-based assessments
- Assessing the impact of design, installation and operation on integrity
- Integrity monitoring techniques
- Inspection techniques
- Benefits of integrity management regarding re-use potential

### Decommissioning

- Regulatory requirements
- Leave in place versus removal, and residual liability
- Opportunities and considerations regarding re-use
- Case Study: Blenheim/Bladon

16.30 *Close*

## REGISTRATION INFORMATION

To register please complete the registration form and send to SUT's Aberdeen office SUT, Innovation Centre, Exploration Drive, Aberdeen Science and Energy Park, Bridge of Don, Aberdeen AB23 8GX.

Telephone: + 44 (0)1224 823637.

Fax: + 44 (0)1224 820236. Email: [michele.ross@sut.org](mailto:michele.ross@sut.org).

Space on the course is limited so early booking is advised.

### REGISTRATION FEES

SUT Member Rate:

GBP £700.00 (excluding VAT)

Non Member Rate:

GBP £900.00 (excluding VAT)

All refreshments and copy of the course notes included in the fees.

### PAYMENT METHODS

**Bank Transfer:** (exclusive of transfer fees and currency exchange rates) to Bank of Scotland, 79 Ellon Road, Bridge of Don, Aberdeen, AB23 8BY. Sort Code No: 80 05 11. Account No: 00865948, Account Name: SUT Aberdeen Branch.

**Cheque:** Please make payable to "Society for Underwater Technology". Sterling only drawn on a UK Bank Account. An International cheque can be obtained from all major overseas banks. Please ensure any charges are met at source.

**Credit Card:** Please provide details below. We do not accept American Express Cards.

**VAT:** Our VAT No. is 242 3504 95. VAT must be paid on all registration fees, including those from overseas. All EC country organisations must provide their VAT number in accordance with EC VAT regulations. A VAT receipted invoice will be sent in acknowledgement of all pre-paid registrations.

**JOINING INSTRUCTIONS** Joining instructions will be sent direct to the registered delegate (unless otherwise advised) on receipt of their written confirmation of attendance.

**ACCOMMODATION** Aberdeen has a wide range of accommodation; please contact the SUT Aberdeen office for information.

**TRANSPORT** Delegates are responsible for their own travel arrangements at the beginning and end of each day.

**Course Dinner:** An informal dinner will be held in a local restaurant on the first night of the course (details will be with the joining instructions).

**CANCELLATIONS** Refunds will be made on written cancellations received up to 10 working days in advance of the event but will be subject to a 15% handling charge. 50% will be deducted 5 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.



# Registration Form

## 'The Life-Cycle of Flexible Risers and Flowlines' Awareness Course

Please complete and either email to [michele.ross@sut.org](mailto:michele.ross@sut.org) or print off a copy and fax to + 44 (0)1224 820236

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_

Email \_\_\_\_\_

Phone No. \_\_\_\_\_

Fax No. \_\_\_\_\_

SUT Member No. \_\_\_\_\_

Credit Card Payment (Not American Express):

Amount £ \_\_\_\_\_

Card No. \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Start Date \_\_\_\_\_

Expiry Date \_\_\_\_\_

Security No. (last 3 digits on back) \_\_\_\_\_

Name on Card \_\_\_\_\_

Billing Address \_\_\_\_\_

Please indicate your preferred payment method:

Credit Card (details above)

Cheque enclosed, made payable to  
Society for Underwater Technology

Please Invoice quoting PO No. \_\_\_\_\_

