



TREVOR JEE ASSOCIATES
ENGINEERING CONSULTANTS

Subsea pipeline design

An intensive technical course for
oil industry professionals

Houston 18-20 November 2003



Covers traditional and limit state design methods

ABOUT THE COURSE

In today's working environment, engineers face pressures to be both more productive and more cost-effective. This can put you in an exposed position where it is vital to have a firm understanding of the engineering principles in order to make the correct recommendations and decisions.

Subsea pipeline design is an intensive 3-day course where you can develop and practice the necessary skills. From the course, you should expect to be able to use a code of choice and either do a pipeline design yourself, or supervise others to do it.

You receive information via multi-media presentations, backed up by comprehensive notes and reinforce this learning through technical exercises, group discussions and points of interest worked up in more detail on the flip chart.

All this is set in the Wyndham Hotel, giving you a comfortable learning environment away from the office, complete with tempting cuisine and use of their leisure facilities.

WHO SHOULD ATTEND?

- | | | |
|---|------------------------------|---|
| <ul style="list-style-type: none"> ● Engineers ● Supervisors ● Technical specialists ● Graduates ● Managers | <p>... involved with ...</p> | <ul style="list-style-type: none"> Pipeline design Projects Pipeline operations Installation Maintenance |
|---|------------------------------|---|

DAY 1 DAY 2 DAY 3

- Route selection**
- Rules of thumb
 - Route planning exercise
- Pipeline diameter**
- Fluid properties, flow maps and fluid flow theory
 - Pressure loss and friction
 - Slugging and liquid hold-up
 - Hydrates and wax control
 - Networked flowline systems
- Materials and corrosion**
- Sweet and sour service
 - Material selection
 - Material temperature effects
 - Coatings
 - Cathodic protection
 - Anode design

- Design for strength**
- Internal and external pressure
 - Combined stresses
 - Code requirements
 - Limit state reliability design
 - Wall thickness exercise
 - Deepwater considerations
- On-bottom stability**
- Review of fundamentals
 - Oceanography and geotechnical design
 - Stability analysis
 - Computational fluid dynamics
- Thermal design**
- Thermal profile analysis
 - Cooldown during shut-in
 - Insulation design
 - HT/HP design

- Expansion and buckling**
- Thermal expansion
 - Lateral and upheaval buckling
 - Geotechnical considerations
 - Software
- Spans**
- End conditions and effective axial forces
 - Euler buckling
 - Natural frequency and mode shape
 - Vortex induced vibrations
 - Fatigue analysis
- Protection**
- Dropped objects, trawl gear
 - Trenching for impact protection
 - Protection structures
 - 'Soft' protection options

UPDATED

COURSE DINNER



VENUE



The course is held at the Wyndham Hotel, Houston.
(www.wyndham.com/greenspoint)

All delegates have complimentary use of the leisure facilities. These include a pool, fitness suite, sauna and steam room. The course dinner is also complimentary. Hope you can join us.

If you require accommodation, the hotel offers TJA delegates a preferential overnight rate of \$129 + taxes. Delegates settle their own bill on departure. Early booking is advised. Please indicate your requirements on the booking form.

PRESENTERS



MIKE HAWKINS BTech(Hons) CEng MIMechE

Mike Hawkins has 19 years' experience of pipeline engineering. Aspects relevant to pipeline design are span analysis, use of DNV 2000, foam coating thermal analysis software, subsea LNG pipeline, and development of limit state equations. Mike is currently working on training and risk-based design.

MARTIN EAST BSc(Hons) MSc NRA CEng MIMechE

Martin East is a pipeline engineer with 13 years' experience. He specializes in analysis and has experience of a wide range of structures and engineering problems across many industries. His work at Trevor Jee Associates includes modeling creep and water absorption in coatings, pipeline spans and thermal buckling analysis.



ABOUT OUR COURSES

Structured training

At Trevor Jee Associates we have worked with our customers to develop a suite of pipeline engineering courses (detailed opposite) to fully meet the training needs of their pipeline engineers.

In-company courses

These courses are also available to you in-company, tailored to your specification. Please call Stewart Polvado to discuss your particular course requirements on (512) 402 9066.

Forthcoming public courses

Construction	04-06 Feb 2003	Aberdeen
Integrity	20-22 May 2003	Aberdeen
Materials	03-05 Jun 2003	London
Overview	16-18 Sept 2003	Aberdeen
Construction	18-20 Mar 2003	Houston
Integrity	10-12 Jun 2003	Houston
Overview	21-23 Oct 2003	Houston

Details and secure booking available on www.tja.co.uk

THREE EASY WAYS TO BOOK

- 1. Form** Complete and return the form overleaf by post or fax
- 2. Web** Book securely on-line from our website www.tja.co.uk
- 3. E-mail** Send the booking form details to admin@tja.co.uk

Need to know more? Call Stewart Polvado (512) 402 9066

We will send full joining instructions and a receipt to the company contact. To ensure admission, payment must be received before the event.



BOOKING FORM: DESIGN, HOUSTON 2003

First Delegate

Name.....

Job Title.....

Dietary requirements.....

Hotel reservations Mon 17 Tues 18 Wed 19 Thur 20

Second Delegate

Name.....

Job Title.....

Dietary requirements.....

Hotel reservations Mon 17 Tues 18 Wed 19 Thur 20

Third Delegate

Name.....

Job Title.....

Dietary requirements.....

Hotel reservations Mon 17 Tues 18 Wed 19 Thur 20

(More delegates? Please photocopy the form or attach a list. Thanks.)

COMPANY CONTACT DETAILS

Name

Company

Training manager

Address (with post code and country)

.....

Telephone Fax E-mail

Signed

Job title

CONDITIONS

- The booking form constitutes a legally binding contract.
- Trevor Jee Associates reserves the right to refuse admission if payment has not been received prior to the event.
- If you are unable to attend, you are welcome to substitute another person without penalty at any time.
- Trevor Jee Associates will hold your data on computer under the terms of the Data Protection Act.
- Bookings and cancellations must be in writing.
- If you cancel less than 2 weeks before the course begins, or if you fail to attend, the full fee remains due. If you cancel 2 weeks or more before the event an administration fee of \$150 is due.
- Should we cancel the course we will refund you in full, but will disclaim any further liability.
- We reserve the right to make changes if necessary.

PAYMENT

- I attach a check for \$ payable to Jee Ltd
- Please invoice my company \$..... payable prior to the course
- Please debit \$..... from my Switch/Access/Visa/Mastercard/Amex card

Card NoExpiry Issue No (Switch only)

Name on card Cardholder's signature

Thank you for your booking. Please either fax this form toll-free (from USA) to 800 290 6853, or post it to 26 Camden Road, Tunbridge Wells, Kent, TN1 2PT, UK.

PRICES

The more delegates you book, the lower the cost per person.

Number	Price (\$)	Per Person (\$)
1	2520	2520
2	4536	2268
3	6552	2184
4	8568	2142
5	10584	2117
6	12600	2100