

Safety in refinery and petrochemical plant operation

12-15 October 2010, London, UK

EI member £2,585.00 inc VAT Non-member £2,820.00 inc VAT*

*includes complimentary Affiliate membership to the Energy Institute



This **4-day** course outlines the risks inherent in the products and equipment handled in the operation of refinery and petrochemical plant. It is designed to assist participants understand and develop the type of attitude that fosters greater safety in plant operations.

On completion of the course, participants will be familiar with the:

- common risks in the oil industry
- main prevention approaches
- typical safety management practices

Course content

Plant operations and safety

Product-related risks

Flammability

- Risks incurred by flammable products; flash point, explosive limits
- Ignition sources; flames, self-ignition temperature, sparks and static electricity, pyrophoric products
- Presence of oxygen; risks incurred by inlet of air
- Preventive measures and precautions: during normal conditions, during draining and sampling; in the event of leaks; with regard to storage tanks; during loading and unloading; during repair work
- B.L.E.V.E.

Fluid behaviour and related hazards

- Vessel pressure and consequences of an increase or decrease in temperature: thermal expansion, vaporization, collapsing due to vacuum, freezing due to pressure relief

Physical hazards involving personnel

- Poisoning: ingestion, metabolism and elimination
- Cases related to specific products: chlorine, hydrogen sulfide, benzene, acids, alkalis, additives, inhibitors

Equipment – related Risks

- Main risks
- Avoidance of risks through the correct use of commonplace equipment: safety valves, rupture discs
- Corrosion hazards and control

Safety in process operations

- Precautions and risks related to the use of utilities: inert gases, liquid water, steam, air, gas oil, fuel gas
- Safety related to blowdown and drainage toward: flare, slops, tanks, oily water
- Blending procedures: conditions for installing blinds or stoppers
- Degassing-inerting: steam, nitrogen, water, vacuum, work permits
- Entry into vessels - atmosphere analysis: oxygen content, explosivity, toxicity
- Start-up: checks, accessibility and cleanliness, line up, nitrogen-, water-, steam- or vacuumed-aeration
- Seal tests

Hazard analysis in design and operations

- Basic concepts; hazards rating
- Basic techniques used: check-lists, HAZAN, what-if, HAZOP
- Hazards related to modifications

Safety management

- Human factors in risk management
- Safe and unsafe habits, motivation
- Difficulties in improving safety results
- Typical safety organisation
- Ten keys for good safety management in the field

Various sections of this course are based on a number of actual case studies and on the analysis of incidents and accidents.



Registration form

To register, by post or fax, please complete this registration form in BLOCK CAPITALS and return it to the address below, together with payment of all fees.

Nick Wilkinson, EI Oil and Gas Training, Energy Institute, 61 New Cavendish Street, London W1G 7AR, UK
 f: +44 (0)20 7255 1472

To register by email, please provide the same contact details (shown below), together with the relevant course details and send to: nwilkinson@energyinst.org To book online, visit: www.energyinst.org

I am/my employer is a member of the EI and entitled to the EI member's rate. EI Membership Number:

Family name: Mr/Mrs/Miss/Ms/Dr/Other:

Given name(s): Name to be used on badge:

Job title or present position:

Company/Organisation:

Name and address against which an invoice should be raised:

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e:

Mailing address for joining instructions (if different to invoice address above):

.....

Please indicate if you have any particular dietary requirements:

I confirm that I have read and agree to the conditions of registration as specified in the General Information section.

Signature: Date:

Under UK Excise Regulations, delegates from all countries are required to pay VAT on any course taking place in the UK.

Course Title:

Course date: Cost of course: £

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Course date: Cost of course: £

Less 10% discount for each **subsequent** delegate from the **same** company attending the **same** course on the **same** date £

TOTAL PAYMENT £

The total amount may be paid by Sterling Cheque or Draft drawn on a bank in the UK.

I enclose my remittance, made payable to the Energy Institute, for: £inc VAT

To pay by Credit or Charge Card, circle appropriate card name and give card details below:



Card No: _ _ _ _ / _ _ _ _ / _ _ _ _ / _ _ _ _ Start Date _ _ / _ _ Expiry Date _ _ / _ _

Please enter your 3-digit* security code above. This will be deleted upon authorisation. *4-digits for Amex users.

Credit/Charge card holder's name and address:

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Signature: Date:

General information

Payment

Full payment must be received before a place can be guaranteed. Under UK Excise Regulations, delegates from all countries are required to pay VAT on any event taking place in the UK. Please note that VAT may be liable to amendment. All prices are correct at the time of going to press, but may be subject to change without prior notice.

Acknowledgement of registration

Confirmation of registration and a VAT receipt will be sent to all delegates. Joining instructions will be sent out prior to the start date of the course. If you have not received your acknowledgement seven days prior to the start date of the course, please contact EI Oil and Gas Training at the Energy Institute to confirm your booking.

Language and course materials

All presentations, course materials and supporting documentation will be presented in English.

Cancellation

In the event of a delegate cancelling, a refund of the registration fee less a 20% administration charge will be made provided that notice is received in writing at least 28 days before the date of the course. No refunds will be paid after that date. However, course papers, as supplied to attendees, will be provided after the event.

Substitution

If you are unable to attend, a substitute delegate may attend in your place, provided that EI Oil and Gas Training is notified in advance.

Enquiries

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www.energyinst.org

About the course provider

The Energy Institute (EI) is the leading professional body for the energy industries, representing almost 12,000 professionals both nationally and internationally.

A Royal Charter membership organisation, the Energy Institute serves society with independence, professionalism and a wealth of expertise in energy matters, creating a home for energy professionals and a scientific and technical reservoir for industry. It is licensed by the Engineering Council (UK) to offer Chartered, Incorporated and Engineering Technician status to engineers.

The Energy Institute (EI) cannot accept any liability for any loss, cost or expense suffered or incurred by

any person arising from reason of war, including threat of war, riots and civil strife, terrorism or threats thereof, natural disaster, weather, fire, flood, drought, technical, mechanical or electrical breakdown within any premises visited by delegates in connection with the course, non provision of services provided by hotel companies or transport operators, industrial disputes, governmental action, regulations, or technical problems which may affect the services provided in connection with the event. The right to exclude any delegate, guest or substitution and to reject any application for registration is reserved. The Institute reserves the right to make any changes to the courses as considered necessary.

DATA PROTECTION ACT

The EI will hold your personal data on its computer database. This information may be accessed, retrieved and used by the EI and its associates for normal administrative purposes. If you are based outside the European Economic Area (the 'EEA'), information about you may be transferred outside the EEA. The EI may also periodically send you information on membership, training courses, events, conferences and publications in which you may be interested. If you do not wish to receive such information, please tick this box

The EI would also like to share your personal information with carefully selected third parties in order to provide you with information on other events and benefits that may be of interest to you. Your data may be managed by a third party in the capacity of a list processor only and the data owner will at all times be the EI. If you are happy for your details to be used in this way, please tick this box