TRAINING COURSE

Pressure relief

The practitioners course

Developing skills and understanding of pressure relief.

5th - 7th June 2018 - Bristol, Marriott Royal Hotel

Pressure relief
The practitioners course

Pressure relief is an important layer of protection for process plant and equipment.

Like many technical areas there are grey areas within the standards and pitfalls to catch out the unwary. This course has been designed as a follow on the ABB pressure relief - a proven approach course. It builds upon the themes discussed and expands these into more complex areas of the subject and into areas which require engineering judgement or as the standards put it “might not be appropriate”. The Practitioners course is designed such that engineers have time to develop their engineering skills doing practical pressure problems. As this is a practitioners course it is recommended that delegates have been on the ABB pressure relief - a proven approach course or have experience with pressure relief through their work.

The course will use ABB PEL software during some of the tasks. Delegates will be provided with the software and licence before the course. They can bring their own laptop, but if this is not practicable then ABB can provide a training laptop.

What the course will cover?
The course will cover the following topics:

- Pressure relief philosophies
- Pressure relief scenarios
- Calculation of relief rates including
  - Determination of alternative relief routes
  - Multicomponent fire
  - Distillation columns
- Device sizing including:
  - Supercritical relief
  - Direct integral sizing methods
  - Liquid none certified relief valves
- Pressure drop calculations
  - Beyond 3%
- Low pressure storage tanks including
  - Liquid overflows
  - Inbreathing with condensation
- Discharge and disposal including
  - Header design
  - Venting / flaring scenarios
  - KO drum sizing
  - Vibration
- Case study

Who will benefit and what will they gain?
This course is aimed at engineers who have wish to develop their skills and understanding of pressure relief through guided practical work.

Price
£1990 + VAT

Course tutors

Chris Flower is a chemical engineering specialist for ABB with over 15 years of process engineering experience. Throughout his career Chris has been involved in pressure relief be it, designing new systems, reviewing existing systems or validating systems designed by others across the whole range of process industry sectors. Chris has lead the pressure relief course for more than 7 years training over 100 delegates a year.

Paul Jackson is an inspection specialist for ABB with over 30 years experience of the design and inspection of pressure equipment. He is a Fellow of the Institution of Mechanical Engineers and Chairman of its Pressure Systems Group Committee.

Day one agenda*	
Background to pressure relief - What is pressure relief and why use it? - Approach to pressure relief design - Pressure relief and the design process	- Design team and responsibilities - Inherent safety in pressure relief - Alternatives to pressure relief
Identification of relief events - Identification of events leading to excessive pressure and vacuum	
Calculation of the required relief rate - External fire - Flow from high pressure source - Heat and energy input from associated equipment	- Pumps and compressors - Ambient heat transfer - Liquid expansion in pipes
Discharge and disposal - Discharge and disposal of vented material	
Day two agenda*	
Relief device hardware - Anatomy of a safety valve - Bursting disc hardware	- Devices for special applications - Selection and types of relief devices
Relief system sizing - Safety valve sizing - Design criteria for relief systems	- Computer software and pressure relief
Installation, inspection and maintenance - Relief system documentation - Installation of pressure relief devices	- Relief systems inspection, maintenance and operation
Pressure relief codes and legislation - Pressure relief codes and legislation	
Day three agenda*	
Chemical reaction hazards - Developing a basis of safety for chemical reaction hazards	
Blowdown and flares - Blowdown and flares	
Two phase flow - Two phase flow design principles	- Two phase flow and DIERS method
Low pressure tanks - Venting of low pressure tanks	- Low pressure tank relief devices

*ABB reserve the right to amend the agenda.

How to book

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Email: jackie.kendall@gb.abb.com
Phone: Call Jackie Kendall on +44 (0)1642 372121

PRESSURE RELIEF - THE PRACTITIONERS COURSE

Booking form

No. of places	
5th - 7th June 2018 - Bristol, Marriott Royal Hotel	

Delegate details	
Dr/Mr/Mrs/Ms	
First Name	
Surname	
Job title	
Company name	
Address	
Telephone	
Email	

Fee per delegate
£1990 + VAT
Discounts are available for bookings of 3 or more delegates. The fee includes course documentation, refreshments and lunch but does not include accommodation.

Payment	
Please debit my credit card (Mastercard / Visa / American Express)	
Card number	
Cardholder details (if different)	
Expiry date	Security code

Cancellations made up to 28 days prior to the event will be subject to an administration fee of £50. Cancellations made 27-14 days prior to the event will be subject to a cancellation fee of 50%. Cancellations made thereafter will be subject to the full event fee, however a substitute delegate can be named at any time. Prices apply to bookings made prior to 31st December 2018. Payment is due at the end of the month following a booking confirmation - ABB reserves the right to cancel bookings if payment is not made by this date. Accommodation is not included in the fee. We have reserved a limited amount of hotel accommodation subject to confirmation. Please mention you will be attending an ABB event when booking. Hotel details will be forwarded on receipt of the registration form. It may be necessary for reasons beyond the control of the organisers to cancel the event, alter the content, change the timing of the programme, or the listed speaker(s). This event is aimed at operating company personnel only. Please note: If you request overnight accommodation at the hotel via ABB and then choose to cancel less than 2 weeks prior to the event then it is your responsibility to pay any cancellation fees. ABB reserves the right to use any photograph / video taken at any event.