IChemE ADVANCING CHEMICAL ENGINEERING WORLDWIDE

IChemE Safety Centre

Consequence Modelling Techniques

18–20 September 2018, London, UK

Consequence Modelling Techniques

Learn how to predict the effects of accidents

Consequence modelling is used to predict accident effects and impact on people, the environment and property. This course draws upon loss-of-containment scenarios and guides you through a range of models, using workshops and case studies, to demonstrate different approaches to consequence modelling.

It includes exercises on scenario definition, selection of input parameters, simple modelling and interpretation of results.

Learning outcomes

By the end of this course, you will understand:

- how to identify a set of major accident scenarios
- which types of models are available for different scenarios and which are appropriate at different stages of plant design or operation
- the limitation of the various model types
- how to define the possible outcomes of hazardous material release eg fire, explosions and toxic effects
- the requirements for modelling hazards
- the possible impact of hazards on people, the environment and property
- the importance of defining source terms (initial conditions), including uncertainty
- how to specify a range of hazard studies and interpret the output
- how to interpret model results and how they are used in quantified risk analysis
- regulatory requirements for consequence modelling

Who will benefit

Project and plant managers, safety managers on COMAH sites responsible for preparing safety reports and interpreting modelling results, thos who have been using consequence models and/or their results and want further guidance on the bases, validity and uses of modelling and those new to process safety.

Course outline

Day 1

- basic concepts and definitions
- consequences for modelling - fires, explosions and toxic effects
- what is a model and when are they needed
- source terms and consequences for liquid vessels and pipes, gas vessels and pipes, flashing liquids, 2 phase vessels and pipes, and time dependency

Day 2

- basic hazard identification methods – HAZID, release scenarios, potential for explosions
- dispersion models – passive/lighter than air, momentum jet, heavy gas and CFD techniques
- transition from source model to dispersion model
- interpretation of dispersion model results

Day 3

- explosion modelling – VCE, confined, semi-confined, vessel burst and dust explosions
- fire modelling – pool, jet, fireballs and assumptions
- application of results – inputs to risk analysis, QRA, LOPA etc along with emergency response plans, escape and evacuation

In-company training

If you have several colleagues interested in this course, why not consider running it in-house?

For a quote or to discuss your requirements contact courses@icheme.org

IChemE ADVANCING CHEMICAL ENGINEERING WORLDWIDE

Venue

IChemE,
One Portland Place,
London, W1B 1PN, UK

Tel: +44 (0)20 7927 8200

Fees

IChemE member	£1000 + VAT
Non-member	£1200 + VAT

Discounts

Discounts are available to companies booking more than one place:

2 places	5% discount
3 places	10% discount
4 or more places	15% discount

Multiple places must be booked at the same time to qualify.

Find out more and book

Read more details about the course and book your place at
www.icheme.org/consequence-modelling

t: +44 (0)1788 534496
e: courses@icheme.org

Accommodation

Accommodation is not included in the delegate fee. If you need any help with booking a hotel, contact our agent, Trinity Conferences on +44 (0)1780 484050. Remember to quote IChemE when booking.

CPD **18 hrs**

Maximum duration for CPD recording

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