WORKSHOP TUTOR

Keith V Middle, B.Sc, C.Eng, FIChemE, - joined Chilworth Technology in 1994 and has since become a Principal Process Safety Specialist in the Process Safety Consultancy. Before this, Keith worked for BP Chemicals in the UK and France for 16 years. He has considerable experience within the fields of polymers, speciality and fine chemicals and petrochemicals. His expertise covers process hazard identification, assessment of chemical reaction hazards and the provision of practical engineering solutions. Particular specialities include HAZOP leadership, SIL determination to IEC 61508/11, the design of emergency relief systems using DIERS techniques, and the specification of vent treatment systems. He is a Chartered Engineer and a Fellow of the Institution of Chemical Engineers.

Brian Tibbs, C.Eng, FIET. - is an Associate Principal Consultant for Chilworth Technology and is actively engaged in the management of safety and risk through deployment of instrument-based protective systems. He has 27 years experience in the process and petrochemical industries, as well as providing general control and instrument engineering expertise.

Brian has considerable experience with the practical application and analysis of the reliability and capabilities of complex instrument protection systems, facilitation of safety integrity level assessments, and provision of IEC61508/11 risk assessment techniques

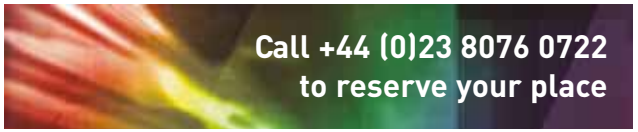
TO REGISTER FOR THIS COURSE
Please faxback on +44 (0)23 8076 7866

To reserve your place telephone Tracy Bramall on +44 (0)23 8076 0722 and fax this form on +44 (0)23 8076 7866 to confirm availability.

Once you have reserved your place, please send this registration form and a cheque payable to Chilworth Technology Ltd or a company purchase order to:-

Chilworth Technology Ltd, Beta House, Southampton Science Park, Southampton, Hants, SO16 7NS

Can't attend the course? Visit www.chilworth.co.uk to view our other courses and download your FREE data sheets on all aspects of Process Safety



REGISTRATION

I wish to reserve a place on both IEC 61508/11 courses Day 1 and Day 2 (£530 + VAT) ☐

I wish to only attend the SIL Determination course Day 1 (£295 + VAT) ☐

I wish to only attend the Safety Instrumentation Integrity course Day 2 (£295 + VAT) ☐

I cannot attend either course but would like a FREE consultation with a Process Safety Specialist ☐

Dr/Mr/Mrs/Ms/Miss: .....

Name: .....

Job Title: .....

Company Name: .....

Address: .....

.....

Postcode: .....

Country: .....

Telephone: .....

Fax: .....

Email: .....

I am a Chilworth website subscriber and I wish to claim my 5% discount (please tick) ..... ☐

Signature: .....

Date: .....

Cancellations: All reservations in writing are subject to cancellation conditions. Written cancellations received up to 5 working days before the course date will be subject to an admin charge of £50. No refunds will be made for cancellations received after this date, or for non-attendance, but course notes will be sent. Substitutions may be made at any time. Chilworth Technology reserves the right to modify or cancel the course up to 5 working days prior to the start date.

SIL Determination and Safety Instrumentation Integrity

two one-day courses, from 9am to 5pm

Tues 10th-Wed 11th March 2009

Hall Garth Hotel
Darlington
DL1 3LU

Chilworth
Technology
the experts in process safety

DAY 1– UNDERSTANDING SIL DETERMINATION REQUIREMENTS

An introduction to IEC 61508/11 Safety Integrity Level (SIL) Determination principles for establishing the performance specification and reliability of Safety Instrumented Systems. This seminar is suitable for anyone who would benefit from a basic understanding of this important safety related area.

The introduction will cover the background of IEC61508/11 SIL development requirements. The presentation will go on to feature the approach when using the current techniques for Risk Graph & Layers of Protection Analysis (LOPA), which are common methods within the process industries.

Full QRA analysis will be summarised but will not feature as part of the workshop examples.

Based on the information presented and following completion of the course, delegates should be able to fully participate in and contribute towards future SIL Determination assessments within their own workplace, using either of two widely recognised SIL determination methods.

Opportunities to discuss the various issues raised will be provided.

YOU WILL LEARN

- Basic appreciation of IEC61508/11 expectations.
- To understand the concept of SIL determination.
- Understanding of risk acceptability, targets and calibration.
- A working familiarity with SIL Determination methods in the form of Risk Graphs & LOPA.

COURSE PROGRAMME

09:00 – Relevance for developing SIL
– IEC 61508 and IEC 61511 – A summary
– Risk and risk acceptability
– SIL determination methods
– Worked examples, (Risk Graph and LOPA)
– Group exercise: Risk Graphs and LOPA in practice
– Making a start in the workplace
17:00 – Close

DAY 2 – UNDERSTANDING INTEGRITY OF SAFETY INSTRUMENTED SYSTEMS

An introduction to IEC 61508/11 Safety Instrumented Systems (SIS) Integrity which looks at the lifecycle implementation phase.

The need for a SIS will have been established from an assessment of the process risk during a Safety Integrity Level (SIL) Determination exercise (Day 1). This will have generated the functional safety requirement and the Required SIL of the SIS. The focus for the team then becomes the detailed design of the instrumented system to ensure that the end-to-end configuration can satisfy this functional safety requirement (e.g. the Achieved SIL satisfies the Required SIL).

The main thrust of this day will be to review the various phases of the SIS design process, including such aspects as system architecture, failure modes, fault tolerance, human reliability, etc., in order to achieve both performance and integrity. Additionally, management, planning and conformity assessment aspects will be reviewed. Familiarisation with the requirements of operational proof testing and maintenance of SIS, and their impact to overall functional safety management will also be addressed.

YOU WILL LEARN

- Basic appreciation of SIS architectural expectations.
- The concept of instrument failures and reliability.
- An understanding of SIS design to meet integrity targets
- Overview of quality assurance, validation, functional safety assessments, process safety implications for operations and maintenance of SIS

COURSE PROGRAMME

09:00 – SIS implementation issues
– IEC 61508 and IEC 61511 – Context for design
– Failures and reliability
– Design architectural requirements
– Human factors
– Group exercise: Designing a SIS for a 'Target SIL'
– Operations and maintenance issues
17:00 – Close

WHO SHOULD ATTEND?

Both courses are suitable for Process Engineers, Instrument / Electrical Engineers, Production Managers, Engineering Managers, Process Managers, Safety, Health & Environment Managers... and anyone else responsible for safety related applications in the workplace.

The Day 2 event is designed for delegates who have either attended the Day 1 course or already have a thorough understanding of SIL Determination.

HOW TO REGISTER

Telephone Tracy Bramall on +44 (0)23 8076 0722 to reserve your place.

AND

Fax or post the attached registration form together with your joining fee or an official company purchase order to Chilworth Technology Ltd on +44 (0)23 8076 7866 or Chilworth Technology Ltd, Beta House, Southampton Science Park, Southampton, Hants, SO16 7NS

VENUE

A location map will be sent to you with course confirmation once we receive your completed application form.

CHILWORTH TECHNOLOGY LTD

Chilworth brings together leading experts in the field of process safety with state-of-the-art GLP compliant safety laboratories to provide a single point of contact for all your process safety needs. Our GLP compliant laboratories cover four areas of process safety, fire and explosion hazards, chemical reaction hazards, electrostatic properties and regulatory testing.

Supporting our laboratories and providing independent and impartial advice is our consultancy team. A group of dedicated engineers and scientists who specialise in the field of industrial explosion hazards, chemical process evaluation, vent sizing (DIERS), HAZOP, electrostatic hazards and production problems, incident investigation, SIL studies, expert witness and process safety training.

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