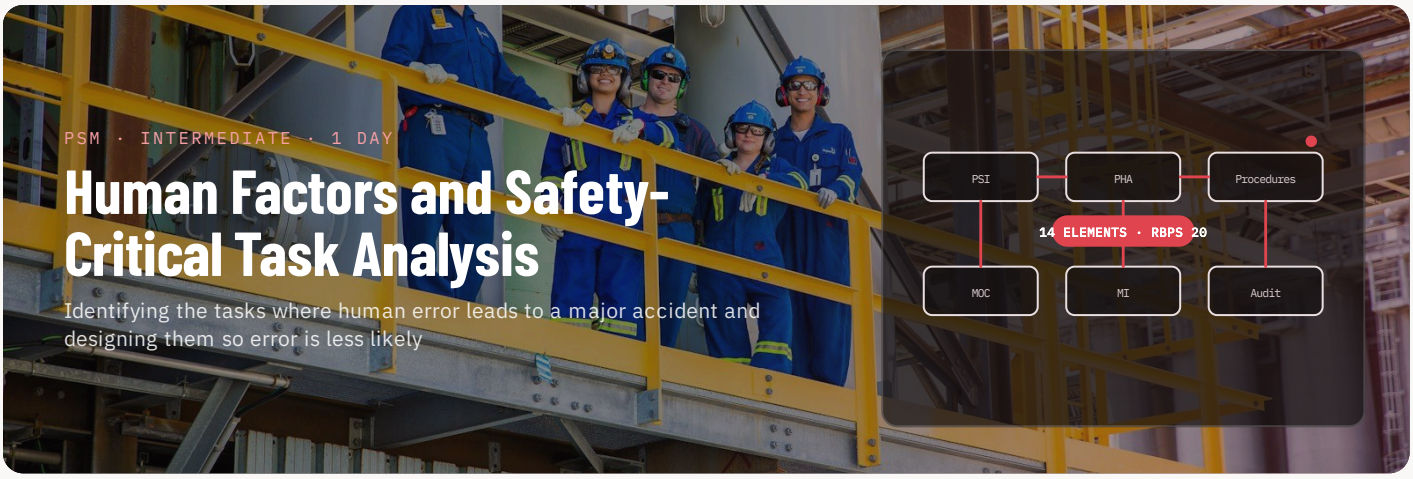

PSM · INTERMEDIATE · 1 DAY

Human Factors and Safety-Critical Task Analysis

Identifying the tasks where human error leads to a major accident and designing them so error is less likely

DURATION	LEVEL	FORMAT	LANGUAGE	MAX. PARTICIPANTS
1 day	Intermediate	On-site classroom · virtual instructor-led	English	16

2 safety-critical tasks analysed in class

8 performance-influencing factors assessed

1 SCTA template

Overview

Operators are blamed in most incident reports and designed out of most safeguards; both approaches miss the point. The course explains how human performance depends on the task, the equipment and the organisation, then teaches safety-critical task analysis as practised under UK COMAH and Seveso: screening tasks by consequence, breaking them down hierarchically, identifying credible errors and assessing performance-influencing factors. Participants analyse two tasks from their own plant and specify the improvements to procedures, interfaces and staffing.

Learning outcomes

- Explain human error types (slips, lapses, mistakes, violations) and what each responds to
- Screen and rank safety-critical tasks from the PHA and bow-ties
- Perform hierarchical task analysis on a start-up, isolation or loading task
- Identify credible errors and assess performance-influencing factors
- Specify controls in the right order: design, interface, procedure, competence, supervision
- Use the analysis to support procedures, training, staffing and alarm and HMI design

Who should attend

Process safety, HSE and operations engineers; procedure writers; human factors focal points; engineers preparing COMAH or Seveso safety reports

Course outline

MORNING

Human factors in major accidents · error types and the Swiss-cheese view · EI and HSE human factors topics · safety-critical task screening · hierarchical task analysis · task 1 from participants' plant

AFTERNOON

Error identification and performance-influencing factors · human error probability data and LOPA human IPLs · controls: interface, procedures, competence, staffing, fatigue · task 2 and report-out · linking SCTA to procedures, training matrix and HMI design

Standards referenced

- EI Human Factors Briefing Notes
- HSE HSG48 Reducing Error and Influencing Behaviour
- EI Guidance on Human Factors Safety Critical Task Analysis
- CCPS Guidelines for Preventing Human Error in Process Safety
- ISA-101

Tools & exercises

SCTA and PIF templates provided; exercises on participants' own tasks and procedures

What's included

- ✓ Course manual and slide pack
- ✓ Software access for the course
- ✓ Post-course Q&A with the instructor
- ✓ Exercise and case-study pack
- ✓ Competency quiz and certificate
- ✓ Templates used in the exercises

PREREQUISITES
Plant operations, engineering or HSE experience

CERTIFICATION
Certificate of completion

INSTRUCTORS
Practising engineers — TÜV HAZOP Leader, CCPSC and IEC 61511 Functional Safety certified — with 200+ years of cumulative plant experience.

Book this course or build a custom curriculum
On-site at your plant or virtual · in-house groups · competency assessment included

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