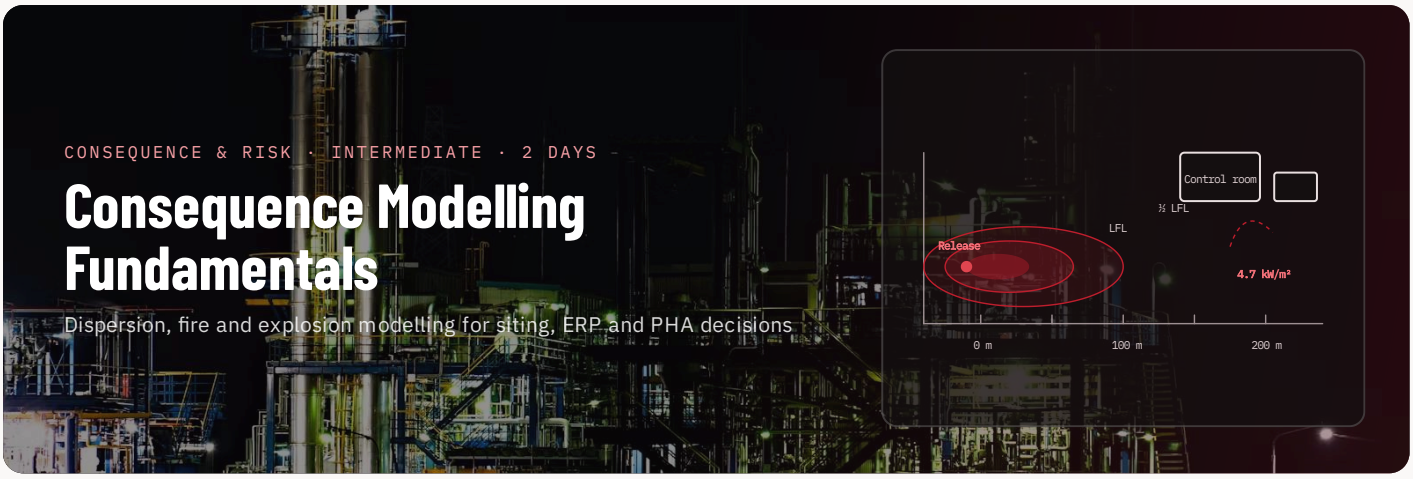

CONSEQUENCE & RISK · INTERMEDIATE · 2 DAYS

Consequence Modelling Fundamentals

Dispersion, fire and explosion modelling for siting, ERP and PHA decisions

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

6 worked plant cases

3 model families: dispersion · fire · explosion

1 siting exercise on a plot plan

Overview

Knowing how far a release travels, how hot a fire burns and how far overpressure reaches is what turns a HAZOP consequence into a design decision. The course covers source terms, dispersion, fire and explosion models and — most importantly — how to choose scenarios, interpret contours on a plot plan and defend the results in front of an authority.

Learning outcomes

- Build a credible source term for liquid, gas and two-phase releases
- Select and apply dispersion models for neutral and dense gases
- Estimate pool fire, jet fire, flash fire and BLEVE effects
- Apply TNT-equivalent, multi-energy and Baker–Strehlow explosion methods
- Set harm criteria and map results to buildings and escape routes
- Document assumptions so the study can be revalidated

Who should attend

Process safety and loss-prevention engineers, plant layout and project engineers, emergency-response planners

Course outline

DAY 1

Scenario selection and hole sizes · discharge and flashing · atmospheric stability and weather sets · Gaussian and dense-gas dispersion · toxic dose and flammable extent

DAY 2

Fire models and radiation thresholds · explosion methods and overpressure damage levels · facility siting (API RP 752/753) · worked refinery and LNG cases in CeraImpact · reporting

Standards referenced

CCPS Guidelines for Consequence Analysis

TNO Yellow Book / Purple Book · API RP 752 / 753 / 756 · API 521

Tools & exercises

Worked cases on CeraImpact with georeferenced plot plans

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
Chemical or process engineering background

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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