

Training - Analysis of Technological Risks



REVSEC-EN-P



Face-to-face only



5 days

This course makes it possible to select the appropriate safety reviews and know how to implement them

Level

Skilled

Public

Personnel responsible for analyzing HSE risks during design or on existing installations

Objectives

Attendees will be able to implement the following skills:

- prioritize risk analysis results
- list the preparatory elements of the security reviews according to the context (project new, modifications)

Pedagogical & technical resources

- Simulation of hazard reviews on simple processes
- Use of HAZOP Manager© if requested in advance

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsible

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

MODULE 1 - RISK & ACCEPTABILITY CRITERIA

0.5 day

Risk representation - Risks to people, property and the environment:

- Potential hazard definition, risk levels, risk matrix, acceptable residual risk.
- Safety reviews and risk analysis methods.

Objectives and implementation conditions: integration into the project planning.

Overview of the different reviews and methods. Impact on the Safety Management System (SMS).

Selection of the most appropriate method according to the context: new project, existing site and modifications, updating of hazard studies, authorization to operate...

MODULE 2 - HAZID METHOD (HAZARD IDENTIFICATION)

1 day

Organization: identification of attendees, scheduling the review, documentation, preparation, keywords list development.

Animation and conduct of reviews. HAZID review simulation on a simple case.

Preparation of the review report, follow-up and closure of actions/recommendations.

Fields of application of the HAZID method: APR, design reviews, constructability.

MODULE 3 - HAZOP METHOD (HAZARD & OPERABILITY)

1.5 days

Organization: identification of attendees, scheduling the review according to the studies development phase, documentation, preparation of the review, cutting of the PIDs.

Animation and conduct of reviews. HAZOP review simulation on a simple case.

HAZOP quantified.

Preparation of the review report, follow-up and closure of actions/recommendations.

What-if - Check-list: complementarity with the HAZOP method, interests and limits.

MODULE 4 - LOPA METHOD (LAYER OF PROTECTION ANALYSIS)

1 day

Complementarity with HAZOP review. Principle of LOPA.

Concept of safety barriers - Determination of IPL (Independent Protection Layers).

Evaluation of the need for a SIF (Safety Instrumented Function).

Determination of the required SIL (Safety Integrity Level). Understanding of calculation elements (supplier data, databases).

Preparation/animation of reviews, according to IEC 61 511. Simulation of a LOPA on a simple case.

MODULE 5 - USE OF QRA (QUANTITATIVE RISK ASSESSMENT)

1 day

Quantitative Risk Assessment (QRA):

- Overview of the method. Evaluation of the consequences. Probability, IRPA, societal risk, FN curves.
- Scenario determination, Fault Tree analysis (FTA), Event Tree Analysis (ETA).
- Bow tie: principle, construction and use. Safety barriers.

Use of QRAs: determination of design principles and criteria for the safety of an installation.

HSE concept. DAL (Design Accidental Loads).

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.

Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com