

Training - Risk Based Inspection (RBI)



PLINS-EN-P



Face-to-face only



5 days

This course covers the necessary background for setting up RBI for static equipment

Level

Skilled

Public

Managers, experienced engineers and staff involved in inspection, maintenance and operation in the petroleum, petrochemical and chemical industries

Objectives

Attendees will be able to implement the following skills:

- identify the degradation modes following the analysis of a corrosion loop and implement compensatory measures
- valculate the criticality of pressure equipment
- establish an inspection plan for piping and containers in accordance with regulatory requirements

Pedagogical & technical resources

An interactive course based on actual case studies

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

FUNDAMENTALS OF RISK BASED INSPECTION

0.5 day

API 580 overview, concept, probability and consequence of failure, risk ranking.
API 580 methodology, benefits and limits, workforce and schedule necessary to perform RBI study.
API 581 scope, probability of failure based on management factor and statistical failure frequency.

QUANTITATIVE & SEMI-QUANTITATIVE RISK BASED INSPECTION APPROACH

2 days

Corrosion loops based on process conditions.
Design data and inspection data identification.
Damage factors identification based on corrosion standards such as API 571.

Calculate probability of failure based on damage factor - Quantitative approach using API581 workflow.
Calculate consequence of failure - Quantitative and semi-quantitative approach using API581 workflow.
Evaluate the overall risk on API matrix.
Define inspection strategy: mitigations actions or inspection scheduling extension.
Overview of available commercial software "RBEYE".
Example of industrial RBI strategy implemented.
RBI semi quantitative approach based on simplified Excel spreadsheet.

APPLICATION OF THE RBI METHOD WITH MINI-PROJECTS CASE STUDIES

2.5 days

Application of API 581 RBI method using mini projects - Case studies as teamwork:

- Select the appropriate corrosion loops and pressure vessels.
- Identify the degradation.
- Apply API 581 workflow to define POF, COF and overall risk.
- Analyze the risk and propose: risk mitigation with more efficient NDT, adapt the inspection frequency.

Apply RBI semi quantitative approach based on simplified excel spreadsheet and compare the 2 methods.
Each group presents its RBI analysis and conclusion.

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