

**API-580**

**Risk Based Inspection**

**API 580 Courses Proposal**

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## Scope of Work

As per General petroleum company (GPC) request that three API courses is required to be held for the staff. The five API courses as the following:

1. **API 580:** Risk based Inspection (RBI).

## Technical Proposal

### Course strategy

- Facilitator lead classroom training modules with study of API Codes
- Reviewing example problems and solutions



- Solving practice problems and reviewing detailed solutions
- There will be quizzes throughout the course.
- There will be reading and take home assignments.

## Course Description

This 24-hour course provides participants with a clear and thorough understanding of the basic elements for developing, implementing and sustaining an effective Risk Based Inspection (RBI) program as defined in API RP 580.

This RBI training covers the following:

- Definition of RBI
- Key and required elements of RBI
- How to implement an RBI program
- How to sustain an RBI program

The objective of this course is to provide individuals with advanced knowledge and skills in RBI based on the information contained in API RP 580.

In addition to the classroom or online instruction, this course includes exercises designed to help you understand the essential elements of an RBI program.

## Curriculum

This course walks participants through the published *API Recommended Practice 580 Elements of a Risk-Based Inspection Program* with in-depth discussion and exercises designed to provide students with an understanding of each element of the recommended practice.

## Course Objectives

| SN | Course Objectives   |
|----|---|
| 4  | API 580: Risk based Inspection (RBI)  |
|    | <ul style="list-style-type: none"><li>• Understand the essential elements/tasks for an RBI assessment/program as defined in API 580 and understand how to implement and sustain a Risk Based Inspection program</li></ul> |



## Who Should Attend?

This training is intended for engineers, inspection, and maintenance personnel involved with corrosion, process safety, mechanical integrity, and RBI in onshore and offshore process industries such as oil and gas, refining, petrochemical, chemical, and power.

This training will be valuable for inspectors who currently possess certifications such as the API 510, 570, or 653 inspection certification and work for organizations which have RBI programs.

Individuals who are interested in obtaining API 580 certification can utilize this course to supplement their exam preparation efforts

## Course Materials

The course material will be on English, but the teaching language will be on Arabic. The course material that will cover during the course as the following:

| SN   | Course Material                      |
|--|--------------------------------------|
| 1  | API 580: Risk based Inspection (RBI) |
| Note: The course Material as per API certification examination effectively sheet for 2025. |                                      |

## Course duration

The course duration based on API training course best practice as the following:

| SN  | Course Name | Total No. of hours | Hours / Day   | Total No. of Days |
|---|-------------|--------------------|---------------|-------------------|
| 1   | API 580     | 30 hours           | 5 hours / day | 6 days            |
| Note: Number of course hours or days could be managed by instructor to cover the course content depend on attendees understanding and awareness level which means that it could be more than specify days but not less than 5 days. |             |                    |               |                   |

## Course Agenda

The course outlines based on API examination certification body of knowledge

## API 580: Risk-based Inspection

| Day                 | Outline   |
|---------------------|---|
| 1 <sup>st</sup> Day | Introduction <ul style="list-style-type: none"> <li>• Purpose, Scope, Roles and Responsibilities</li> <li>• Risk Assessment Concepts</li> <li>• Types of RBI Assessment</li> <li>• Planning the Assessment</li> <li>• Data Requirements and Collection</li> </ul> |
| 2 <sup>nd</sup> Day | Damage Mechanisms and Failure Modes <ul style="list-style-type: none"> <li>• Probability of Failure (POF) Analysis</li> <li>• Consequence of Failure (COF) Analysis</li> </ul>  |
| 3 <sup>rd</sup> Day | Risk Determination and Analysis <ul style="list-style-type: none"> <li>• Inspection Planning</li> <li>• Risk Mitigation</li> </ul>  |
| 4 <sup>th</sup> Day | <ul style="list-style-type: none"> <li>• RBI Re-assessment</li> </ul>   |
| 5 <sup>th</sup> Day | Documentation and Records <ul style="list-style-type: none"> <li>• Risk-based Inspection Methodology</li> </ul>   |
| 6 <sup>th</sup> Day | <b>API 580 Practice Exam</b>  |



## Course Instructors

The instructor selection based on their previous practical field and training experience. The instructors could teach on two languages (Arabic & English). The course will conduct on Arabic to facilitate communication between the instructor and attendees. The proposed instructors for the courses as the following:

| <b>SN</b> | <b>Course Name</b> | <b>Proposed Instructors</b> |
|-----------|--------------------|-----------------------------|
| 1         | API 580            | Eng. Islam Bahaa            |

Notes:

- The instructor could change depending on his availability during course start date & time.
- One or two instructors could cover the course during the course duration.