

API 580 Certification Preparation

“Risk Based Inspection (RBI)”



INTRODUCTION

This course is the first step for people who are interested in Risk-Based Inspection (RBI). The fundamental concepts of RBI and its reliance on understanding damage mechanisms (API 571) and fitness for service concepts (API 579) will be introduced. The intended purpose of this course is to prepare the student for the **API 580 examination (Risk Based Inspection)**. NOTE – This is an introductory course for people with little or no experience with RBI. This will cover the basic organization and concepts of Risk Based Inspection.

API RP 580 is part of the Supplemental Inspection Certification Program (ICP). The objective of the ICP is to provide documented evidence of advanced knowledge and expertise (above the basic core API 510, 570 & 653 examinations) in the area of Risk Based Inspection (RBI) based on the information contained in API RP 580.

The importance of the API 580 certification is another step in safely and reliably as we strive to identify and manage our risks. Since Risk Based Inspection is a part of the API Inspection Codes (API 510, 570 & 653), proper understanding and utilization of Risk Based Inspection is essential.

An API Supplemental Inspection Certification is defined as “Documentation that indicates that minimum requirements have been met for additional qualification in the designated area of expertise”. This would include an API issued certificate. This certificate will add significant value to your professional credentials. It will show your employers and clients that you have obtained a high level of proficiency and understanding in this important field (RBI).

WHO SHOULD JOIN

This is an entry level RBI class that is designed for plant inspectors, mechanical engineers, process engineers, and operators who are involved in inspection, RBI, FFS, and fixed equipment reliability programs, maintenance, and operations. Although refinery problems are the main focus of the class, personnel from related industries (such as pulp and paper, oil and natural gas, and petrochemical firms) also benefit from the course content and exercises

OBJECTIVES

The course provides participants with the knowledge necessary to:

- Successfully pass the API RP 580 ICP exam.
- Explain why RBI analysis is used.
- Explain the benefits and limitations of various RBI technologies.
- Know the **basic concept** of risk, risk management, risk reduction, evolution of inspection intervals and inspection optimization.
- Understand the types of RBI assessments, consequence & probability for RBI, management of risks and determine the relationship between RBI and other risk-based and safety programs.
- Identify the steps of planning the RBI assessment by establishing objectives & goals of a RBI assessment, conducting initial screening, selecting the type of RBI assessment, and estimating resources and time required.
- Understand the method of assessing probability & consequences of failure and know the types of probability & consequences analysis.
- Develop an understanding on risk management with inspection activities such as establishing an inspection strategy based on risk assessment and assessing inspection results and determining corrective action.
- Realize the process of reassessment and updating RBI assessments and determine the reason why there is a need to conduct a RBI reassessment.
- Know the various roles, responsibilities, training and qualification for RBI application.
- Relate to risk mitigation activities such as equipment modification, redesign & rerating, emergency isolation, inventory reduction, blast-resistant construction, and more.
- Understand the methodology needed to conduct a step-by-step RBI
- Understand concepts and principles of Risked-based Inspection for risk management
- Understand the outcome from the application of the RBI process



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SPEAKER'S BACKGROUND

Marc McConnell is a Chemical Engineer with 30 years as an owner-user and consultant to refining and chemical process industries. He holds multiple patents in process technology and distributed control. Most of these applications are related to the mitigation of corrosion related parameters in the refinery. He has been involved in corrosion reviews for API's Risk-Based Inspection projects, and recently focused on corrosion problems in hydro-processing process units where his specialty is in wash water design of Reactor Effluent Air Coolers (REACs).

He recently co-authored an Risk Based Inspection (RBI) presentation at NACE (National Association of Corrosion Engineers) Corrosion Technology Week/2006 (Refining State of the Art). He is slated to present a paper at the NACE International Convention 2010 on IR (infra red) use for corrosion control / identification.

Marc is a contributing author on the current re-write of API RP 571. This is being done to Update/Revise/Clarify the existing RP-571 document.

Current Certifications include

- Licensed Texas Professional Engineer
- API 510 – Pressure Vessel Inspection Code
- API 571 – Damage Mechanisms in Refining Industry
- API 577 - Welding Inspection and Metallurgy
- API 580 – Risk Based Inspection

API TRAINING

Marc's training classes for the Supplemental Inspection Certification Program (ICP) are very popular. We offer preparatory prior to each API exam. While these classes are an extension to our existing API codes, they are taking safety management to the next level. These classes and exams are an entire new concept, so only individuals who are open minded and serious about their pressure equipment career should participate.

Marc's students generally have a 90% passing rate.

ABOUT THE RUST BUSTERS

The Rust Busters is a company specializing in providing the Oil and Gas industry with API Certification Training, Corrosion related Training, Operations Documentation, Data Interpretation, and Consulting services.

The Rust Busters were formed by mutual friendship between an Inspector and an Engineer. We realized the advantages that each brought to the petroleum and chemical process industries. Each asked the other questions that were not readily explained.

The Inspector asked and learned the WHY...

The Engineer asked learned the HOW...

resulting in a unified approach uncommon in the industry. Our training courses reflect the same synergy. **The Rust Busters is rich with its resources and hands-on-experience.**

Our Teaching Philosophy

We believe in the old motto,

“If the student didn't learn, the teacher didn't teach”

Our goal is comprehension rather than memorizing answers on the tests. We want you to be successful, and for your knowledge to make our industry a safer place to work.

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DAY 1

Welcome & Introduction

- Overview of Course Outline
- Introduction, Purpose/Scope, Definitions/Acronyms & Basic Concepts
- Introduction to Risk-Based Inspection
- Consequence and Probability for Risk-Based Planning the RBI Assessment

DAY 2

- Data & Information Collection for RBI Assessment
- Identifying Deterioration Mechanisms and Failure Modes
- Assessing Probability of Failure
- Assessing Consequences of Failure
- Risk Determination, Assessment and Management
- Risk Management with Inspection Activities
- Other Risk Mitigation Activities
- Reassessment and Updating RBI Assessments

DAY 3

- Roles, Responsibilities, Training and Qualifications
- RBI Documentation and Record-Keeping
- Practice Exam
- Presentation of Certificates
- End of Course

DAILY SCHEDULE (3 Days Class)

8:00am – 5:00pm (Workshop)

6:30pm – 8:30pm (Optional evening study sessions)

Registration at 7.30am on Day 1 only

Note: This course will have daily homework and a final exam (similar to the API 580 exam)

CLASS SIZE

Enrollment is limited to 25 students.

BRING TO CLASS

Participants must bring the appropriate codes required for the API exam.

Please download the location map from:
http://www.idc-training.com/map/idc_map.pdf

Hotel Accommodation Required? Yes () No ()
If Yes, please fill in the followings,

Name Of Hotel : _____
Check In On : _____
Check Out On : _____

HOTEL ACCOMMODATION INFORMATION

	Hotel	Single	Distance
3 stars	SinggahSana Hotel www.hspi.com.my Tel:(603)-7956 2100	RM 115	About 10 mins
3 stars	Shah Village Hotel www.shahsresorts.com Tel:(603)-7956 9322	RM 150	About 10 mins
4 stars	Armada PJ Hotel www.armada.com.my Tel :(603)-7954 6888	RM 167	By train; one station away
5 stars	Hilton PJ Hotel www.hilton.com Tel :(603)-7955 9122	RM 345	About 15 mins

* Room rate is subject to change if the needs arise from the hotel.

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