



API 580 and 581 Training: Risk-Based Inspection and Base Resource Document

DURATION

5 days

CONTACT HOURS

30

LEVEL

Intermediate

FEE PER DELEGATE

R15,000

Building a risk based inspection programme that inspects by consequence rather than by calendar.

Inspecting everything on the same interval spends the most effort where the least is at stake. Risk based inspection redistributes it, and the redistribution is the point: the same budget, aimed at the equipment where failure would actually hurt. API 580 sets out what a defensible programme contains and API 581 provides the quantitative method underneath. This week covers both, and spends as much time on the parts that make programmes fail as on the calculation: damage mechanisms identified wrongly, data nobody maintains, and a risk register never revisited after the consultant left.

Available as classroom, live online, in house.

Who it is for

Inspection and integrity engineers, reliability engineers, maintenance and turnaround planners, and managers accountable for inspection spend.

What you will be able to do

- Identify credible damage mechanisms for a given service and material.
- Assess probability and consequence of failure, qualitatively and quantitatively.
- Place equipment on a risk matrix and defend where it sits.
- Convert risk into inspection scope, method and interval.
- Keep the programme alive through evergreening rather than letting it date.

The outline

DAY 1

Why risk based

What time based inspection misses · The two standards, and the division of labour between them · What a programme must contain to be defensible

DAY 2

Damage mechanisms

Thinning, cracking, metallurgical and mechanical mechanisms · Screening by material and service · Getting the mechanism wrong, and what that costs downstream

DAY 3

Probability of failure

Generic failure frequency and damage factors · Inspection effectiveness, and how it changes the number · The management systems factor

DAY 4

Consequence of failure

Flammable, toxic and non flammable consequence · Area based and financial based consequence · Choosing which to use, and then being consistent

DAY 5

Plan and sustain

Risk matrix, targets and tolerance · Scope, method and interval derived from the risk · Evergreening, reassessment triggers and data ownership · Integrating with the turnaround scope

What you leave with

- A risk assessment for one equipment group, start to finish.
- An inspection plan derived from that risk rather than from the calendar.
- An evergreening routine with named owners and triggers.

Published dates

DATES	WHERE	FEE
23 to 27 November 2026	Cape Town, South Africa	R15,000
30 November 2026 to 4 December 2026	Cairo, Egypt	US\$1,500
7 to 11 December 2026	Dubai, United Arab Emirates	US\$1,500
14 to 18 December 2026	Windhoek, Namibia	R15,000

Fees are per delegate and cover all materials and meals arranged by the delegate. Reg

Register or ask a question

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