



Structured Problem Solving & Root Cause Analysis (RCA)

Consultant / Trainer:

Peter Bitter

The **Petrogenium**. Structured problem solving & root cause analysis (RCA) course is a customized, high-intensity workshop to understand and fix operational issues and find root causes of incidents effectively. **Petrogenium**. shares its operating experience and best practices to help identify and solve incidents and resolve operational problems using a tried and tested methodology.

Participants

This **Petrogenium**. course can be tailored for awareness/inexperienced staff, for intermediate and for experienced personnel. Furthermore the course can be customized for a specific refinery, plant or unit. The option for post-course consultancy/help-desk support is also available, as is the training of site RCA facilitators.

Participants may include: reliability engineers, maintenance and operations team-leads and engineers and selected operations staff and/or process technology staff.

Learning Objectives

This course will be tailored to client needs. The ideal course size is maximum 14 participants with one, or 24 participants with a two, lecturer course. Typically, the course is a 4 or 5-day programme.

Program

Day 1

- Kick off, introductions, course objectives and expectations
- Specifics of problem solving
- Summary of well-established investigation methods e.g. 5 Why, Tripod, RCA, Causal Reasoning, Structured Problem Solving.
- Various exercises to learn the methods by application: group work and report out

Day 2

- Structured problem analysis and problem resolution
- Why a structured approach
- Facilitation lecture
- Structured problem solving in 5 phases
 - Incident capture, risk assessment, ranking and prioritisation
 - Problem identification and problem statement
 - Data collection (timeline; drawings; trends; data assessment)
- Cause and Effect Diagram and validation (verification and elimination)
- Failure scenarios and cause selection
- Solution development and selection decisions
- Implementation plans and learning sessions
- Various exercises: group work and report out

Day 3

- Full Day work on a case study to apply the structured problem analysis methodology, formulate the problem and produce timeline development and data analysis and reporting.
- Split in teams; exercise analysing and solving a problem
- Incident description and risk ranking
- Problem statement
- Timeline development and data analysis
- Cause and Effect Diagram
- Report out

Day 4

- Full Day work on a 2nd case study, solution development and implementation plan
- Split in teams; exercise analysing and solving a problem
- Incident description and risk ranking
- Problem statement
- Timeline and data analysis
- Cause and Effect Diagram
- Failure scenarios and cause selection
- Solution development and Implementation plans
- Report out

Day 5

- Lessons learned & any site specific subjects
- Presentation of case studies
 - Lessons learned session
 - Any client specific subject(s)
 - Evaluation