



Safety Case Development and Application Training Course

12 – 16 September 2027
Johannesburg

Safety Case Development and Application Training Course

Ref: 1386_202358 **Date:** 12 – 16 September 2027 **Location:** Johannesburg **Fees:** 4500 Euro

Overview

Safety Case Development and Application Training Course is a one-week advanced course for process safety engineers, HSE managers, asset integrity specialists, assurance teams, project managers, operations leaders, and technical risk professionals who leave with a Lifecycle Safety Case Pack. Participants build a claims-arguments-evidence structure, connect hazard and risk information to assurance evidence, verify implementation, and govern material change and periodic review. Agile Leaders Training Center presents safety case development as a lifecycle assurance discipline.

Who Should Attend

- Functions responsible for developing safety demonstrations for high-hazard assets
- Teams that manage process hazards, technical risk, and asset integrity evidence
- Functions responsible for engineering assurance and independent technical review
- Project teams that control design, commissioning, operation, and modification decisions
- Operations teams that implement and maintain safety case arrangements
- Functions responsible for change control, periodic review, and revision governance

The course assumes participants already work with hazard studies, risk assessments, engineering evidence, operational controls, or assurance reviews and leaves out introductory occupational safety and jurisdiction-specific submission procedures.

Departments and Industries

The course serves departments and industries that must demonstrate and maintain control of major hazards.

- Process safety, HSE, and technical risk functions
- Oil, gas, energy, and chemical operations
- Engineering, projects, commissioning, and asset integrity teams
- Utilities, transport, and critical infrastructure organizations
- Assurance, governance, and independent review functions
- Operations, maintenance, and change-control teams

Learning Objectives

By the end of this course, participants will be able to:



- Analyze safety case purpose, scope, boundaries, and lifecycle decisions
- Build claims, arguments, and evidence with traceable reasoning
- Evaluate hazard and risk information for evidence sufficiency
- Apply assurance mapping and implementation verification methods
- Diagnose gaps created by material or operational change
- Evaluate periodic review findings and revision priorities

Course Agenda

Day 1: Safety Case Basis and Lifecycle

- Safety Case Purpose and Decision Context Map
- Asset Boundary and Lifecycle Scope Statement
- Stakeholder and Assurance Responsibility Matrix
- Safety Case Basis and Acceptance Criteria Register
- Lifecycle Development and Maintenance Roadmap

Day 2: Claims, Arguments, and Evidence

- Top-Level Safety Claim Definition Method
- Claims-Arguments-Evidence Structure Map
- Hazard-to-Claim Traceability Matrix
- Evidence Relevance and Sufficiency Test
- Assumption, Dependency, and Limitation Register

Day 3: Risk Information and Assurance

- Hazard Scenario and Control Linkage Table
- Risk Assessment Evidence Integration Method
- Engineering and Operational Evidence Register
- Independent Assurance Review Plan
- Evidence Gap and Confidence Assessment Matrix

Day 4: Application, Change, and Review

- Safety Case Implementation Verification Checklist
- Operating Conformity and Deviation Record
- Material Change Impact Assessment
- Periodic Safety Case Review Framework
- Revision Governance and Approval Log



Day 5: Safety Case Application Practice

- Exercise: Define a Safety Case Basis and Scope
- Exercise: Construct a Claim and Evidence Chain
- Exercise: Test Evidence Sufficiency and Confidence
- Exercise: Assess Change and Revision Needs
- Capstone Exercise: Lifecycle Safety Case Pack

Practical Exercises

The course uses energy, chemical processing, infrastructure, and complex engineering scenarios.

- Suggested activity: define the decision context, boundaries, stakeholders, and acceptance criteria for a safety case basis.
- Suggested activity: connect hazards, controls, claims, arguments, evidence, assumptions, and limitations in a traceability map.
- Suggested activity: challenge evidence sufficiency, verify implementation, and record confidence gaps requiring further assurance.
- Suggested activity: integrate development, application, change control, and periodic review into a Lifecycle Safety Case Pack.

FAQs

Who suits safety case development and application training, and what does it assume?

Safety case development and application training suits professionals who already work with hazard studies, risk assessments, engineering evidence, operational controls, asset integrity, or technical assurance and need to integrate them into a structured safety demonstration.

How does safety case development training differ from general risk assessment training?

Safety case development training organizes risk information within claims, arguments, evidence, assurance, implementation, change control, and periodic review rather than producing a stand-alone risk assessment.

What is a claims-arguments-evidence structure in safety case development?

A claims-arguments-evidence structure states what is asserted about safety, explains why the assertion is justified, and links relevant evidence that supports the reasoning and its limits.

How is a safety case applied after development?

A safety case is applied by linking its claims and controls to operational responsibilities, verifying that arrangements work in practice, managing deviations, and using the case to support lifecycle decisions.



When should a safety case be reviewed or revised?

A safety case should be reviewed as operations, hazards, assets, evidence, or arrangements change, with revision needs recorded through change-impact assessment and periodic review governance.

Conclusion

The course integrates scope, claims, arguments, evidence, hazards, assurance, implementation, material change, and periodic review. Participants take back a Lifecycle Safety Case Pack that links safety reasoning to engineering and operational decisions. The pack improves traceability, evidence challenge, implementation verification, and revision control throughout the asset lifecycle.