

Nuclear Safety Culture: Building and Sustaining a Strong Nuclear Safety Culture

UK Training

PARTNER



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Introduction

Nuclear safety culture is a fundamental element of safe and reliable nuclear operations. It influences how individuals, teams, managers, and organizations understand, prioritize, and demonstrate their commitment to safety in everyday activities and decision-making.

Effective safety culture integrates leadership, management systems, human and organizational factors, communication, accountability, learning, and continuous improvement. International nuclear safety standards emphasize the importance of strong leadership for safety and the need to establish, assess, sustain, and continuously improve a culture that places safety at the center of organizational activities.

This intensive five-day training course provides participants with a practical understanding of nuclear safety culture and the organizational factors that influence safety performance. The program examines safety culture principles, leadership and management responsibilities, human performance, organizational behavior, safety communication, learning from operating experience, safety culture assessment, and strategies for strengthening and sustaining a positive safety culture within nuclear organizations.

Course Objectives

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

- Understand the fundamental principles, characteristics, and importance of nuclear safety culture.
- Explain the relationship between safety culture, leadership, management systems, and organizational performance.
- Analyze the role of leadership and management in establishing and sustaining a strong safety culture.
- Identify human and organizational factors that can influence nuclear safety performance.
- Apply effective communication, teamwork, accountability, and decision-making practices that support safety.
- Evaluate safety culture through self-assessment, performance indicators, observations, and organizational feedback.
- Apply lessons learned from operating experience, events, near misses, and root cause analysis to improve safety performance.
- Develop practical strategies for strengthening and continuously improving safety culture within nuclear organizations.

Course Outlines

Day 1: Fundamentals of Nuclear Safety Culture

- Evolution and development of nuclear safety culture concepts.
- Definition, principles, and characteristics of a strong safety culture.
- Relationship between safety culture and nuclear safety performance.
- Fundamental safety principles and organizational responsibility for safety.
- Safety as a clearly recognized organizational value.
- Safety culture, organizational values, beliefs, attitudes, and behaviors.
- Common warning signs of a declining safety culture.



Day 2: Leadership and Management for Safety

- Leadership for safety and management commitment.
- Responsibilities of senior management, managers, supervisors, and individuals.
- Establishing clear safety expectations and behavioral standards.
- Integrating safety culture into management systems and organizational processes.
- Safety decision-making and balancing safety with operational and production demands.
- Accountability, ownership, and personal responsibility for safety.
- Building trust and encouraging employee involvement in safety.

Day 3: Human and Organizational Factors in Safety Culture

- Human performance and its relationship to nuclear safety.
- Human and organizational factors affecting safety performance.
- Communication, teamwork, coordination, and effective safety information flow.
- Safety-conscious decision-making and risk awareness.
- Competence, training, knowledge management, and continuous learning.
- Managing organizational change while maintaining safety performance.
- Identifying and addressing organizational behaviors that may weaken safety culture.
- Practical case studies involving human and organizational performance.

Day 4: Assessing and Improving Nuclear Safety Culture

- Principles and methods of safety culture self-assessment.
- Safety culture indicators, observations, surveys, interviews, and feedback mechanisms.
- Monitoring organizational performance and identifying safety culture gaps.
- Learning from operating experience, incidents, near misses, and adverse trends.
- Root cause analysis and identification of organizational contributors.
- Corrective actions and continuous improvement processes.
- Developing effective safety culture improvement plans.
- Practical exercises in safety culture assessment and organizational diagnosis.

Day 5: Sustaining a Strong Nuclear Safety Culture

- Creating and sustaining a learning organization.
- Leadership behaviors that reinforce a strong safety culture.
- Developing open reporting and a questioning attitude.
- Encouraging transparency, communication, and effective safety feedback.
- Managing organizational change, restructuring, and resource pressures.
- Strengthening safety culture during the lifecycle of nuclear facilities.
- Developing an integrated framework for continuous safety culture improvement.
- Practical case studies and development of an organizational safety culture action plan.

Why Attend this Course: Wins & Losses!

- Develop a practical understanding of nuclear safety culture and its impact on organizational safety performance.
- Strengthen leadership and management practices that support a strong safety culture.
- Improve the ability to recognize organizational and human factors that may affect nuclear safety.
- Enhance communication, teamwork, accountability, and safety-conscious decision-making.
- Gain practical approaches for assessing and monitoring safety culture within nuclear organizations.
- Improve the use of operating experience, event analysis, and lessons learned to prevent recurrence.



- Strengthen organizational resilience and the ability to manage change without compromising safety.
- Support continuous improvement and the long-term development of a strong and sustainable nuclear safety culture.

Conclusion

A strong nuclear safety culture is essential for maintaining safe, reliable, and responsible nuclear activities. It is reflected not only in policies and procedures, but also in leadership behaviors, management decisions, individual actions, communication, teamwork, learning, and the way organizations respond to risks and safety challenges.

This course equips participants with practical knowledge of nuclear safety culture principles, leadership and management for safety, human and organizational factors, safety culture assessment, operating experience, and continuous improvement. Upon completion, participants will be better prepared to identify safety culture strengths and weaknesses, support effective organizational learning, and contribute to the development and continuous improvement of a strong nuclear safety culture.



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