BLACKBIRD FOR TRAINING

Nuclear Safety Culture Through Human Performance and Organizational Excellence

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Introduction

Nuclear safety depends not only on the reliability of technology, systems, and procedures, but also on how people perform their work and how organizations influence human performance. Human performance and organizational factors therefore represent a critical dimension of nuclear safety culture.

This intensive one-week training course examines nuclear safety culture from a practical human and organizational perspective. It focuses on how individual behaviors, leadership practices, work processes, communication, teamwork, decision-making, organizational conditions, and human performance can influence nuclear safety.

The course provides participants with practical approaches for understanding and managing human performance, identifying organizational contributors to performance problems, learning from events and near misses, strengthening safety-conscious behaviors, and creating working conditions that support reliable and safe performance.

Course Objectives

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

- Understand the relationship between nuclear safety culture, human performance, and organizational effectiveness.
- Identify human and organizational factors that influence safety-related performance.
- Recognize common human performance traps and conditions that can contribute to errors.
- Apply practical tools and behaviors to improve human performance and reduce the likelihood of errors.
- Strengthen communication, teamwork, questioning attitudes, and safety-conscious decision-making.
- Analyze the organizational and workplace factors contributing to human performance problems.
- Use operating experience, event investigations, observations, and feedback to improve performance.
- Develop practical strategies for strengthening human performance and organizational reliability.

Course Outlines

Day 1: Nuclear Safety Culture and Human Performance

- Understanding nuclear safety culture from a human performance perspective.
- Relationship between safety culture, human performance, and operational safety.
- Human performance as a fundamental element of nuclear safety.
- Individual behaviors, attitudes, values, and safety-related decision-making.
- Human reliability and the role of people in complex nuclear systems.
- Safety-conscious work practices and questioning attitude.
- Common human performance challenges in nuclear organizations.
- Case studies of human performance contributions to nuclear events.

Day 2: Human and Organizational Factors Affecting Safety

- Introduction to Human and Organizational Factors HOF.
- The influence of workplace conditions on human performance.
- Organizational structures, policies, procedures, and resource availability.
- Workload, fatigue, time pressure, and competing priorities.
- Communication, coordination, and teamwork.
- Competence, training, knowledge, and experience.
- Organizational change and its impact on safety performance.
- Identifying latent organizational weaknesses and performance traps.

Day 3: Human Performance Improvement and Error Prevention

- Understanding human error and its different forms.
- Error-likely situations and performance influencing factors.
- Human Performance Improvement HPI principles and tools.
- Pre-job briefings, self-checking, peer checking, and procedure use.
- Three-way communication and effective information exchange.
- Stop-work authority and questioning attitude.
- Managing distractions, interruptions, and unexpected conditions.
- Practical exercises in identifying and controlling human performance traps.

Day 4: Learning from Events and Operating Experience

- Learning from incidents, near misses, and operational events.
- Human performance during event investigation and root cause analysis.
- Identifying human and organizational contributors to events.
- Corrective action programmes and problem identification.
- Operating experience feedback and organizational learning.
- Management observation and coaching.
- Performance indicators, trends, and early identification of performance degradation.
- Practical case studies and lessons learned from nuclear events.

Day 5: Building Organizational Reliability and Sustaining Performance

- Developing a high-reliability organization.
- Leadership behaviors that reinforce human performance and safety.
- Creating an environment that supports reporting, learning, and continuous improvement.
- Safety communication and effective feedback mechanisms.
- Strengthening teamwork and cross-functional collaboration.
- Managing organizational change while maintaining safety performance.
- Integrating human performance into the management system.
- Developing a practical Human Performance and Nuclear Safety Improvement Action Plan.

Why Attend this Course: Wins & Losses!

- Develop a practical understanding of the human dimension of nuclear safety.
- Improve the ability to identify human and organizational factors that can affect safety performance.
- Reduce the potential for human error through practical performance improvement techniques.
- Strengthen communication, teamwork, and safety-conscious decision-making.
- Improve the effectiveness of event investigations and corrective actions.
- Enhance the use of operating experience and organizational learning.
- Develop stronger leadership and workplace practices that support reliable human performance.
- Contribute to improved organizational reliability and sustainable nuclear safety performance.

Conclusion

Human performance is an essential component of nuclear safety. Technical systems and procedures can provide important safety barriers, but their effectiveness also depends on how people interact with them and on the organizational conditions in which work is performed.

This course provides participants with a practical framework for understanding the human and organizational dimensions of nuclear safety culture. By focusing on human performance, error prevention, organizational factors, operating experience, leadership, and continuous learning, participants can contribute to safer and more reliable performance across nuclear organizations.