مركز المستشار الوطني للتدريب
National Consultant Centre For Training
YOUR GATE TO HANDS-ON TRAINING

5-Day Cement Industry Training Course
In

CEMENT PLANTS ASSET MANAGEMENT

Abu Dhabi - UAE, 31 Aug. – 04 Sep. 2026

COURSE LEVEL: ADVANCED

COURSE OVERVIEW:

Asset management in cement plants is the coordinated activity of an organization to realize value from its physical assets over their entire lifecycle. This course defines the multidisciplinary approach—combining engineering, finance, and operations—required to manage a plant's "Total Life Cycle," from initial design and installation to final decommissioning. It establishes a robust framework for maximizing the "Availability" and "Productivity" of high value assets while minimizing the risk of catastrophic failure.

The scope of this training involves the implementation of the ISO 55000 Asset Management Standard within the heavy industrial context of cement manufacturing. It covers the strategic development of "Asset Management Plans" (AMP), focusing on the optimization of the "Cost-Risk-Performance" trade-off. Furthermore, the course addresses the management of "Aging Assets," providing technical methodologies for assessing residual life and making informed "Revamp vs. Replace" decisions.

Coverage includes detailed modules on "Reliability-Centered Maintenance" (RCM), "Root Cause Failure Analysis" (RCFA), and the management of "Capital Projects." Participants will explore the role of "Digital Twins" and "Asset Health Monitoring" in predicting equipment behavior and extending maintenance intervals. Through the study of leadership, organizational culture, and technical auditing, attendees will gain the expertise required to transform a cement plant into a world class, high reliability facility.

COURSE OBJECTIVES:

After completion of this course, the participants will be able to:

- Implement the principles of the ISO 55001 Asset Management System.
- Develop a "Strategic Asset Management Plan" (SAMP) for a cement facility.
- Optimize the "Lifecycle Cost" (LCC) of kilns, mills, and heavy machinery.
- Conduct "Asset Criticality Assessments" to prioritize resources.
- Integrate Maintenance, Operations, and Finance into a unified asset strategy.
- Apply "Reliability-Centered Maintenance" (RCM) to improve plant uptime.
- Perform "Condition Assessment" and "Residual Life" studies on aging assets.
- Utilize "Asset Health Indices" for data-driven capital planning.
- Manage "Capital Projects" from a lifecycle management perspective.
- Analyze the "Risk of Failure" vs. the "Cost of Prevention."
- Lead an organizational culture focused on "Asset Ownership."

- Conduct internal "Asset Management Audits" to identify performance gaps.

TARGET AUDIENCE:

This course is intended for Plant Managers, Technical Managers, Asset Managers, Maintenance Directors, and Operations Leaders.

TRAINING COURSE METHODOLOGY:

A highly interactive combination of lectures, discussion sessions, and case studies will be employed to maximize the transfer of information, knowledge, and experience. The course will be intensive, practical, and highly interactive. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. The attendants will also be encouraged to raise more of their questions and to share in developing the right answers using their analysis and experience. There will also be some indoor experiential activities to enhance the learning experience. Course material will be provided in PowerPoint, with necessary animations, learning videos, and general discussions.

The course participants shall be evaluated before, during, and at the end of the course.

COURSE CERTIFICATE:

National Consultant Centre for Training LLC (NCC) will issue an Attendance Certificate to all participants completing a minimum of 80% of the total attendance time requirement.

COURSE OUTLINE / COURSE CONTENT:

MODULE 1: INTRODUCTION TO ISO 55000 AND ASSET MANAGEMENT

- Fundamentals of Asset Management: Definition and core principles.
- Overview of the ISO 55001 standard requirements.
- Aligning "Asset Objectives" with the corporate "Strategic Plan."
- Understanding the "Asset Lifecycle": Create, Operate, Maintain, Dispose.
- The "Value Proposition" of Asset Management for cement shareholders.

MODULE 2: ASSET CRITICALITY AND RISK MANAGEMENT

- Methodology for "Criticality Ranking" of cement plant equipment.
- Assessing "Business Risks": Production, Safety, and Environment.
- Using "Risk Matrices" to prioritize maintenance and investment.
- Managing "Strategic Risks" related to aging technology and markets.
- Developing a "Risk Mitigation" registry for critical assets.

MODULE 3: LIFECYCLE COSTING (LCC) AND BUDGETING

- Calculating the "Total Cost of Ownership" (TCO).
- CAPEX vs. OPEX: Making the right financial trade-offs.
- "Net Present Value" (NPV) analysis for major equipment replacement.
- Budgeting for "Predictive" vs. "Corrective" maintenance.
- Strategic procurement: Buying based on lifecycle value, not price.

MODULE 4: RELIABILITY MANAGEMENT AND RCM

- Principles of "Reliability-Centered Maintenance" (RCM).
- Conducting "Failure Mode and Effects Analysis" (FMEA).
- Defining "Functional Failures" for kilns and grinding circuits.
- Selecting "Proactive Tasks" to prevent failure consequences.
- Evaluating "Hidden Failures" in safety and protective systems.

MODULE 5: ASSET HEALTH MONITORING AND PREDICTIVE TOOLS

- Integration of "Vibration," "Oil," and "Thermography" data.
- Role of the "Central Control Room" in asset health monitoring.
- Implementing "Asset Health Indices" (AHI) for real-time reporting.
- Predictive modeling: Moving from "What Happened" to "What Will Happen."
- Case study: Monitoring the structural health of cement silos.

MODULE 6: MANAGING AGING ASSETS AND REVAMPING

- Strategies for assets reaching their "Technical Life."
- Techniques for "Life Extension" of kilns and mills.
- The "Revamp vs. Replace" decision-making process.
- Managing the "Obsolescence" of electrical and control components.
- Refurbishing "Legacy Assets" for alternative fuel capability.

MODULE 7: OPERATIONAL EXCELLENCE AND ASSET OWNERSHIP

- Integrating "Operators" into the asset management process.
- Principles of "Autonomous Maintenance" and "TPM."
- Reducing "Human Error" in maintenance and operation.
- Enhancing "Inter-departmental Collaboration" (Ops, Maint, Quarry).
- Building a culture of "Asset Stewardship" across the plant.

MODULE 8: DATA MANAGEMENT AND CMMS/ERP INTEGRATION

- Role of the "CMMS" in providing asset performance data.
- Data quality and "Asset Information Requirements" (AIR).
- Tracking "Mean Time Between Failures" (MTBF) and "OEE."
- Using "Business Intelligence" (BI) for asset management dashboards.
- Managing "Technical Documentation" and drawings through the lifecycle.

MODULE 9: CAPITAL PROJECT MANAGEMENT AND ASSET HANDOVER

- Ensuring "Maintainability" and "Reliability" in the design phase.
- Managing the "Handover" from Projects to Operations.
- Role of "Commissioning" in ensuring long-term asset health.
- Spares provisioning and training for new capital assets.
- Post-implementation review of major capital projects.

MODULE 10: CONTINUOUS IMPROVEMENT AND AUDITING

- Benchmarking asset performance against "World Class" metrics.

- Conducting "Asset Management Maturity" assessments.
- Role of "Root Cause Failure Analysis" (RCFA) in asset improvement.
- Continuous review and update of the "Asset Management Plan."
- Course wrap-up and "Asset Management" implementation roadmap.