



Maintenance & Reliability Management

Sewerage Preventive and Predictive Maintenance for Network, Pumping station & treatment plants

Course Introduction

In this comprehensive 5-day training program, participants will gain the knowledge, skills, and tools necessary to effectively maintain and manage sewerage systems. Through a combination of theoretical learning, practical demonstrations, and interactive sessions, this program will empower participants to become proficient in preventive and predictive maintenance techniques, enhance their understanding of safety protocols, and strengthen their ability to manage sewerage infrastructure effectively.

Target Audience

- Operations & Maintenance Staff (network technicians, plant & pump station operators)
- Engineers & Technical Personnel (civil, mechanical, electrical, instrumentation)
- Facility & Asset Managers (utility managers, asset management professionals)
- Supervisors & Inspectors (field supervisors, system inspectors)
- Procurement & Supply Chain Professionals (maintenance-related procurement)
- Environmental & Safety Officers (compliance, risk management)

Learning Objectives

- Understand the fundamentals of sewerage systems, including their components, functions, and types.
- Recognize the importance of preventive and predictive maintenance in ensuring the reliability and longevity of sewerage networks, pumping stations, and treatment plants.
- Learn the principles of maintenance management and develop skills to plan and execute maintenance activities effectively.
- Acquire knowledge of safety protocols and procedures specific to sewerage maintenance operations to ensure a safe working environment for all personnel.
- Gain expertise in inspecting sewerage networks, diagnosing issues, and implementing corrective actions to prevent system failures and disruptions.
- Familiarize oneself with the operation and maintenance of pumping stations, including preventive maintenance procedures for pumps, motors, and associated equipment.
- Understand the processes and equipment involved in wastewater treatment plants and learn preventive maintenance strategies to optimize plant performance.
- Explore predictive maintenance techniques, including condition monitoring and data analysis, to identify potential issues before they escalate into costly failures.
- Comprehend environmental regulations and compliance requirements related to sewerage systems and learn

how maintenance practices can contribute to meeting regulatory standards.

- Develop teamwork, communication, and problem-solving skills to effectively collaborate with colleagues and respond to emergencies in sewerage maintenance operations.

Course Outline

• 01 DAY ONE

Introduction to Sewerage Systems and Maintenance Basics

Introduction to Sewerage Systems:

- Overview of sewerage systems: components, functions, and types.
- Importance of preventive and predictive maintenance.
- Basic principles of maintenance management.
- Introduction to safety protocols and procedures.

Understanding Sewerage Networks:

- Detailed study of sewerage network components (pipes, manholes, pumps, etc.).
- Common issues and failures in sewerage networks.
- Inspection techniques and tools for sewerage networks.

- Introduction to GIS mapping and asset management systems.

Pumping Station Maintenance:

- Overview of pumping stations: types, components, and operations.
- Preventive maintenance procedures for pumps, motors, and associated equipment.
- Troubleshooting common pumping station issues.
- Safety considerations and emergency protocols in pumping stations.

Interactive Session:

Hands-on exercises for inspection techniques in sewerage networks and pumping stations.

• 02 DAY TWO

Treatment Plant Operations and Preventive Maintenance

Treatment Plant Operations:

- Introduction to wastewater treatment plants: processes, components, and stages (primary, secondary, tertiary treatment).
- Preventive maintenance strategies for treatment plant equipment (clarifiers, aeration systems, filters, etc.).
- Understanding chemical handling and dosing procedures.
- Safety protocols specific to treatment plant operations.

Predictive Maintenance Techniques:

- Principles of predictive maintenance and its benefits.
- Condition monitoring techniques (vibration analysis, thermal imaging, ultrasound).
- Implementing predictive maintenance programs in sewerage systems.
- Case studies and best practices in predictive maintenance.

Interactive Session:

- Introduction to vibration analysis and thermal imaging tools. Case studies to apply predictive techniques.

• 03 DAY THREE

Environmental Compliance and Data Management

Environmental Compliance and Regulations:

- Overview of environmental regulations related to sewerage systems (discharge standards, environmental impact).
- Compliance requirements for discharge standards and regulatory bodies.
- The role of maintenance in ensuring environmental compliance.
- Case studies on environmental violations and their consequences.

Data Management and Reporting:

- Importance of data collection, analysis, and reporting in maintenance.
- Introduction to CMMS (Computerized Maintenance Management Systems) and its functionalities.
- Data reporting and analysis for informed maintenance decision-making.
- Hands-on training on using CMMS for maintenance tasks.

Interactive Session:

Real-world case studies on environmental violations and compliance challenges. Hands-on session on CMMS software for reporting and data analysis

• 04 DAY FOUR

Emergency Response, Crisis Management, and Safety

Emergency Response and Crisis Management:

- Identifying potential emergencies in sewerage systems.
- Emergency response planning and protocols.
- Training on handling spills, leaks, and other emergencies in sewerage operations.
- Coordination with relevant authorities and agencies during emergencies.

Safety Protocols and Procedures:

- Safety considerations in sewerage network operations.
- Personal protective equipment (PPE) and safety standards for sewerage maintenance.
- Understanding confined space entry, hazardous material handling, and lockout/tagout (LOTO) procedures.
- Crisis management strategies for emergency scenarios.

Interactive Session:

- Emergency response simulation and role-play scenarios. Group exercises on crisis management and safety protocols.

• 05 DAY FIVE

Advanced Maintenance Strategies and Team Building

Advanced Preventive Maintenance Strategies:

- Deep dive into maintenance best practices for sewerage infrastructure.
- Advanced planning for long-term reliability of assets (pumps, motors, treatment plants).
- Optimization techniques for system efficiency and energy conservation in sewerage systems.
- Continuous improvement in preventive maintenance programs.

Team Building and Communication in Maintenance Operations:

- The importance of teamwork in sewerage maintenance operations.
- Communication strategies within maintenance teams for better coordination.
- Conflict resolution techniques and fostering collaboration.
- Practical exercises for enhancing communication and team dynamics.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
April 13, 2025	April 17, 2025	5 days	4250.00 \$	KSA - El Dammam
Aug. 25, 2025	Aug. 29, 2025	5 days	4950.00 \$	Netherlands - Amsterdam
Dec. 29, 2025	Jan. 2, 2026	5 days	4250.00 \$	UAE - Dubai