



Water Utility Operations Management & Environmental Excellence Course

20 – 24 September 2027
Kuala Lumpur

Water Utility Operations Management & Environmental Excellence Course

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Overview

Water Utility Operations Management & Environmental Excellence Course is a five-day advanced course for utility leaders who leave with an integrated operations, asset, environmental, and performance improvement roadmap. It connects water and wastewater operations with environmental management in water utilities, water asset management, non-revenue water management, resilience, energy efficiency, and strategic KPIs. The course addresses fragmented decisions by applying water utility operational excellence methods across service reliability, lifecycle risk, compliance, and sustainability. Agile Leaders Training Center delivers this course on strategic water utility performance.

Who Should Attend

- Utility leadership functions responsible for strategy, governance, service levels, and investment priorities
- Water and wastewater operations functions responsible for treatment, distribution, collection, and process reliability
- Environmental and water quality functions responsible for compliance, effluent control, and environmental performance
- Asset and maintenance functions responsible for condition, criticality, lifecycle cost, and work planning
- Engineering and performance functions responsible for infrastructure, KPIs, efficiency, and improvement initiatives

The course assumes participants already contribute to utility operations or infrastructure decisions and leaves out operator-level treatment-process instruction.

Departments and Industries

The course supports coordinated utility decisions across public infrastructure, municipal services, industrial operations, and environmental services.

- Water supply, distribution, and customer service departments
- Wastewater treatment, collection, reuse, and resource recovery departments
- Asset management, maintenance, engineering, and capital planning functions
- Environmental compliance, sustainability, water quality, and risk functions
- Municipal utilities, public works organizations, and water authorities
- Industrial water, desalination, and environmental service organizations

Learning Objectives

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

- Analyze integrated water and wastewater operating performance
- Apply environmental compliance and risk governance controls
- Prioritize asset maintenance and infrastructure investment decisions
- Use water balance and non-revenue water methods
- Evaluate energy, reliability, resilience, and strategic KPIs
- Build a utility operations and environmental improvement roadmap

Course Agenda

Day 1: Strategic Utility Operations

- Modern Utility Operating Model and Integrated Water-Wastewater Process Map
- Strategic Water Utility Decision and Leadership Framework
- Governance, Accountability, and Cross-Functional Coordination Matrix
- Service Level and Strategic KPI Architecture
- Operational Excellence and Continuous Improvement Priority Matrix

Day 2: Environmental Management and Compliance

- Source-to-Distribution Water Operations Process Map
- Water Treatment Operations and Water Quality Control Framework
- Wastewater Treatment and Environmental Performance Matrix
- Sustainable Utility Environmental Management Operating Model
- Environmental Compliance, Effluent Risk, and Governance Review

Day 3: Assets, Maintenance, and Reliability

- ISO 55001 Asset Lifecycle and Value Decision Framework
- Infrastructure Condition, Criticality, and Failure Risk Matrix
- Reactive, Preventive, Predictive, and Risk-Based Maintenance Selection Method
- Treatment Plant Reliability, Work Planning, and Maintenance KPI Dashboard
- Lifecycle Cost, Repair-or-Replace, and Investment Prioritization Model

Day 4: Water Loss and Performance Optimization

- IWA Water Balance and Non-Revenue Water Analysis
- Apparent Loss, Real Loss, Metering, and Leakage Performance Matrix
- Pressure Management and Network Resilience Assessment
- SCADA, GIS, Sensor, and Hydraulic Model Decision-Support Map
- Energy Efficiency, KPI, Root-Cause, and Lean Optimization Method

Day 5: Sustainability and Improvement Practice

- Suggested Exercise: Sustainable Water Resource and Operations Strategy Canvas
- Suggested Exercise: Enterprise Risk, Resilience, and Business Continuity Scenario
- Suggested Exercise: Infrastructure Strategy and Investment Prioritization Case
- Suggested Exercise: Utility Turnaround and Performance Improvement Briefing
- Capstone Exercise: Water Utility Operations and Environmental Improvement Roadmap

Practical Exercises

The course uses suggested activities to connect operational evidence, environmental controls, asset choices, and management priorities.

- Suggested activity: map integrated water and wastewater responsibilities and identify coordination gaps.
- Suggested activity: assess asset criticality, failure consequences, maintenance options, and lifecycle cost.
- Suggested activity: interpret a water balance and prioritize leakage, metering, pressure, and data actions.
- Suggested activity: present a phased improvement roadmap with KPIs, owners, risks, and investment priorities.

FAQs

Who suits water utility operations management training, and what does it assume?

Utility leaders, operations managers, environmental functions, asset teams, engineers, and performance specialists suit the course; it assumes experience contributing to utility operations, infrastructure, compliance, or service-performance decisions.

How does water utility operations management differ from treatment-plant operations training?

Water utility operations management integrates treatment, networks, wastewater, assets, environment, finance, risk, and service levels; treatment-plant operations training usually concentrates on process control and operator procedures within one facility.

How does non-revenue water management support utility performance?

Non-revenue water management separates authorized consumption, apparent losses, and real losses so the course can connect metering, leakage, pressure, data quality, cost, and service-reliability decisions.



What makes water asset management decisions defensible?

Defensible water asset management combines condition, criticality, failure consequence, service level, lifecycle cost, maintenance evidence, risk tolerance, and investment constraints in a transparent prioritization method.

How can environmental excellence be managed across a water utility?

Environmental excellence is managed through defined controls, compliance evidence, water-quality and effluent indicators, risk ownership, incident learning, resource efficiency, governance review, and continual improvement.

Conclusion

Participants leave with a Water Utility Operations and Environmental Improvement Roadmap linking operations, assets, environment, risk, energy, and performance measures. The roadmap changes disconnected initiatives into phased priorities with clear ownership and evidence. It gives decision-makers a practical basis for service improvement, resilience, compliance, resource allocation, and lifecycle investment.