

**TRAINING TITLE**

**OPERATIONS ENGINEERING: COOLING AND POTABLE WATER SYSTEMS**

**Training Duration**

**5 day**

**Training Venue and Dates**

<b>Ref. No.</b> RM206	<b>Operations Engineering: Cooling and Potable Water Systems</b>	<b>5</b>	<b>25-29 Aug. 2025</b>	<b>\$5,500</b>	<b>Abu Dhabi, UAE</b>
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In any of the 4 or 5-star hotels. The exact venue will be informed later.

**Training Fees**

- \$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

**Training Certificate**

**Define** Management Consultants Certificate of course completion will be issued to all attendees.

**TRAINING DESCRIPTION**

Efficient and reliable cooling and potable water systems are vital to the success of industrial operations, ensuring equipment functionality, process efficiency, and safety for personnel. This 5-day course is designed to equip engineers, operators, and technical personnel with the knowledge and skills required to design, operate, maintain, and optimize these critical systems. Participants will gain a deep understanding of water system technologies, operational challenges, and sustainable practices, enabling them to enhance system performance and reliability.

**TRAINING OBJECTIVES**

At the end of this course the delegates should be able to describe:

- Understand the fundamentals of cooling and potable water systems and their roles in industrial operations.
- Explore system components, design principles, and operating parameters.
- Develop skills in troubleshooting, maintaining, and optimizing water systems.
- Learn about water quality management, regulatory compliance, and sustainability practices.
- learn about tools and technologies for system diagnostics and performance optimization

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## WHO SHOULD ATTEND?

- Operations engineers and technicians involved in water system management.
- Maintenance and reliability engineers responsible for system upkeep.
- Process engineers working in industries reliant on cooling and potable water.
- Environmental engineers and sustainability professionals focused on water resource efficiency.
- Supervisors and managers overseeing industrial utility systems.

## TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

## COURSE PROGRAM:

### Day 1: Fundamentals of Cooling and Potable Water Systems

- Introduction to cooling and potable water systems in industrial operations.
- Overview of system components: pumps, pipes, heat exchangers, storage tanks, and filtration units.
- Importance of cooling and potable water systems in operational efficiency and safety.
- Basic principles of fluid dynamics and heat transfer.
- Water quality standards for potable and cooling systems (WHO, EPA, ASHRAE).
- System design considerations for industrial applications.

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## Day 2: Cooling Water Systems - Design and Operations

- Types of cooling water systems: open-loop, closed-loop, and hybrid systems.
- Key operational parameters: flow rates, temperature control, and pressure.
- Cooling tower design and operation.
- Corrosion, scaling, and fouling in cooling water systems: causes and prevention.
- Chemical treatment methods (anti-corrosion agents, scale inhibitors, biocides).

## Day 3: Potable Water Systems - Design and Operations

- Water sourcing and treatment processes: filtration, disinfection, and softening.
- Key operational parameters: water pressure, flow rates, and quality monitoring.
- Distribution systems: piping, storage tanks, and booster stations.
- Common challenges in potable water systems: contamination, leakage, and pressure loss.
- Maintenance and testing of potable water systems.
- Regulatory compliance for potable water systems (e.g., Safe Drinking Water Act).

## Day 4: Maintenance, Troubleshooting, and Optimization

- Preventive and predictive maintenance strategies for water systems.
- Tools and techniques for system diagnostics (e.g., flowmeters, thermographic imaging).
- Emergency response planning for system failures.
- diagnosing and resolving cooling and potable water system issues.
- Optimization techniques for energy and water efficiency.
- Advanced monitoring technologies: IoT and SCADA in water systems.

## Day 5: System Integration, Sustainability, and Final Assessment

- Integration of cooling and potable water systems with overall plant operations.
- Sustainable water management practices: recycling, reuse, and conservation.

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- Environmental impact assessment of water systems.
- Course review and Q&A.
- Final assessment.
- Certificate distribution and closing remarks.

**NOTE:**

**Pre- & Post Tests will be conducted.**

**Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.**



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