TRAINING TITLE

HVAC - DISTRICT COOLING PLANT - DESIGN, OPERATIONS AND MAINTENANCE

Training Duration

5 days

Training Venue and Dates

ME380	**HVAC - District Cooling Plant - Design, Operations and Maintenance**	**5**	**26-30 May 2025**	**$5,500**	**ABU DHABI, UAE**

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 Consultancy & Training Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

The HVAC - District Cooling Plant - Design, Operations and Maintenance course is designed to provide participants with comprehensive knowledge of the design, operation, and maintenance of district cooling systems. The course covers the principles behind district cooling, key components of district cooling plants, and best practices in their design, operation, and maintenance. Participants will learn how to optimize energy efficiency, reduce operational costs, and ensure the reliability and performance of cooling plants. This course is ideal for professionals involved in the planning, design, management, and maintenance of HVAC systems in large-scale urban or industrial applications.

TRAINING OBJECTIVES

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

- Understand the principles and fundamentals of district cooling systems.
- Learn the components, design, and layout of district cooling plants.
- Understand how to operate and maintain district cooling plants effectively.
- Learn energy-efficient practices and technologies for optimizing cooling system performance.

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

- Gain knowledge of key performance indicators (KPIs) for monitoring and evaluating system efficiency.

WHO SHOULD ATTEND?

- HVAC engineers and technicians
- Mechanical engineers and consultants
- Facility managers and operators of district cooling systems
- Project managers involved in the design or construction of district cooling plants
- Energy managers and professionals in charge of energy efficiency in cooling 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: Introduction to District Cooling Systems

- Overview of district cooling: principles and benefits
- Key components of a district cooling system (chillers, cooling towers, pumps, etc.)
- Types of cooling systems: central and decentralized district cooling
- Design considerations for large-scale cooling plants
- District cooling in urban and industrial environments

Day 2: Design of District Cooling Plants

- Sizing and capacity planning for district cooling plants
- Design of chiller plants and their integration with the district cooling network
- Piping layout and distribution systems for district cooling

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

- Heat exchangers, cooling towers, and energy recovery systems in district cooling plants
- Selecting equipment for energy efficiency and reliability
- Integration of renewable energy sources in district cooling design

Day 3: Operations of District Cooling Plants

- Operating principles of chillers, cooling towers, and pumps in district cooling systems
- Control systems and automation in district cooling plants
- Monitoring and managing plant performance using Building Management Systems (BMS)
- Cooling load forecasting and load management strategies
- Troubleshooting common operational issues in district cooling plants
- Optimizing plant efficiency through advanced controls and monitoring techniques

Day 4: Maintenance of District Cooling Plants

- Preventive maintenance strategies for key components: chillers, pumps, heat exchangers
- Maintenance of cooling towers and water treatment for cooling systems
- Corrective maintenance techniques and spare parts management
- Testing and calibration of system controls, sensors, and alarms
- Minimizing downtime through predictive maintenance and condition monitoring
- Implementing best practices for long-term plant reliability

Day 5: Energy Efficiency, Sustainability, and Future Trends

- Energy efficiency measures in district cooling systems: optimization and cost reduction
- Evaluating the performance of district cooling plants using KPIs (e.g., COP, SEER, and SCOP)
- Sustainability considerations in district cooling: reducing carbon footprint and improving energy use
- Energy recovery and integration with district heating systems
- Future trends in district cooling: smart grids, IoT, and AI in system management

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

NOTE:

Pre-& Post Tests will be conducted.

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

……

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com