CONCEPT

Chiller Plant and Building Management System (BMS) Operation Course



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Introduction:

Chiller plant and Building Management System BMS operation training is a 1-week course for those who run central cooling plants and BMS workstations shift by shift, and it ends with a Shift Operating Checklist and Daily Plant Performance Log. Organisations waste energy and risk cooling interruptions when operators cannot read panel data, stage chillers to load or respond correctly to BMS alarms. Nominees already monitor plant equipment or BMS screens, and about 40 percent of the course is hands-on simulation on control interfaces and plant simulators. CoreConcept Training Center delivers this chiller plant and BMS operation course.

Course Objectives:

- Run central cooling plant start-up, running and shutdown sequences in the correct order on each shift
- Read and interpret temperatures, pressures, flow rates and chiller control panel parameters against normal operating values
- Stage and sequence chillers to match cooling load while holding setpoints within operating limits
- Monitor kW per ton, COP and chilled water delta T and record them in operating logs and daily performance reports
- Navigate BMS graphics, points and trends to monitor and control the chiller plant and connected building systems
- Respond to BMS alarms by priority, apply authorised overrides and escalate abnormal readings to the responsible team

Target Audience:

- Those who operate chillers, pumps and cooling towers in a central cooling plant during shifts
- Those who supervise plant shift teams and approve operating logs and handovers
- Those who monitor building systems and respond to alarms from a BMS workstation or control room
- Those who track daily operating performance of chilled water plants in facility operations
- Those who run cooling plant operation for district cooling networks or large building portfolios

Course Outline:

Day 1: Central Cooling Plant Fundamentals and Operating Sequences

- Central cooling plant operating principles and refrigeration fundamentals
- Chiller plant working mechanisms and chilled water loops
- Main plant components from an operator's perspective
- Primary, secondary and condenser water system configurations
- Plant operating sequences for start-up, running and shutdown

Day 2: Chiller Plant Operation, Readings and Control

- Standard operating procedures for normal plant operation
- Reading temperatures, pressures and flow rates on panels
- Interpreting chiller control panel data and operating parameters
- Chiller staging, sequencing and load matching in normal conditions
- Plant control logic, setpoints and operational performance behaviour

Day 3: Plant Performance, Efficiency and Operational Simulation

- Plant performance indicators including kW per ton and COP
- Chilled water delta T, flow and load monitoring for efficiency
- Operating logs, trend data and daily performance reporting
- Recognising abnormal readings and escalating to responsible teams
- Hands-on chiller plant operation simulation with live readings

Day 4: BMS Fundamentals, Architecture and Operating Interfaces

- BMS fundamentals, functions and operating principles
- BMS architecture, controllers, field devices and network levels
- Navigating graphical interfaces, dashboards and control screens
- Monitoring building systems and equipment connected to BMS
- Reading BMS points, trends, data and operational parameters

Day 5: BMS Alarms, Control and Practical Operating Scenarios

- Alarm monitoring, priorities and alarm interpretation in BMS
- Operational response procedures for BMS alarms
- Monitoring and controlling the chiller plant through BMS
- Schedules, setpoint changes and authorised manual overrides
- Practical BMS operation exercises and operational scenario drills

Skills You Will Gain:

- Cooling Plant Operating Sequences
- Chiller Control Panel Interpretation
- Chiller Staging and Load Matching
- Plant Efficiency Monitoring
- Operating Log and Shift Reporting
- BMS Graphics and Trend Navigation
- BMS Alarm Prioritisation
- Authorised Override Control

Why Attend This Course:

- Deliver a Shift Operating Checklist and Daily Plant Performance Log to the plant or facility operations manager
- Decide when to stage a chiller on or off, adjust a setpoint within authority or escalate an abnormal reading
- Avoid wasted energy, low delta T operation and unplanned cooling interruptions caused by incorrect operating actions
- Share the operating sequences, log templates and alarm response steps with colleagues on other shifts

Conclusion:

Once the participant returns, the plant or facility operations manager receives a Shift Operating Checklist and Daily Plant Performance Log that shows how the plant was started, staged, monitored and handed over. Shift supervisors can use it to decide whether plant efficiency, delta T and alarm handling meet the expected operating standard and where operating practice needs correcting. After the first month of use, the manager should review kW per ton and delta T trends, the number of alarms escalated and any override records, then refine the checklist with the participant.

Frequently Asked Questions FAQ:

Which roles should an organisation nominate for the chiller plant and BMS operation course?

Nominate chiller plant operators, shift operators and supervisors, BMS and control room operators, and facility operations engineers and technicians who run cooling plants or monitor building systems during their shifts.

What should nominees already do at work before joining the chiller plant and BMS operation course?

Nominees should already monitor or operate cooling plant equipment or BMS screens and understand basic plant terms such as chilled water supply and return. The course is operation only and covers no maintenance, repair or design work.

What does the organisation receive after the chiller plant and BMS operation course?

The organisation receives a Shift Operating Checklist and Daily Plant Performance Log, with operating sequences, log templates and an alarm response and escalation guide that shift teams can reuse on every shift.

Which framework does the chiller plant and BMS operation course follow?

The course follows established chilled water plant operating practice, measuring efficiency through kW per ton, COP and chilled water delta T, with plant efficiency monitoring referenced to ASHRAE Guideline 22 for central chilled water plants.