

COGWT18

Evaluate water treatment for evaporative cooling systems



Overview

This unit is for those involved in:

- 1 producing and evaluating water treatment programme for evaporative cooling systems
- 2 producing control measures
- 3 performance monitoring
- 4 identifying and progressing corrective actions
- 5 investigating the cause of faults and errors

Previous Version

None

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Performance criteria

- You must be able to:*
- P1 work safely at all times, complying with health and safety procedures in line with company policies
 - P2 produce a water treatment programme to meet system requirements and regulatory requirements utilising design models
 - P3 produce a programme of control measures to maintain the efficacy of the treatment programme in accordance with company operating procedures
 - P4 identify and assess system conditions relevant to the water treatment programme
 - P5 assess the performance of the treatment programme for evaporative cooling systems in accordance with company operating procedures
 - P6 investigate faults and errors in the system in accordance with company operating procedures
 - P7 identify and progress a programme of corrective actions for evaporative cooling systems in accordance with company operating procedures
 - P8 record information and write report using company documentation in accordance with company operating procedures
 - P9 provide the documentation to the relevant people

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Knowledge and understanding

You need to know and understand:

- K1 what your personal responsibilities with regard to health and safety in the working area are
- K2 what your legal responsibility for your own health and safety, and the health and safety of others is
- K3 what working practices ensure that the working environment is conducive to good health
- K4 what the approved codes of practice/working practices are and why it is important to follow them
- K5 how and when to complete a work task risk assessment
- K6 when specific site requirements are in place and what to do to comply with them
- K7 the different types of evaporative cooling and humidification systems
- K8 the principles of operation of the different types of evaporative cooling and humidification systems
- K9 the impact of atmospheric conditions on operation
- K10 the limitations of drift eliminators
- K11 the principles of water treatment regarding the different types of evaporative cooling and humidification systems
- K12 the health and safety implications of incorrect water treatment
- K13 the health and safety implications of incorrect system operation
- K14 problems encountered in the systems
- K15 water chemistry and microbiology applicable to the different types of evaporative cooling and humidification systems
- K16 what regulatory requirements apply
- K17 company operating procedures
- K18 which treatment methods are available and can be used
- K19 what control measures can be used for the water treatment programme for different types of evaporative cooling and humidification systems
- K20 what system conditions are relevant to the water treatment programme
- K21 how to apply your company's treatment processes
- K22 how to interpret schematic diagrams

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- K23 how to interpret survey outputs
- K24 how to evaluate the efficacy of the treatment programme and regulatory compliance
- K25 how to follow a performance monitoring programme
- K26 which methods for performance monitoring are available
- K27 what to do if performance is unsatisfactory
- K28 the range of potential corrective actions that may be employed for different types of evaporative cooling and humidification systems
- K29 what corrective actions you can take in accordance with company operating procedure
- K30 what to do if you cannot take the appropriate corrective action and who to report the information to
- K31 which corrective action to follow
- K32 what documentation to use
- K33 how to complete the documentation
- K34 who the relevant people are
- K35 how to provide the documentation

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Additional Information

Glossary

Evaporative cooling systems

Includes: cooling towers, evaporative condensers, adiabatic chillers, evaporative humidifiers, spray/evaporative cooling

Water treatment programmes

Can include for any water system: chemical and non chemical processes, monitoring and inspection, sampling, equipment provision and servicing, legionella risk assessment, cleaning operations, remedial engineering works, other products and services associated with water systems

Regulatory requirements

Includes relevant health, safety and environmental regulations, COSHH, Codes of Practice, British, European and International standards, site procedures

Company operating procedure

Includes company requirements, instructions and method statements

Documentation

Includes analysis/report sheets, log book records

Relevant people

As defined in the programme design, log book, company procedures

Methods of treatment

Physical, chemical, monitoring, sampling

Working practices

Permit to work, confined space working, working at heights, manual handling, PPE, COSHH etc

Problems encountered

Scale, corrosion, fouling, microbiological, mechanical, environmental

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System conditions

Physical, engineering, chemical, microbiological conditions

Control measures

Physical, engineering, chemical, microbiological, monitoring, inspection

Water chemistry

The chemistry involved with the provision, use and treatment of evaporative cooling processes

Design model

Products, specification, parameters, limitations, installation requirements, service standards including company requirements, instructions, method statements, codes of practice, British, European and International standards

Survey outputs

Risk assessment, sample and test results, survey forms, mechanical specifications, system objective

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