Australian Government

Department of Education, Employment and Workplace Relations

SISCAQU304A Maintain pool water quality

Release: 2

SISCAQU304A Maintain pool water quality

Modification History

Not Applicable

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to maintain the water quality of swimming pools and aquatic facilities according to health standards.

Application of the Unit

This unit applies to those working independently as aquatic operators or managers in various aquatic environments, such as council or commercially operated aquatic and leisure centres. This may also include the coordination and supervision of others in the aquatic environment.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a Unit of Competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the Required Skills and Knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
1. Conduct pool water quality tests.	1.1. Complete ***routine pool water tests*** according to ***public health regulatory requirements***, ***organisational policies and procedures*** and ***relevant legislation***. 1.2. Monitor pool water test results according to public health regulatory requirements and organisational policies and procedures. 1.3. Develop and implement schedules for ***pool water microbiological testing*** according to organisational policies and procedures and public health regulatory requirements.
2. Apply water quality principles.	2.1. Anticipate bather loading and implement corrective actions with appropriate personnel to maintain ***pool water quality***. 2.2. Develop and implement safe processes for using chemicals to maintain disinfectant levels and chemical balance of pool water according to public health regulatory requirements. 2.3. Carry out ***water treatment procedures*** according to the aquatic facility's operating plan for the treatment of pool water. 2.4. Calculate the amount of chemicals required to correct chemical imbalances in pool water according to public health regulatory requirements. 2.5. Use chemical dosing equipment for the treatment of pool water according to the manufacturer's specifications and organisational policies and procedures.
3. Document action taken.	3.1. Record pool water test results according to organisational policies and procedures and public health regulatory requirements. 3.2. Record any corrective action taken according to organisational policies and procedures and public

ELEMENT	PERFORMANCE CRITERIA
	health regulatory requirements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
  - initiate corrective actions with appropriate personnel
  - maintain water quality and develop schedules for pool water microbiological testing
- problem-solving skills to:
  - conduct a variety of routine pool water tests
  - monitor and interpret results
  - anticipate bather loading
  - maintain disinfectant levels and chemical balance of pool water
- planning and organisational skills to:
  - collect and organise pool information
  - develop safe processes for the use of chemicals
- literacy skills to:
  - record pool water test results and corrective actions implemented
  - interpret aquatic facility's treatment operating plan
- numeracy skills to calculate the amount of chemicals required to correct chemical imbalances
- first aid skills to implement procedures related to pool water chemical accidents.

Required knowledge

- legislation and organisational policies and procedures that enable:
  - completion and monitoring of pool water tests
  - use and maintenance of chemical dosing equipment
  - development and implementation of schedules for microbiological testing and chemical use
  - accurate and timely record keeping
- public health regulatory requirements to:
  - implement processes for chemical use
  - calculate chemical requirements
- pool water chemistry to understand scientific terms related to tests such as pH levels, alkalinity, chlorine, bromine, temperature and calcium hardness
- plant and equipment operation, chemical dosing equipment and relevant resources used for testing, treating and maintaining pool water quality.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- develops and implements schedules for pool water microbiological testing and safely uses and calculates chemicals to maintain chemical balance of pool water
- anticipates bather loadings and takes corrective action to ensure public health and safety
- operates chemical dosing equipment for the treatment of pool water
- updates pool records with information detailing water quality test results and corrective action taken.

Context of and specific resources for assessment

Assessment must ensure:

- conduct of regular pool water quality tests and monitoring of results on sufficient occasions to demonstrate competency and consistency of performance.

Assessment must also ensure access to:

- a suitable aquatic facility
- equipment and resources required for the maintenance of pool water quality
- public health regulatory requirements, relevant legislation and organisational policies and procedures.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of the candidate safely handling chemicals, equipment and resources
- oral or written questioning to assess knowledge of procedures for pool water testing and treatment
- observation of the candidate calculating chemical requirements to correct imbalances
- portfolio of written recordings detailing pool water test results and corrective action taken
- third-party reports from a supervisor detailing the candidate's performance on the job.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SISCAQU303A Operate aquatic facility plant and equipment

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Routine pool water tests may include:

- free chlorine
- total bromine
- total chlorine
- combined chlorine
- pH
- alkalinity
- cyanuric acid
- calcium hardness
- total hardness
- temperature.

Public health regulatory requirements may include:

- health and poisons acts
- infectious diseases regulations
- dangerous goods act and regulations
- metropolitan water supply, sewerage and drainage by-laws
- environment legislation
- local government regulations.

Organisational policies and procedures may include:

- occupational health and safety
- use and maintenance of equipment and resources
- emergency and risk management procedures
- chemical handling procedures
- backwash procedures
- filtration processes
- isolation procedures
- communication protocols
- reporting and record keeping.

Relevant legislation may include:

- occupational health and safety
- relevant dangerous goods act
- relevant environment legislation.

Pool water microbiological testing may include:

- standard plate count
- coliform count
- pseudomonas aeruginosa

RANGE STATEMENT

	• legionella • staphylococcus • cryptosporidium.
Pool water quality may include:	• microbiological count • pH • clarity levels.
Water treatment procedures may include:	• chemical disinfection • electrolytic generation of chlorine • superchlorination • shock dosing • dechlorination • chlorine stabilisation with cyanuric acid • control of algae • ozonisation • ultraviolet radiation • alkalinity adjustments • calcium and total hardness adjustments • lowering total dissolved solids • pool water filtration and recirculation • backwashing • manual removal of visible contaminants.

Unit Sector(s)

Community Recreation

Competency Field

Aquatics