



Australian Government

CPPSPS4015A Maintain spa water quality

Release: 1

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Modification History

Version	Comments
1	This version first released with CPP07 Property Services Training Package Version 13.

Unit Descriptor

This unit of competency specifies the outcomes required to maintain the quality of water in spas. It includes assessing water quality, applying spa water quality principles, and completing and documenting action taken.

Application of the Unit

This unit of competency supports the work of swimming pool and spa technicians engaged in servicing domestic, commercial and public spas.

Licensing/Regulatory Information

Service technicians are not permitted to undertake any installation, replacement, maintenance and repair functions that are restricted to licensed trades or occupations (subject to relevant state and territory regulations). Different states and territories may have regulatory mechanisms that apply to this unit. Users are advised to check for regulatory limitations.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

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|---|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Assess spa water quality. | <p>1.1 <i>Risks</i> associated with conducting spa water tests are identified in line with enterprise procedures.</p> <p>1.2 <i>Routine spa water tests</i> are conducted in line with regulatory and enterprise requirements.</p> <p>1.3 Spa water test results are monitored in line with regulatory and enterprise requirements.</p> <p>1.4 Schedules are developed and implemented for <i>spa water microbiological testing</i> in line with regulatory and enterprise requirements.</p> |
| 2 | Apply spa water quality principles. | <p>2.1 Bather loading is estimated and corrective actions are taken to maintain <i>spa water quality</i> in line with regulatory and enterprise requirements.</p> <p>2.2 Safe processes for using chemicals to maintain disinfectant levels and chemical balance of spa water are followed in line with regulatory and enterprise requirements.</p> <p>2.3 <i>Spa water treatment procedures</i> are implemented in line with regulatory and enterprise requirements.</p> <p>2.4 Amount of chemicals required to correct chemical imbalances in spa water is calculated in line with regulatory and enterprise requirements.</p> |

- 3 Document action taken.**
- 3.1 Spa water test results are recorded in line with regulatory and enterprise requirements.
 - 3.2 Corrective actions taken are recorded in line with regulatory and enterprise requirements.
 - 3.3 Information is provided to clients on compliance of spa and environs with safety legislation in line with enterprise requirements.

Required Skills and Knowledge

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

Required skills

- communication skills to interact in an ethical manner with clients from diverse social, economic and cultural backgrounds
- decision-making and problem-solving skills to identify types and appropriate treatments for spa water quality problems
- literacy skills to read and interpret regulatory and manufacturer's guidelines for testing and treating spa water problems
- numeracy skills to perform calculations related to spa water treatment
- research skills to identify and locate online support for performing calculations related to treating spa water problems
- technology skills to use spa water sampling and testing equipment

Required knowledge

- Australian Competition and Consumer Commission product safety guidelines
- causes and remedies of backwash discharge
- chemical dosing benefits and techniques
- common spa water problems, reasons and remedies:
 - bather eye irritation
 - chlorine odour
 - cloudy water
 - discoloured water
 - green water
 - metal fixtures corroding
 - scale
 - water has dark appearance
- commonwealth, state or territory, and local government legislation and regulations, and Australian standards impacting on spa water quality related to:
 - chemicals
 - dangerous goods
 - environment protection
 - environmental health
 - microbiological standards for spas
 - spas
 - waste disposal

- work health and safety
- disinfection practice:
 - chlorine chemistry
 - disinfectants:
 - bromine
 - chlorine
 - ozone
 - ultraviolet light - hydrogen peroxide
 - dosing frequency
 - principles
 - means
- health problems associated with spas:
 - dermatitis
 - gastro intestinal infection
 - heat stress
 - legionnaires' disease
 - medications
 - respiratory infection
 - skin irritation
- hot water chemistry:
 - chemical overdosing
 - foaming
 - hardness
 - pH and total alkalinity
 - suspended and dissolved solids
 - water clarity
 - water temperature
- hot water health benefits
- infectious agents that grow in spas
- microorganisms found in spa water:
 - algae
 - bacteria
 - protozoa
 - virus
- spa filters:
 - cleaning
 - inspection
 - microbial load
 - purpose
 - types

- spa water contamination: causes and remedies
- spa water testing:
 - frequency
 - methods
 - microbiological monitoring
 - parameters
 - procedures
 - test kit care
 - treatments for spa water problems:
 - reasons for treatment techniques
 - treatment techniques:
 - determining and correcting pH level
 - sanitising the spa
 - shock dosing
 - determining and correcting total alkalinity
 - water replacement
- water balancing:
 - balance factors
 - calcium hardness
 - pH
 - principles
 - saturation index
 - temperature
 - total alkalinity
 - total dissolved salts
- water quality:
 - filtration effectiveness
 - impact of number of users on spa water quality
 - microbial load
- water chemistry:
 - chemical composition
 - chemical imbalance and its consequences
 - ways of rectifying chemical imbalance

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	This unit of competency could be assessed by testing spa water quality and applying appropriate treatment to respond to identified water quality problems.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>A person should demonstrate the ability to:</p> <ul style="list-style-type: none"> • collect samples of spa water for testing • test spa water quality using appropriate equipment • interpret test results and implement treatment processes for identified spa water quality problems • comply with safety requirements when sampling, testing and treating spa water • report on outcomes of testing and treating spa water.
Context of and specific resources for assessment	<p>Assessment of essential underpinning knowledge may be conducted in an off-site context and is to comply with relevant regulatory and Australian Standards' requirements.</p> <p>Resource implications for assessment include:</p> <ul style="list-style-type: none"> • relevant codes, standards and government regulations • a technical reference library with current publications on: <ul style="list-style-type: none"> • spa water quality parameters • hot water chemistry • spa water contamination • treatment processes for water problems in spas.
Method of assessment	<p>Assessment methods must:</p> <ul style="list-style-type: none"> • satisfy the endorsed Assessment Guidelines of the CPP07 Property Services Training Package • include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application • reinforce the integration of employability skills with workplace tasks and job roles • confirm that competency is verified and able to be transferred to other circumstances and environments. <p>This unit could be assessed on its own or in combination with other units relevant to the job function.</p>
Guidance information	Reasonable adjustments for people with disabilities must be made to

for assessment	<p>assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.</p> <p>Assessment processes and techniques should, as far as is practical, take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.</p>
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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.

<i>Risks</i> may include:	<ul style="list-style-type: none"> • microbiological: <ul style="list-style-type: none"> • amoebae • legionella species • mycobacterium avium and similar mycobacteria • pseudomonas aeruginosa • non-microbiological: <ul style="list-style-type: none"> • chemical • confined spaces • electrical • entrapment • manual handling • slips and trips • thermal.
<i>Routine spa water tests</i> include:	<ul style="list-style-type: none"> • concentration of disinfectant in use • determining and correcting pH level • microbiological monitoring • determining and correcting total alkalinity.
<i>Spa water microbiological testing</i> may include:	<ul style="list-style-type: none"> • coliform count • cryptosporidium • legionella • pseudomonas aeruginosa • standard plate count • staphylococcus.
<i>Spa water quality</i>	<ul style="list-style-type: none"> • clarity levels • microbiological count

includes:	<ul style="list-style-type: none">• pH.
<i>Spa water treatment procedures</i> may include:	<ul style="list-style-type: none">• changing spa water• determining and correcting pH level• sanitising the spa• shock dosing• determining and correcting total alkalinity• using chemical dosing equipment.

Unit Sector(s)

Competency field

Unit sector Swimming pool and spa service

Custom Content Section

Not applicable.