



**Australian Government**

# **CPPSPS4017A Detect leaks in swimming pools and spas**

**Release 1**

# **CPPSPS4017A Detect leaks in swimming pools and spas**

## **Modification History**

<b>Version</b>	<b>Comments</b>
1	This version first released with CPP07 Property Services Training Package Version 13.

## **Unit Descriptor**

This unit of competency specifies the outcomes required to plan leak-detection activities and to locate, identify and report leaks in swimming pools and spas. It includes operating leak-detection equipment, and recording and reporting on leak-detection activities.

## **Application of the Unit**

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

- |   |  |     |  |
|---|--|-----|--|
| 1 | <b>Plan leak detection.</b>                            | 1.1 | Determine leak-detection requirements from work instructions and client requirements.  |
|   |  | 1.2 | Conduct <b><i>basic tests</i></b> to confirm that swimming pool and/or spa is leaking in line with enterprise procedures.  |
|   |  | 1.3 | Select <b><i>leak-detection equipment and materials</i></b> and check for safety and serviceability in line with manufacturer and enterprise procedures.             |
| 2 | <b>Apply leak-detection process.</b>                   | 2.1 | Confirm location of <b><i>related services</i></b> in line with enterprise procedures.   |
|   |  | 2.2 | Select, fit and correctly use personal protective equipment.   |
|   |  | 2.3 | Implement <b><i>leak-detection process</i></b> using leak-detection equipment in line with manufacturer and enterprise procedures and relevant Australian standards. |
|   |  | 2.4 | Arrange leak repair in line with testing outcomes and enterprise and statutory requirements.   |
|   |  | 2.5 | Clean and store leak-detection equipment in line with enterprise and manufacturer requirements.  |
| 3 | <b>Record and report on leak-detection activities.</b> | 3.1 | Review and record work in line with enterprise procedures.   |
|   |  | 3.2 | Compile reports in line with enterprise procedures.  |

## 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 location of water leaks in swimming pools and spas
- literacy skills to read and interpret instruction manuals for leak-detection equipment
- numeracy skills to:
  - perform calculations related to water loss in swimming pools and spas
  - interpret data output from electronic leak-detection equipment
- research skills to identify and locate online calculators for performing calculations related to swimming pool and spa servicing
- technology skills to use electronic leak-detection equipment

### Required knowledge

- common structural leak areas:
  - cracks
  - lights
  - main drain and hydrostatic valve
  - pipe openings into pool
  - skimmer bond to pool
  - skimmer throat
  - tile line
  - vinyl liners
- commonwealth, state or territory, and local government legislation, Australian standards and regulations, and codes of practice impacting on the routine maintenance of swimming pools and spas related to:
  - dangerous goods
  - electrical and plumbing regulations controlling conduct of electrical and plumbing work
  - environment protection
  - environmental health
  - non-destructive testing
  - work health and safety
  - private and public swimming pools and spas
  - waste disposal

- leak-detection equipment:
  - maintenance procedures
  - operating principles
  - safety
  - types
- leak-detection procedures
- signs of potential pool and spa leaks:
  - algae growth or discoloration of water
  - cracks
  - equipment loses prime
  - excess chemical usage
  - excessive water loss
  - pool deck is sinking or lifting
  - pool has air in the system
  - soggy spots around the pool
  - visible equipment leaks
- types of leaks in swimming pools and spas:
  - plumbing leaks
  - pressure leaks
  - static leaks
- water loss in swimming pools and spas:
  - evaporation
  - planned dilution
  - plumbing and shell leaks
  - user splash-out and drag-out

## 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.

<b>Overview of assessment</b>	This unit of competency could be assessed by detecting leaks and arranging relevant repairs in swimming pools and spas.
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>A person should demonstrate the ability to:</p> <ul style="list-style-type: none"> <li>• plan leak-detection activities, including conducting basic water loss tests to confirm leaks in swimming pools and spas</li> <li>• operate leak-detection equipment</li> <li>• comply with safety requirements when conducting leak-detection activities</li> <li>• detect leaks and arrange relevant repairs in swimming pools and spas</li> <li>• record and report on leak-detection activities.</li> </ul>
<b>Context of and specific resources for assessment</b>	<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"> <li>• relevant codes, standards and government regulations</li> <li>• a technical reference library with current publications on leak-detection techniques for swimming pools and spas.</li> </ul>
<b>Method of assessment</b>	<p>Assessment methods must:</p> <ul style="list-style-type: none"> <li>• satisfy the endorsed Assessment Guidelines of the CPP07 Property Services Training Package</li> <li>• 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</li> <li>• reinforce the integration of employability skills with workplace tasks and job roles</li> <li>• confirm that competency is verified and able to be transferred to other circumstances and environments.</li> </ul> <p>This unit could be assessed on its own or in combination with other units relevant to the job function.</p>
<b>Guidance information for assessment</b>	Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

	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.
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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.

<b><i>Basic tests</i></b> may include:	<ul style="list-style-type: none"> <li>• bucket test</li> <li>• meter test</li> <li>• pump on/pump off test</li> <li>• water loss calculations.</li> </ul>
<b><i>Leak-detection equipment and materials</i></b> may include:	<ul style="list-style-type: none"> <li>• bucket</li> <li>• communication systems</li> <li>• dye</li> <li>• electronic water loss calculators</li> <li>• hand and power tools</li> <li>• leak-detection equipment: <ul style="list-style-type: none"> <li>• listening devices</li> <li>• pressure testing</li> <li>• vinyl liner leak detector</li> </ul> </li> <li>• personal protective equipment</li> <li>• pipe locating equipment</li> <li>• portable pumps.</li> </ul>
<b><i>Related services</i></b> may include:	<ul style="list-style-type: none"> <li>• electricity</li> <li>• gas</li> <li>• sewerage</li> <li>• stormwater</li> <li>• water supply.</li> </ul>
<b><i>Leak-detection process</i></b> may include:	<ul style="list-style-type: none"> <li>• conduct pressure test of plumbing lines</li> <li>• confirm leaks by analysing information gathered through conducting basic tests</li> <li>• identify underground plumbing leaks</li> <li>• inspect fittings and cracks in pool structures</li> <li>• pinpoint leaks in vinyl liner.</li> </ul>

## **Unit Sector(s)**

### **Competency field**

**Unit sector**                      Swimming pool and spa service

## **Custom Content Section**

Not applicable.