

Unit of Competency CPCPPS5024

Conduct a water audit and identify water-saving initiatives

Application

This unit specifies the skills and knowledge required to conduct water audits in residential buildings with a minimum of 50 units; commercial buildings with a minimum of 20 floors, including a commercial laundry for hospital or nursing home.

This unit also specifies the skills and knowledge required to propose types of water-saving devices that are appropriate where water use reductions are possible.

The role involves interaction with builders, suppliers, clients and relevant planning authorities and requires a sound understanding of applicable legislation, standards and codes.

This unit applies to experienced people such as hydraulic design consultants or persons in a supervisory capacity in relation to plumbing services on a new or existing site.

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Prerequisite Unit

Nil.

Elements and Performance Criteria

1. Calculate water use.	<ul style="list-style-type: none">1.1 Establish scope of work for conducting water audits.1.2 Identify requirements from relevant Australian Standards, codes, plans, specifications, manufacturer requirements and client brief.1.3 Apply sustainability principles and concepts throughout water audit process.1.4 Specify types of flow and pressure-measuring devices including their location and use.1.5 Conduct flow and pressure tests and measure flows at outlets.1.6 Compare actual water use to ideal use and calculate the difference.
2. Identify excessive water and energy use.	<ul style="list-style-type: none">2.1 Implement leak identification processes considering safety of system users or building occupants.2.2 Measure and evaluate flows against relevant standards and user requirements.2.3 Evaluate suitability of existing fixtures and fittings against new technology.2.4 Identify and compare water use times against optimal timing.2.5 Identify and analyse existing inefficient system conditions.2.6 Conduct pressure test and identify and compare consequences of high and low pressures to industry standards.2.7 Evaluate energy saving associated with reduction in water use.
3. Evaluate methods to conserve water	<ul style="list-style-type: none">3.1 Identify flow restrictors, sensors, pressure-limiting devices and automatic systems for a range of applications.3.2 Evaluate alternative processes and practices for optimum water and energy

and energy.	<p>savings.</p> <p>3.3 Evaluate alternative fixtures and fittings for optimum water and energy savings.</p> <p>3.4 Apply rainwater harvesting techniques and processes.</p> <p>3.5 Design recycling and re-use processes.</p> <p>3.6 Design water metering strategies to monitor and problem solve water saving systems.</p>
4. Report findings.	<p>4.1 Conduct a cost-benefit analysis including the investment return period.</p> <p>4.2 Prepare water and energy audit report.</p> <p>4.3 Identify and report resulting environmental benefits and water and energy savings.</p>

Foundation skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPCPPS5024A Conduct a water audit and identify water-saving initiatives.

Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCPPS5024 Conduct a water audit and identify water-saving initiatives

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria for this unit by:

- conducting a water audit, identifying water-saving initiatives for the following building types:
 - a minimum 50-unit residential building
 - a minimum 20 floor commercial office building incorporating a minimum of one toilet block per floor
 - a commercial laundry in a hospital or nursing home
- documenting and reporting on an audit report for each of the above building types.

Knowledge Evidence

To be competent in this unit, a person must demonstrate knowledge of:

- hazards associated with devices and systems used in the hydraulic sector
- installation methods used in hydraulic systems
- nature of materials and effect of their performance in a variety of conditions
- preparation and interpretation of plans and specifications
- requirements of Commonwealth, state or territory regulatory authorities, relevant Australian Standards and codes, manufacturer specifications, National Construction Code (NCC) and other relevant codes, standards and operating procedures
- terminology and definitions used in hydraulic design
- variety of applications of technology principles in design of water and energy-efficient usage systems for all classes of building
- work health and safety (WHS) requirements, including relevant statutory regulations, codes and standards
- performance requirements including maintenance of flow, velocity, pressure and discharge requirements of the client, using relevant Australian Standards, NCC or other relevant codes and standards
- alternative processes and practices for water saving
- rainwater harvesting which must include collection, storage and distribution of rainwater, including the use of tanks and dams
- water and energy audit reports

Assessment Conditions

Assessors must satisfy the requirements for assessors listed in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Links

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