



Australian Government

FBPFST4012 Apply water management principles to the food industry

Release: 1

FBPFST4012 Apply water management principles to the food industry

Modification History

Release	Comments
Release 1	This version released with the FBP Food, Beverage and Pharmaceutical Training Package Version 2.0.

Application

This unit of competency describes the skills and knowledge required of quality assurance and technical staff to monitor and manage water quality and usage in a food processing operation.

This unit applies to individuals who are responsible for maintaining product safety, quality and efficiency of food processing operations that use water by managing their own work and the quality of the work of others within known parameters. This includes using discretion and judgement in the selection and use of available resources.

No occupational licensing or certification requirements apply to this unit at the time of publication. However, legislative and regulatory requirements for food processing exist, so local requirements must be checked. All work must comply with Australian food safety standards and relevant codes of practice.

Pre-requisite Unit

Nil

Unit Sector

Food science and technology (FST)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify the sources and quality of water available to food processing plants	1.1 Identify current and possible future sources, and quality, of raw water 1.2 Identify the quality requirements of water for food processing operations

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Assess the chemical properties and suitability of water supplied from a range of sources, including water recycled from the food processing plant 1.4 Assess the consumption of non-recycled water, and formulate a reduction strategy
2. Identify raw water pre-treatment processes	2.1 Obtain data on quality of supplied water 2.2 Document the steps involved in water purification of that water 2.3 Identify water disinfection and pre-treatment methods and equipment
3. Apply efficient and sustainable water management principles to the food processing industry	3.1 Identify opportunities for reducing water usage 3.2 Identify sources and characteristics of waste water generated across the operation 3.3 Identify methods for treating and recycling water for reuse 3.4 Identify opportunities to reduce the volume of waste water and improve treatment methods 3.5 Review procedures for future water management and set critical limits 3.6 Document outcomes of review

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	- Interpret food safety, water management and environmental protection guidelines and regulations - Interpret water management procedures
Numeracy	- Analyse data resulting from testing of water - Determine calibration procedures and schedules for test equipment
Navigate the world of work	Monitor adherence to legal and regulatory standards and responsibilities for self and others

Skill	Description
Get the work done	Gather data and feedback to strengthen product quality and processes in the future

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPFST4012 Apply water management principles to the food industry	FDFST4012A Apply water management principles to the food industry	Updated to meet Standards for Training Packages Minor changes to Performance Criteria to clarify intent	Equivalent unit

Links

Companion Volume Implementation Guides are found in VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPFST4012 Apply water management principles to the food industry

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Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit.

There must be evidence that the individual has safely and effectively applied water management principles to the food industry on at least one occasion, including:

- assessing the chemical properties of water to determine its suitability for use in food processing
- identifying appropriate disinfection methods
- monitoring water usage for a food processing operation
- identifying opportunities to reduce water use and improve quality
- reviewing water management procedures in food processing to reduce volume of waste water and improve water quality.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- water quality requirements, including:
 - chemical specifications, including pH, total suspended solids (TSS), total dissolved solids (TDS), heavy metals
 - microbiological specifications, including BOD, presence of fecal coliform, bacteria, cryptosporidium, Giardia
- water purification processes in general
- water disinfection methodologies and systems suitable for the food processing industry, including chlorination, ozonation and UV irradiation
- waste water treatment (relevant to a food processing plant), including primary, secondary and tertiary waste water treatment stages
- waste stream characteristics and classification in relation to the food processing industry

- methods of reducing, reusing and recycling water in a food processing operation, including implementation and routine monitoring of waste reduction practices, and use of consumable, returnable, refillable or reusable packaging
- Commonwealth, state/territory legislation and local bylaws governing prescribed wastes
- legal requirements for water discharge
- regulations relating to the processing and disposal of food waste
- the major requirements contained in the environmental protection legislation, including state/territory environmental regulatory certification procedures, permits and waste discharge agreements.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace setting or an environment that accurately represents a real food processing workplace
- resources, equipment and materials:
 - testing and analysis equipment
 - water samples
- specifications:
 - methods and procedures for analysing and purifying water samples
 - water management procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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