

Modification history

Release	Comments
Release 1	This version released with SFI Seafood Industry Training Package Version 1.0.

SFIAQU219	Operate and maintain high technology water treatment components
Application	<p>This unit of competency describes the skills and knowledge required to operate, monitor, service and repair components used in high technology water treatment systems to keep water quality and environmental conditions within specified ranges for cultured or held stock.</p> <p>The unit applies to individuals who carry out routine and non-scheduled (emergency) maintenance and minor repairs on high technology water treatment components of a recirculating aquaculture system as used in the seafood industry and within an aquascape or holding tank in the ornamental or pet sector, under the direction of a supervisor.</p> <p>All work must be carried out to comply with workplace procedures, according to state/territory health and safety, food safety, biosecurity and environmental regulations, legislation and standards that apply to the workplace.</p> <p>No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
Prerequisite Unit	Nil
Unit Sector	Aquaculture (AQU)

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. Prepare to operate high technology water treatment components	1.1 Receive instructions from supervisor on high water treatment components operation requirements and confirm understanding 1.2 Select, fit and adjust personal protective equipment as required 1.3 Locate and carry out routine pre-operational checks and calibrations of components of the recirculating aquaculture system according to manufacturer instructions 1.4 Detect faulty components and report to supervisor 1.5 Identify abnormal operating and environmental conditions within the culture or holding structures or systems and report to supervisor
2. Operate and monitor high technology water treatment components	2.1 Operate automatic or mechanised equipment according to supervisor and manufacturer instructions and health and safety requirements 2.2 Measure critical flow rates and other water quality parameters and record data according to workplace procedures 2.3 Adjust operating components to optimise conditions for the culture or holding species 2.4 Check and test backup components for operational capacity 2.5 Report abnormal or non-standard conditions, and other risks to supervisor

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Maintain and repair high technology water treatment components	3.1 Confirm work plan or schedule and risks and contingency plans with supervisor 3.2 Collect basic tools, equipment, including personal protective equipment, spare parts and repair materials and take to worksite 3.3 Make basic repairs to sub-standard equipment and calibrate equipment following safe work practices 3.4 Service components and replace or repair worn or damaged parts according to supervisor and manufacturer instructions and health and safety requirements 3.5 Return components and water supply and disposal systems to working order 3.6 Check system for serviceability and performance, and report problems to supervisor
4. Finalise operation, monitoring and maintenance activities	4.1 Clean work area and dispose of waste materials safely according to health and safety and environmental requirements and workplace procedures 4.2 Check and store tools and equipment, reporting any identified repair requirements to supervisor 4.3 Record relevant data and observations and report any abnormal records to supervisor

Foundation Skills	
<i>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.</i>	
Skill	Description
Reading	<ul style="list-style-type: none"> Interpret text in workplace procedures, instructions and manufacturer specifications Interpret warning signs and safety data sheet (SDS) labels
Writing	<ul style="list-style-type: none"> Complete workplace maintenance and repair forms legibly and accurately
Numeracy	<ul style="list-style-type: none"> Analyse data to complete basic calculations Estimate and calculate volume and quantities of inputs and outputs of liquids, gases and solids Set and adjust measurement scale to calibrate equipment
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify job requirements Describe safety risks and abnormal records to supervisor using correct terminology
Interact with others	<ul style="list-style-type: none"> Follow accepted practices and protocols for reporting issues and seeking guidance from supervisors
Get the work done	<ul style="list-style-type: none"> Determine priorities and implement planned actions, taking some responsibility for sequencing and timing of tasks Use functions and features of high technology water treatment components and automated equipment

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
SFIAQU219 Operate and maintain high technology water treatment components	SFIAQUA219B Operate and maintain high technology water treatment components	Updated to meet Standards for Training Packages	Equivalent Unit

Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=e31d8c6b-1608-4d77-9f71-9ee749456273
--------------	---

TITLE	Assessment requirements for SFIAQU219 Operate and maintain high technology water treatment components
Performance Evidence	
<p>An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that the individual has operated and carried out routine maintenance and repairs on high technology water treatment components on at least one occasion including:</p> <ul style="list-style-type: none"> • communicating with and reporting to supervisor about the operation and maintenance of components • using personal protective equipment • carrying out maintenance and repairs to components according to work plan or schedule • carrying out routine monitoring and checks of equipment, flow rates and water quality • reporting non-standard conditions, problems and potential risks to supervisor • operating and monitoring high technology water treatment components • recording data relating to the operation and maintenance of high technology water treatment components • cleaning work area and equipment and storing tools and equipment • following health and safety and environmental requirements. 	
Knowledge Evidence	
<p>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:</p> <ul style="list-style-type: none"> • basic relationship of inputs (stock, feed, energy, water and labour) to outputs (wastes, product and water quality) • overview of complexity of system and interrelationship of components • fouling and other conditions likely to impact on water flow • how to interpret manufacturer specifications and recommendations • basic characteristics of normal and abnormal stock behaviour and role of environmental stress on the health and performance of stock • work health and safety relevant to operating and maintaining high technology water treatment components • operation and maintenance of automatic or mechanised equipment • features of water quality and optimal and critical limits for various parameters and non-standard conditions • relevant legislation relating to operating and maintaining high technology water treatment components. 	

Assessment Conditions	
<p>Assessment of this unit of competency must take place under the following conditions:</p> <ul style="list-style-type: none">• physical conditions:<ul style="list-style-type: none">• skills must be demonstrated in an aquaculture workplace setting or an environment that accurately represents workplace conditions• resources, equipment and materials:<ul style="list-style-type: none">• basic tools and equipment to complete repairs and maintenance• equipment to operate the system and maintain water quality• personal protective equipment• recirculating aquaculture system (RAS) with high technology components• spare parts and repair materials• water monitoring equipment• data or recording sheets.• specifications:<ul style="list-style-type: none">• specific instructions, work plan or schedule and workplace procedures for operating and maintaining high technology water treatment components, including advice on health and safety and environmental requirements• manufacturer instructions for operation and maintenance of tools and equipment• relationships:<ul style="list-style-type: none">• interactions with supervisor. <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=e31d8c6b-1608-4d77-9f71-9ee749456273