



Australian Government

SFIAQU307 Monitor the operations of a recirculating aquaculture system

Release: 2

SFIAQU307 Monitor the operations of a recirculating aquaculture system

Modification History

Release	Comments
Release 2	This version released with SFI Seafood Industry Training Package Version 2.0.
Release 1	This version released with SFI Seafood Industry Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to monitor the operation and maintenance of a recirculating aquaculture system (RAS) used to grow or hold stock. It includes the ability to brief team members on operations and routine maintenance, and record and analyse data.

The unit applies to individuals who are responsible for monitoring processes and operations in an aquaculture environment, who work under broad direction.

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.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Aquaculture (AQU)

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>

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1. Plan for the operation of a recirculating aquaculture system	1.1 Interpret and confirm operations and routine maintenance work plan or schedule with supervisor 1.2 Confirm labour and equipment or technology requirements with supervisor 1.3 Identify workplace requirements for optimal ranges for basic environmental parameters, advanced environmental parameters and water quality parameters affecting cultured or held stock 1.4 Confer with team members on basic operations and routine maintenance according to work plan or schedule 1.5 Confirm contingency plans and relay to team members
2. Optimise system operations	2.1 Identify appropriate components for operations, including personal protective equipment 2.2 Perform pre-operational checks and calibrations 2.3 Monitor culture conditions and operation of components, and adjust to optimise conditions 2.4 Alter operation or production schedule as required to compensate for factors affecting cultured or held stock during operations
3. Monitor maintenance schedule	3.1 Confirm maintenance schedule with team members 3.2 Monitor repairs and maintenance for pre-operation, standard operation and post-operation according to maintenance schedule 3.3 Arrange repair or replacement of worn or damaged components 3.4 Check and confirm optimal operation of components following maintenance
4. Finalise operation, monitoring and maintenance activities	4.1 Check cleaning of work area and disposal of waste materials are completed according to workplace procedures and environmental requirements 4.2 Check condition, maintenance requirements and storage of tools and equipment 4.3 Record relevant data and observations, and report any abnormal records to supervisor

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 work plan and operational and maintenance schedules - Interpret equipment manufacturer specifications and safety data sheet (SDS) labels
Writing	Complete workplace records and checklists legibly and accurately using correct technical terminology
Numeracy	- Estimate time and resources needed for required activities - Calculate volumes and quantities of treatments
Oral communication	Explain basic operations and routine maintenance requirements using language appropriate for audience
Interact with others	Collaborate, cooperate and assist others with job requirements
Get the work done	Use key functions and features of a recirculating aquaculture system to record data and observations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
SFIAQU307 Monitor the operations of a recirculating aquaculture system Release 2	SFIAQU307 Monitor the operations of a recirculating aquaculture system Release 1	Minor update to performance criteria and performance evidence for clarity regarding the use of technology	Equivalent

Links

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

Assessment Requirements for SFIAQU307 Monitor the operations of a recirculating aquaculture system

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Performance Evidence

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

There must be evidence that the individual has monitored the operations of a recirculating aquaculture system on at least one occasion, including:

- identifying and confirming work plan or maintenance schedule requirements with supervisor and team members
- identifying appropriate components and equipment or technology required to perform tasks, including the fitting of personal protective equipment
- applying risk assessment processes and controls to mitigate risk and minimise impact
- repairing and replacing components according to maintenance schedule
- performing checks and calibrations and adjusting systems as required against workplace parameters to optimise conditions for stock
- maintaining a clean and functional work area following monitoring and maintenance activities
- maintaining accurate records on monitoring and maintenance work.

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:

- procedures for the operation and maintenance of recirculating aquaculture system components
- main biological and environmental requirements of the culture or holding species
- key impacts of inputs on systems and component operation, such as maximum stocking, feeding and waste loads
- water quality, optimal and critical limits for various parameters and non-standard conditions

- health and safety practices and risks associated with operation and maintenance of recirculating aquaculture systems
- risk management for events, such as blackouts, brownouts and equipment breakdowns
- procedures for collecting data and recording and reporting on operation, monitoring and maintenance activities
- relevant legislation relating to monitoring operations of high technology water treatment components.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an aquaculture workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - personal protective equipment
 - recirculating aquaculture system components
 - water monitoring equipment
 - other equipment as needed to operate the system and maintain water quality
 - spare parts and repair materials
 - forms or systems for recording data
- specifications:
 - workplace requirements for basic and advanced environmental parameters, and water quality parameters for culture or holding stock
 - work plan, schedule or work instructions for the operation and maintenance of recirculating aquaculture system components
 - workplace procedures for operating and maintaining recirculating aquaculture systems
 - manufacturer instructions for operating and maintaining high technology water treatment system or components
- relationships:
 - evidence of interactions with supervisor and team members.

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

Links

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