Modification history

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

| SFIAQU410 | Implement a program to operate, maintain or upgrade a recirculating aquaculture system |
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| Application | This unit of competency describes the skills and knowledge required to plan, implement and monitor a program for the operation, maintenance, or upgrade of a recirculating aquaculture system.  The unit applies to individuals with the technical expertise to operate the system or facility, trial new processes and supervise staff within an aquaculture environment.  No occupational licensing, legislative or certification requirements apply to this unit at the time of publication. |
| Prerequisite Unit | Nil |
| Unit Sector | Aquaculture (AQU) |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Plan operation and maintenance of a recirculating aquaculture system | 1.1 Confirm operations, maintenance or design or upgrade specifications in the culture or holding system or facility with senior personnel  1.2 Draw up work plans or schedules, order materials, arrange labour and appropriate equipment according to specifications and in consultation with senior personnel  1.3 Check raw and prefabricated materials against delivery manifest or specifications  1.4 Prepare worksite according to specifications and secure for safety or loss prevention  1.5 Assess potential risks, including environmental and water quality parameters for the cultured or held stock, and prepare contingency plans  1.6 Brief staff members on work objectives relevant to the site, equipment being used and type of maintenance or upgrade activities  1.7 Quantify costs and confirm budget with senior personnel |
| 2. Implement operations, maintenance or upgrade program | 2.1 Implement work plan to minimise disruption to workplace operations and stress to cultured or held stock  2.2 Monitor progress of maintenance or upgrade program against the work plan, and adjust for unforeseen circumstances  2.3 Confirm availability of required materials, resource and supply provisions, and labour  2.4 Anticipate, avoid or minimise hazards and environmental implications and other potential problems through contingency planning |
| 3. Monitor operations, maintenance or upgrade activities | 3.1 Monitor operations, maintenance or upgrade activities and component or system performances against maintenance or upgrade plan  3.2 Monitor costs within workplace budget requirements  3.3 Give feedback to staff members on work progress and performance  3.4 Prepare records or reports to management on project progress  3.5 Check and ensure that the maintained or upgraded system or facility fits maintenance or design specifications and is effective and operable  3.6 Check budget for operations, maintenance or upgrade and report major discrepancies to senior personnel |
| 4. Finalise and review operations, maintenance and upgrade activities | 4.1 Supervise clean-up of work area, including repairs and storage of equipment  4.2 Record relevant operations, maintenance and upgrade data, observations or information and check any abnormal records  4.3 Prepare required reports for senior personnel |

| 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. | |
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| Skill | Description |
| Reading | * Interpret operational and maintenance schedules and workplace procedures * Interpret equipment manufacturer specifications and operating instructions * Analyse design plans to determine requirements |
| Writing | * Write reports using workplace format, technical information and data |
| Numeracy | * Calculate and estimate volumes, measurements and quantities of inputs and outputs of liquids, gases and solids * Estimate and calculate resource costs and reconcile against budget |
| Oral communication | * Participate in verbal exchanges to report and present information and provide feedback to a range of personnel |
| Navigate the world of work | * Work independently and collectively within broad parameters taking responsibility for plans, decisions and outcomes relating to work area |
| Get the work done | * Plan and coordinate multiple and relatively complex activities and resources to achieve work outcomes * Use systematic processes to assess options that take into consideration a range of relevant factors and make improvements to a system or facility using high technology water treatment components |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| SFIAQU410 Implement a program to operate, maintain or upgrade a recirculating aquaculture system | SFIAQUA410B Implement a program to operate, maintain or upgrade a system comprising high technology water treatment components | Updated to meet Standards for Training Packages.  Revised title and minor amendments to performance criteria for clarity. | Equivalent unit |

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| 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 SFIAQU410 Implement a program to operate, maintain or upgrade a recirculating aquaculture system |
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| Performance Evidence | |
| An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that the individual has implemented a program to operate, maintain or upgrade a recirculating aquaculture system on at least one occasion including:   * planning, costing and scheduling the operations, maintenance or upgrade for the system * implementing and monitoring the operations, maintenance or upgrade for the system * communicating information about operations, maintenance and upgrades to the work team and senior personnel * documenting plans, maintaining accurate records and writing reports. | |

| Knowledge Evidence |
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| 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:   * relevant legislative requirements relating to recirculating aquaculture systems * approaches to coordinating operations * impacts of inputs on systems and component operation and on maximum operation loads * requirements for record keeping, data collection and analysis * forward planning and risk management for events, such as blackouts, brownouts and equipment breakdowns * importance of optimised production to achieve sound economic outcomes * mechanical and technical aspects of recirculation systems, including energy use, mass balance, water hydraulics and flow, and pumps and pipe work * monitoring basic and advanced environmental and water quality parameters. |

| Assessment Conditions |
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| Assessment of 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: * recirculation aquaculture system to be maintained or upgraded * specifications: * documentation relevant to the operations, maintenance or upgrade program, including design specifications for the components, system or facility to be maintained or upgraded * workplace forms and recording technology * relationships: * interactions with senior personnel and staff.   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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