



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **SFIFISH311A Operate vessel deck machinery and lifting appliance**

**Release: 1**

## **SFIFISH311A Operate vessel deck machinery and lifting appliance**

### **Modification History**

Not Applicable

## Unit Descriptor

<p><b>Unit descriptor</b></p>	<p>This unit of competency involves operating basic deck machinery and lifting appliances aboard an aquaculture or fishing vessel, including loading and discharging goods, rope work, assisting in mooring operations, and operating cranes, winches, capstans and windlasses.</p> <p>Licensing, legislative, regulatory or certification requirements may apply to these duties. Therefore it will be necessary to check with the relevant state or territory regulators for current licensing, legislative or regulatory requirements before undertaking these duties.</p>
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## Application of the Unit

<p><b>Application of the unit</b></p>	<p>This unit has application to skippers, engineers and deckhands who operate vessel deck machinery and lifting appliances aboard a vessel where a licence or permit is not required. Units for load shifting that require operators to meet regulatory requirements are covered by specific units from TLI07 Transport and Logistics Training Package. Several such units are imported into this version of the SFI10 Seafood Industry Training Package:</p> <p>Work is performed under general supervision. It involves the application of routine principles and procedures to the operation of load handling machinery and appliances in a variety of operational contexts. If work involves entering dangerous and enclosed spaces safe work policy and procedures must be followed.</p> <p>All enterprise or workplace procedures and activities are carried out according to <i>relevant government regulations, licensing and other compliance requirements</i>, including <i>occupational health and safety (OHS) guidelines</i>, maritime and occupational diver codes of practice and procedures and <i>ecologically sustainable development (ESD) principles</i>.</p> <p>Equipment operation, maintenance, repairs and calibrations are undertaken in a safe manner that conforms to manufacturer instructions. Appropriate <i>personal protective equipment (PPE)</i> is selected, checked, used and maintained.</p>
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## Licensing/Regulatory Information

Refer to Unit Descriptor

## Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Use and maintain ropes, slings and chains used for lifting or hauling operations</p>	<p>1.1. <b>Operations</b> are carried out safely.</p> <p>1.2. Rope, sling and chain materials, methods of construction, measurement methods, physical characteristics and common areas of use are correctly identified for the operation.</p> <p>1.3. Load is constantly monitored to ensure load and structural stability</p> <p>1.4. Ropes, slings and chains are checked for wear, maintained and stowed correctly.</p> <p>1.5. Ropes, slings and chains are used for lifting or hauling operations according to their correct application.</p> <p>1.6. Routine post-operational equipment checks are carried out according to manufacturer specifications.</p>
<p>2. Operate cranes, winches, capstans and windlasses</p>	<p>2.1. Operations are undertaken according to safe operating procedures of the <b>enterprise and manufacturer guidelines</b>.</p> <p>2.2. Cranes, winches, capstans and windlasses are selected, as appropriate to their design specifications, checked and prepared for operation prior to use.</p> <p>2.3. Required signals are correctly given, interpreted and followed according to appropriate Australian standards.</p> <p>2.4. Securing of the vessel at anchor, to another vessel, to a sea cage or wharf is carried out according to established safety rules and regulations.</p> <p>2.5. Load mass is assessed and correlated with lifting capacity of equipment being used throughout proposed operation.</p> <p>2.6. Cranes, winches, capstans and windlasses are safely operated to carry out lifting or hauling operations.</p> <p>2.7. Work area is kept free of loose ropes, wires and debris throughout all operations.</p> <p>2.8. Equipment controls are operated smoothly.</p>
<p>3. Maintain the stability of the vessel whilst conducting lifting or hauling operations</p>	<p>3.1. Stability data is accessed and correctly interpreted.</p> <p>3.2. Stability criteria are applied whilst conducting lifting and hauling operations.</p> <p>3.3. Vessel stability is monitored against criteria appropriate to the type and nature of the operation.</p> <p>3.4. Appropriate and prompt action is taken where</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>stability factors have or could exceed acceptable safety limits.</p> <p>3.5. Special precautions are taken where vessel operations may affect the stability and watertight integrity of the vessel.</p> <p>3.6. Timely and appropriate action is taken in anticipation of <i>environmental changes</i> that may affect the stability of the vessel.</p> <p>3.7. Appropriate action is taken in emergency situations to maintain the stability of the vessel within safe limits.</p> <p>3.8. Instructions to others concerning vessel stability and related action are appropriate, timely, clear and concise.</p>
4. Shut down and stow deck machinery and lifting equipment	<p>4.1. All deck machinery and lifting and hauling equipment components are checked for any signs of deterioration or damage according to company guidelines and manufacturer instructions.</p> <p>4.2. Damaged or worn equipment is segregated and reported to an authorised person for testing/repair/destruction.</p> <p>4.3. Lifting and hauling equipment is correctly stowed and secured according to company policy and procedures and manufacturer instructions</p> <p>4.4. Deck machinery and equipment is immobilised and secured for travel according to manufacturer instructions, workplace guidelines and regulatory requirements</p> <p>4.5. Required workplace records are updated accurately and promptly and processed according to workplace procedures.</p> <p>4.6. All certified lifting equipment is regularly checked and authorised according to government OHS regulations.</p>

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

**REQUIRED SKILLS AND KNOWLEDGE****Required skills**

- applying fatigue management knowledge and techniques
- applying precautions and required actions to minimise, control or eliminate hazards that may exist during the operation of deck machinery and lifting equipment
- assisting in different types of mooring operations
- checking and replenishing fluids and carrying out lubrication processes in the course of work activities
- communicating effectively with others when operating deck machinery and equipment
- completing documentation related to the operation of lifting equipment
- implementing contingency plans for unanticipated situations that may arise when operating deck machinery and lifting equipment
- interpreting and following operational instructions and prioritising work
- letting go and weighing anchor
- modifying activities depending on differing operational contingencies, risk situations and weather conditions
- monitoring performance of deck machinery and lifting equipment and taking appropriate action, where required
- operating electronic communication equipment to required protocol
- promptly reporting and/or rectifying any identified problems, faults or malfunctions that may occur when operating deck machinery or lifting equipment according to regulatory requirements and workplace procedures
- reading and interpreting instructions, procedures, information and signs relevant to the operation of the deck machinery on board the vessel
- selecting and using required PPE conforming to industry and OHS standards
- servicing equipment in terms of maintenance schedule and standard operating procedures (SOPs)
- using different anchoring and mooring winches
- using and identifying synthetic rope and wire mooring lines:
  - back springs
  - bow and stern ropes
  - breast lines
  - fore and aft springs
- using and maintaining ropes and wires:
  - coiling and stowing ropes
  - using appropriate knots, bends and hitches and securing arrangements
- using power operated equipment:
  - capstans
  - cranes and derricks
  - winches associated with fishing

**REQUIRED SKILLS AND KNOWLEDGE**

- working collaboratively with others when operating deck machinery and lifting equipment.

**Literacy skills used for:**

- reading safety rules and regulations.

**Numeracy skills used for:**

- estimating safe working loads of ropes, wires, chains and slings
- reading levels of tanks and void spaces
- reading temperature-monitoring devices.

**Required knowledge**

- how to maintain the stability of a vessel
- information relating to:
  - application of relevant agreements, codes of practice or other legislative requirements
  - company work procedures concerning the setting up and rigging of lifting equipment on board the vessel
  - different configurations of mooring lines for various parts of a vessel
  - hazards that could occur if the operation is not controlled properly
  - relevant OHS and environmental procedures and regulations
  - status of safety equipment
  - the method of operation of cargo lifting and securing equipment
- principles relating to:
  - how a vessel is made fast to the wharf, sea cage or another vessel
  - mooring systems, including the specific functions of the mooring leads
  - the correct application of common knots, bends and hitches
- procedures relating to:
  - operating powered equipment in all modes, including emergency operation
  - operation of deck machinery and lifting equipment applications, capacities, configurations, safety hazards and control mechanisms
  - preparing deck machinery for use in ambient conditions
  - problems that may arise when operating deck machinery or lifting equipment and actions that should be taken to prevent or solve them
  - splicing rope and tying common knots, bends and hitches.



## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment evidence required to demonstrate competence in this unit</b>	<p>Assessment must confirm the ability to:</p> <ul style="list-style-type: none"> <li>• assist in mooring operations</li> <li>• communicate effectively with others when operating deck machinery and lifting equipment</li> <li>• safely operate vessel deck machinery and lifting appliances according to enterprise procedures and manufacturer guidelines whilst maintaining the stability of the vessel.</li> </ul> <p>Assessment must confirm knowledge of:</p> <ul style="list-style-type: none"> <li>• correct application of common knots, bends and hitches</li> <li>• factors that affect the stability of a vessel</li> <li>• principles of maintaining stability whilst operating vessel deck machinery and lifting appliances</li> <li>• OHS hazards and control mechanisms associated with the operation of vessel deck machinery and lifting appliances</li> <li>• operation principles of deck machinery and lifting equipment</li> <li>• principles relating to mooring systems.</li> </ul>
<b>Context of and specific resources for assessment</b>	<p>Assessment is to be conducted at the workplace or in a simulated work environment.</p> <p>Resources may include:</p> <ul style="list-style-type: none"> <li>• appropriate ropes, slings and/or chains</li> <li>• other crew</li> <li>• relevant vessel deck machinery and lifting appliances and associated manufacturer guidelines and enterprise procedures for its use</li> <li>• vessel or simulator that can respond to a range of stability variables.</li> </ul>

<b>EVIDENCE GUIDE</b>	
<b>Method of assessment</b>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> <li>• third-party evidence from supervisor</li> <li>• practical simulated activities on shore</li> <li>• range of appropriate activities undertaken on a vessel and documented in a log</li> <li>• written and/or oral tests.</li> </ul>
<b>Guidance information for assessment</b>	This unit may be assessed holistically with other units within a qualification.

## Range Statement

<b>RANGE STATEMENT</b>	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><b><i>Relevant government regulations, licensing and other compliance requirements</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• biodiversity and genetically modified organisms</li> <li>• biosecurity, translocation and quarantine</li> <li>• business or workplace operations, policies and practices</li> <li>• environmental hazard identification, risk assessment and control</li> <li>• OHS hazard identification, risk assessment and control.</li> </ul>
<p><b><i>OHS guidelines</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• appropriate workplace provision of first aid kits and fire extinguishers</li> <li>• clean, uncluttered, hygienic workplace</li> <li>• codes of practice, regulations and/or guidance notes which may apply in a jurisdiction or industry sector</li> <li>• enterprise-specific OHS procedures, policies or standards</li> <li>• hazard and risk assessment of workplace, maintenance activities and control measures</li> <li>• induction or training of staff, contractors and</li> </ul>

<b>RANGE STATEMENT</b>	
	<p>visitors in relevant OHS procedures and/or requirements to allow them to carry out their duties in a safe manner</p> <ul style="list-style-type: none"> <li>• OHS training register</li> <li>• safe lifting, carrying and handling techniques, including manual handling, and the handling and storage of hazardous substances</li> <li>• safe systems and procedures for outdoor work, including protection from solar radiation, fall protection, confined space entry and the protection of people in the workplace</li> <li>• systems and procedures for the safe maintenance of property, machinery and equipment, including hydraulics and exposed moving parts</li> <li>• the appropriate use, maintenance and storage of PPE.</li> </ul>
<i>ESD principles</i> may include:	<ul style="list-style-type: none"> <li>• controlling effluents, chemical residues, contaminants, wastes and pollution</li> <li>• improving energy efficiency</li> <li>• increasing use of renewable, recyclable and recoverable resources</li> <li>• minimising noise, dust, light or odour emissions</li> <li>• preventing live cultured or held organisms from escaping into environment</li> <li>• reducing energy use</li> <li>• reducing emissions of greenhouse gases</li> <li>• reducing use of non-renewable resources</li> <li>• undertaking environmental hazard identification, risk assessment and control</li> <li>• undertaking facility quarantine, biosecurity and translocation of livestock and genetic material</li> <li>• using and recycling of water, and maintaining water quality.</li> </ul>
<i>PPE</i> may include:	<ul style="list-style-type: none"> <li>• hard hat or protective head covering</li> <li>• non-slip and waterproof boots (gumboots) or other safety footwear</li> <li>• sunscreen, protective eyewear, glasses and face mask</li> <li>• uniforms, overalls or protective clothing (e.g. mesh and waterproof aprons, and gloves)</li> <li>• two-way radios</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• high visibility clothing</li> </ul>
<i>Operations</i> may include:	<ul style="list-style-type: none"> <li>• anchoring:               <ul style="list-style-type: none"> <li>• emergency</li> <li>• letting go and recovery</li> <li>• routine</li> </ul> </li> <li>• anchor winches</li> <li>• at sea and ashore</li> <li>• cable and rope winches</li> <li>• communications and signalling</li> <li>• day or night</li> <li>• hydraulic, electric and mechanical</li> <li>• in a variety of weather conditions</li> <li>• mooring:               <ul style="list-style-type: none"> <li>• mooring and unmooring to a single point</li> <li>• berthing and unberthing to a wharf</li> <li>• berthing and unberthing to a sea cage</li> <li>• berthing and unberthing to another vessel</li> <li>• adjustment from both fore and aft mooring positions</li> <li>• rigging and recovering means of access to the vessel</li> </ul> </li> <li>• net haulers</li> <li>• pot or trap haulers</li> <li>• powered winch, capstan and windlass</li> <li>• three, four or eight-strand rope</li> <li>• vessel mounted crane</li> <li>• wire rope.</li> </ul>
<i>Enterprise and manufacturer guidelines</i> may include:	<ul style="list-style-type: none"> <li>• communications technology equipment, oral, aural or signed communications</li> <li>• competency standards and training materials</li> <li>• induction documentation</li> <li>• job specifications and procedures</li> <li>• manufacturer specifications for deck machinery, lifting and hauling equipment</li> <li>• material safety data sheets (MSDS)</li> <li>• operations manuals for deck machinery, lifting and hauling equipment</li> <li>• personal and work area work procedures and practices</li> <li>• safe working load (SWL) and working load</li> </ul>

<b>RANGE STATEMENT</b>	
	limit (WLL) <ul style="list-style-type: none"> <li>• workplace operating procedures and policies.</li> </ul>
<i>Environmental changes</i> that may affect vessel stability may include:	<ul style="list-style-type: none"> <li>• movement of:               <ul style="list-style-type: none"> <li>• equipment</li> <li>• goods/cargo</li> <li>• materials</li> <li>• other vessel traffic</li> <li>• sea cage</li> <li>• vessel as a result of weather or sea conditions.</li> </ul> </li> </ul>

### Unit Sector(s)

<b>Unit sector</b>	Fishing operations
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### Co-requisite units

<b>Co-requisite units</b>		

### Competency field

<b>Competency field</b>	
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