



Australian Government

Department of Education, Employment and Workplace Relations

TDMMR5107B CARRY OUT WINDLASS OPERATIONS ON A RIG

Revision Number: 1

TDMMR5107B CARRY OUT WINDLASS OPERATIONS ON A RIG

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required by Integrated Ratings when carrying out pre-operational checks and operating the windlasses on a commercial oil and/or gas rig, including performing pre-operational checks on the windlasses; greasing the machinery; operating the windlasses when running or recovering anchors or when repositioning a rig; and exercising all required safety, environmental and hazard control precautions and procedures during the operation and routine maintenance of the windlasses.

Application of the Unit

Application of the unit	The unit has application in the qualification for an Integrated Rating, i.e. Certificate III in Transport&Distribution(Maritime Operations - Integrated Rating).
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Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant sections of STCW 95 and Marine Orders under the Australian Navigation Act 1912, describing the specific requirements for Integrated Ratings.
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Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Perform pre-operation al checks on the windlass	a Briefing meeting is attended prior to windlass operations and information is obtained and interpreted on the proposed work program and any unusual aspects of job or hazards that may be encountered
	b The condition of windlasses are checked as per established procedures
	c Where checks confirm operability of windlasses, appropriate action is taken to advise forthcoming shift
	d Where checks reveal that machinery is not working to satisfaction or specification, the problem is reported immediately and if required, the windlass is shut down in accordance with established procedures
	e Pre-shift greasing of windlasses, including fairleads, is completed in accordance with established procedures
	f Appropriate action is taken to ensure the auto greasing system has adequate grease to complete windlass operations
	g Checks are made that the spline clutch is engaged prior to windlass operation
ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
2 Operate windlass	<ul style="list-style-type: none"> a Windlasses are operated for running or recovering anchors or for the repositioning of the rig as per standard operating procedures b Hand held radios are maintained at hand and are used as required when operating anchor windlasses c Operation of the windlasses is monitored in accordance with established procedures d During windlass operations care is taken that the specific amp rating for the motor is not exceeded e Pay out speed is monitored during windlass operations to ensure maximum rating is not exceeded f Chain tension and load indicators are monitored to ensure operations are within equipment operating limits g Where the machinery is found to be not working satisfactorily or to specification, the problem is reported immediately and if required, the windlass is shut down in accordance with established procedures h In situations where a rig is being repositioned and the PCC is secured to the rig, care is taken to ensure it does not get fouled up in the chain, resulting in structural damage to the rig i Windlasses are shut down in accordance with established procedures
3 Coordinate windlass operations with other vessel operations	<ul style="list-style-type: none"> a Deck operations are monitored during windlass operations to ensure crew safety b Lines of communication, both radio and visual, are established and maintained with the master and deck crew c All crew are kept informed of cable movements and loadings d Windlass operations are coordinated with vessel movements and deck operations

ELEMENT	PERFORMANCE CRITERIA
4 Follow safety and hazard control procedures	<ul style="list-style-type: none">a All required safety precautions and regulations are followed when carrying out windlass operations and basic maintenanceb Operational hazards are identified and action is taken in conjunction with others to minimise or eliminate risk to personnel, vessel and the environment

ELEMENT	PERFORMANCE CRITERIA
4 Follow safety and hazard control procedures (continued)	<ul style="list-style-type: none">c In an emergency or safety incident, the air-operated brakes are applied, the winch is disengaged and power is removed from the winch in accordance with established emergency proceduresd Emergency and contingency plans are followed in the event of a failure or emergency during windlass operations

Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Applicable sections of Safe Working Code of Practice for the Australian Offshore Support Vessel Industry and relevant maritime regulations
- 2 ISM Code safety management system plans, procedures, checklists and instructions as they relate to the operation and maintenance of the windlasses on an off-shore oil and/or gas rig
- 3 Relevant OH&S and pollution control legislation and policies
- 4 Procedures for the pre-operational checks and operation of the windlasses on an off-shore oil and/or gas rig
- 5 Basic maintenance procedures for windlasses on a rig
- 6 Precautions to be taken prior to operating a windlass on a rig, including:
 - a attendance at briefing meeting on windlass operations
 - b checking that the chain locker seals are open prior to operating the winch to prevent damage to the seals
 - c ensuring that the spline clutch is engaged prior to windlass operation
 - d ensuring that hand-held radios are operational and communications are established prior to and during windlass operations
- 7 Operating characteristics and features of windlasses used when servicing an off-shore oil and/or gas rig
- 8 Established procedures for using windlasses on a rig
- 9 Procedures for identifying and reporting of faulty or out-of-specification operation of windlasses
- 10 Rig mooring procedures
- 11 Hazards and related safety precautions when operating and maintaining windlasses, including:
 - a excessive pay out speed
 - b excessive chain tension
 - c noise

REQUIRED KNOWLEDGE

- d fouling of chain by the PCC during the repositioning of a rig
- 12 Communication equipment and techniques required during winch operations, including hand-held radios

REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Use verbal and other communication techniques required when carrying out windlass operations on an oil or gas rig
- 2 Read, interpret and apply standard operating procedures for carrying out windlass operations on an oil or gas rig, including all required OH&S procedures and precautions
- 3 Read and interpret material safety data sheets
- 4 Observe and interpret indications of equipment performance
- 5 Complete any required operational and maintenance records
- 6 Carry out calculations required during windlass operations on an oil or gas rig
- 7 Work safely and collaboratively with others when carrying out windlass operations on an oil or gas rig
- 8 Select and use relevant tools and equipment as per instructions
- 9 Recognise faulty equipment and take appropriate action as per operating instructions
- 10 Recognise problems and hazards when carrying out windlass operations on an oil or gas rig and take appropriate preventative and corrective action
- 11 Adapt to differences in vessels, equipment and standard operating procedures
- 12 Operate windlass equipment as per standard operating procedures

Evidence Guide

Evidence Guide

TDMMR5107B CARRY OUT WINDLASS OPERATIONS ON A RIG

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

1 Critical aspects of evidence required to demonstrate competency in this unit	<p>Assessment must confirm appropriate knowledge and skills to:</p> <ul style="list-style-type: none"> a Perform pre-operational checks on windlasses b Carry out pre-operational precautions c Grease windlass machinery prior to operation d Operate windlasses for the running of anchors, when recovering anchors and when repositioning the rig e Coordinate windlass operations with other vessel operations f Ensure the exercise of all required safety, environmental and hazard control precautions and procedures during windlass operations g Communicate effectively with others during windlass operations
2 Evidence required for demonstration of consistent performance	<ul style="list-style-type: none"> a Performance is demonstrated consistently over a period of time and in a suitable range of contexts b Consistently applies underpinning knowledge and skills when: <ul style="list-style-type: none"> 1 performing pre-operational checks on windlasses 2 operating windlasses for the running of anchors, when recovering anchors and when repositioning the rig 3 exercising all required safety, environmental and hazard control precautions and procedures during windlass operations 4 communicating effectively with others during windlass

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| | operations |
| c | Shows evidence of application of relevant workplace procedures, including: <ol style="list-style-type: none"> 1 applicable sections of Safe Working Code of Practice for the Australian Offshore Support Vessel Industry 2 sections of relevant maritime regulations dealing with windlass operations on a rig 3 ISM Code and associated vessel's safety management system and procedures 4 OH&S regulations and hazard prevention policies and procedures 5 standard operating procedures and work instructions 6 windlass manufacturer's operating and maintenance specifications and instructions |

Evidence Guide (continued)**TDMMR5107B CARRY OUT WINDLASS OPERATIONS ON A RIG**

2 Evidence required for demonstration of consistent performance (continued)	<p>7 following shipboard housekeeping processes</p> <p>d Action is taken promptly to report operational incidents and problems in accordance with regulations and shipboard procedures</p> <p>e Work is completed systematically with required attention to detail</p> <p>f Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions among crew and others</p>
3 Context of assessment	<p>a Assessment of competency must comply with the assessment requirements of the relevant maritime regulations</p> <p>b Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a</p>

	<p>registered training organisation:</p> <ol style="list-style-type: none"> 1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and 2 Appropriate practical assessment must occur: <ol style="list-style-type: none"> i at the registered training organisation; and/or ii on an appropriate working or training vessel
4 Specific resources required for assessment	<p>Access is required to opportunities to:</p> <ol style="list-style-type: none"> a demonstrate the ability to carry out and pre-operational checks and operate windlasses on an oil or gas rig through appropriate case studies and practical exercises; and/or b carry out supervised pre-operational checks and operate windlasses on operational off-shore oil and/or gas rig

Range Statement

Range Statement

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The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

VARIABLE	SCOPE
1. GENERAL CONTEXT	
a. Work must be carried out:	<ol style="list-style-type: none"> 1 in compliance with Safe Working Code of Practice for the Australian Offshore Support Vessel Industry, relevant maritime regulations and the Petroleum (Submerged Lands) Act

Range Statement**TDMMR5107B CARRY OUT WINDLASS OPERATIONS ON A RIG**

b. Work is performed:	1 in accordance with established operational procedures, with some accountability and responsibility for self and others in achieving the required outcomes
c. Work involves:	1 the application of established procedures and techniques for the operation and maintenance of the windlasses at an offshore oil and/or gas rigs when running or recovering anchors or for the repositioning of the rig
d. Work requires:	1 the following of orders and instructions of the rig captain or the officer in charge of the watch

2. WORKSITE ENVIRONMENT

a Vessel may include:	1 any commercial off-shore oil and gas rig
b Windlass operation and pre-operational checks may be carried out:	1 by day or night in both normal and emergency situations 2 under any possible conditions of weather and sea 3 when running anchors 4 when recovering anchors 5 when repositioning of the rig
c Windlass operations may include:	1 hauling in 2 dynamic pay out 3 emergency pay out

Range Statement (continued)**TDMMR5107B CARRY OUT WINDLASS OPERATIONS
ON A RIG**

VARIABLE	SCOPE
d Pre-operational checks and routine maintenance activities may include:	<ol style="list-style-type: none"> 1 pre-operational checks of windlass performance and condition 2 checks that spline clutch is engaged prior to operation of a windlass 3 identification of any deterioration of winch performance 4 pre-shift greasing of windlasses 5 action to ensure auto greasing system has adequate grease 6 reporting of identified operational problems 7 shutting down of windlasses if required as a result of out of specification performance
e Pre-operational precautions include:	<ol style="list-style-type: none"> 1 attendance at briefing meeting on windlass operations 2 checks that the chain locker seals are open prior to operating the winch to prevent damage to the seals 3 checks that the spline clutch is engaged prior to windlass operation 4 confirmation that hand-held radios are operational and communications is established prior to and during windlass operations
f Operational hazards may include:	<ol style="list-style-type: none"> 1 noise 2 speed of pay out 3 moving heavy loads using unsafe lifting procedures

Range Statement (continued)**TDMMR5107B CARRY OUT WINDLASS OPERATIONS
ON A RIG**

	4	unsecured machinery, components or equipment
	5	ropes, wires and cables
	6	slippery deck
	7	sharp tools and implements
	8	moving and rotating machinery
	9	faulty machinery equipment handling equipment and lifting gear
	10	using equipment beyond safe working limits
	11	poor housekeeping procedures
	12	non-compliance with safe working procedures
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g Personal protective equipment may include:	1	ear muffs/plugs and goggles
	2	gloves
	3	life-jacket
	4	overalls

Range Statement (continued)**TDMMR5107B CARRY OUT WINDLASS OPERATIONS
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	SCOPE
VARIABLE	
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g Personal protective equipment may include:	5 steel capped boots
	6 sun glasses and sun hat
	7 vests

Range Statement (continued)**TDMMR5107B CARRY OUT WINDLASS OPERATIONS
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(continued)	8 wet weather gear
h Documentation and records may include:	<ol style="list-style-type: none"> 1 Safe Working Code of Practice for the Australian Offshore Support Vessel Industry 2 ISM Code safety management system plans, procedures, checklists and instructions 3 relevant IMO Conventions and Codes 4 AMSA Marine Orders 5 operational orders and instructions 6 manufacturer's manuals and specifications 7 material safety data sheets 8 rig and company procedures 9 instructions of relevant maritime authorities
i Applicable legislation, regulations and codes may include:	<ol style="list-style-type: none"> 1 Safe Working Code of Practice for the Australian Offshore Support Vessel Industry 2 relevant sections of IMO Conventions and Codes and AMSA Marine Orders 3 ISM Code 4 Marine Pollution Act (MARPOL) 5 Petroleum (Submerged Lands) Act 6 relevant international, Commonwealth, State and Territory OH&S legislation

Unit Sector(s)

Not applicable.

Field

Field R Carry Out Operations on Equipment and Systems

Relationship to other units

Relationship to other units	The unit must be assessed in conjunction with other units that relate to the functions of the occupation(s) concerned.
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