



Australian Government

Department of Education, Employment and Workplace Relations

TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL

Revision Number: 1

TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required to follow and apply established safety procedures, standards and regulations when working in an enclosed space on a vessel, and in particular, Australian Standard AS2865 *Safe working in a confined space*. This includes obtaining required permits to enter a confined space, completing all required planning and preparation prior to entering the confined space, following all permit conditions, planned procedures and necessary precautions upon entry, and taking appropriate action during a possible emergency that may occur while working in a confined space on a vessel.

Application of the Unit

Application of the unit	<p>The unit covers competency requirements for personnel who may be required to work in confined spaces on a vessel, including Master (Unlimited), Watchkeeper (Deck), Master (Less than 500 GT) and Integrated Rating, i.e. Advanced Diploma of Transport&Distribution(Maritime Operations - Master Unlimited), Diploma of Transport&Distribution(Maritime Operations - Deck Watchkeeper), Certificate III in Transport&Distribution(Maritime Operations - Integrated Rating).</p>
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Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant maritime regulations describing training requirements for personnel who may be required to work in a confined space on a vessel. This includes relevant sections of Marine Orders dealing with entry into confined spaces and Australian Standard AS 2865 <i>Safe working in a confined space</i> .
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Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.</i>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Obtain permission to enter a confined space on a vessel	<ul style="list-style-type: none"> a Permission to enter and work in a confined space is sought from authorised personnel on the vessel in accordance with regulatory requirements and Australian Standard AS2865 b Permit for the entry into a confined space is completed and submitted for approval to the Master or other designated person as per regulatory requirements and Australian Standard AS2865 c Dependent on the type of work to be conducted other required permit(s) to work are submitted to the master or other designated person for approval

ELEMENT	PERFORMANCE CRITERIA
<p>2 Prepare to enter a confined space on a vessel</p>	<ul style="list-style-type: none"> a An appropriate plan is prepared for the completion of the work activity in the confined space, including an associated emergency rescue plan b Confined space is isolated as per regulatory requirements and Australian Standard AS2865 c Checks are made to confirm that all permit conditions and requirements have been fulfilled d Appropriate tests are arranged to be carried out on the atmosphere in the confined space by designated personnel using necessary testing equipment and procedures e Space is ventilated as per regulatory requirements and Australian Standard AS2865 f Hazards and risks associated with the confined space are identified and suitable risk-management strategies are established g Suitable personal protective equipment is obtained and prepared for use h Checks are made to ensure that the entry point and work area within the confined space are suitably illuminated to required standards i Standby persons are arranged to be in attendance as per regulatory requirements and Australian Standard AS2865 j Communication system to be used while in the confined space is established with relevant personnel k Access arrangements are checked to establish an appropriate strategy for the recovery of injured and unconscious persons in the event of an emergency or accident l Procedures for entering and exiting the confined space are established in collaboration with other crew who may be involved as well as all standby and authorised personnel

ELEMENT	PERFORMANCE CRITERIA
	<p>m All required emergency and rescue arrangements are organised to be in place as per regulatory requirements and Australian Standard AS2865</p>
<p>3 Enter and work in a confined space on a vessel</p>	<p>a Plan for entering and working in the confined space is closely followed during work activities, including the use of agreed communication arrangements</p> <p>b All required personal protective equipment and other safety equipment is selected and used in accordance with regulatory requirements throughout work activities in the confined space</p> <p>c Atmosphere and other hazards within the confined space are continuously monitored using established processes</p>

ELEMENT	PERFORMANCE CRITERIA
<p>3 Enter and work in a confined space on a vessel (continued)</p>	<p>d All persons involved and all equipment used is accounted for during and after the work activity in the confined space</p> <p>e Entry point to the confined space is secured after entry as per regulatory requirements and Australian Standard AS2865</p>
<p>4 Take appropriate action during an emergency while in a confined space on a vessel</p>	<p>a Planned and rehearsed emergency and rescue procedures are followed in the event of an accident or other emergency while in an enclosed space</p> <p>b Shipboard and shoreside emergency services personnel are alerted in the event of an emergency as per regulatory requirements and Australian Standard AS2865</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Relevant maritime regulations applicable to the entry of shipboard personnel into a confined space on a vessel
- 2 Australian Standard AS2865 Safe working in a confined space (as it relates to maritime vessels)
- 3 Hazards and related risk management strategies for the entry of shipboard personnel into a confined space on a vessel, including but not limited to:
 - a oxygen deficiency or excess
 - b toxic liquids, solids, vapours, gases and dusts
 - c flammable or explosive liquids, vapours, gases and dusts
 - d harmful non-toxic or non-explosive dusts
 - e external hazards connected to or adjacent to the space
 - f restricted access and movement making escape and rescue difficult
 - g poor visibility and lighting
 - h slippery conditions that may result in injury from falls
 - i corroded or otherwise damaged ladders and landings
 - j engulfment by 'fluid' cargo such as grain
 - k atmospheric conditions such as high temperature and humidity that cause fatigue

REQUIRED KNOWLEDGE

- 4 Procedures for first aid and cardio-pulmonary resuscitation in the event of an emergency in a confined space on a vessel
- 5 Characteristics and requirements of tools and equipment suitable for use in the hazardous environment of a confined space on a vessel
- 6 Special procedures and permit requirements for particular types of work in confined spaces on a vessel such as hot work, painting, cleaning, working at heights, etc.
- 7 Emergency entry and exit procedures
- 8 Procedures for the use of safety and personal protective equipment
- 9 The role of standby personnel while a person enters and works in a confined space on a vessel
- 10 Communication techniques used when entering and working in a confined space on a vessel

REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Use basic verbal communication skills required when entering and working in a confined space on a vessel
- 2 Read and interpret regulations, Australian Standard AS2865 and permit requirements, instructions and procedures for the entry of shipboard personnel into a confined space on a vessel
- 3 Work safely and collaboratively with others when entering and working in a confined space on a vessel
- 4 Select and use safety and personal protective equipment
- 5 Recognise risks and hazards that may occur when entering and working in a confined space on a vessel and take appropriate action as per Australian Standard AS2865
- 6 Complete required documents related to entry into a confined space on a vessel
- 7 Adapt to any changes in conditions and hazards in a confined space
- 8 Use emergency and safety equipment as per operating instructions

REQUIRED SKILLS

- 9 Recognise faulty emergency, safety and personal protective equipment and take appropriate action

Evidence Guide

Evidence Guide

TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL

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.

<p>1 Critical aspects of evidence required to demonstrate competency in this unit</p>	<p>Assessment must confirm appropriate knowledge and skills to:</p> <ul style="list-style-type: none"> a Obtain permission to enter a confined space on a vessel, including completing required permits to work b Prepare to enter a confined space on a vessel c Safely enter and work in a confined space on a vessel d Continuously monitor and check conditions and hazards when working in a confined space on a vessel e Follow procedures as detailed in AS 2865 Safe working in a confined space for the use of various safety, personal protective and emergency equipment when entering and working in a confined space on a vessel f Take appropriate action during an emergency while in a confined space on a vessel g Communicate effectively with others when working in a confined space on a vessel and during emergencies
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Evidence Guide**TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL**

2 Evidence required for demonstration of consistent performance	<p>a Performance is demonstrated consistently over a period of time and in a suitable range of contexts</p> <p>b Consistently applies underpinning knowledge and skills when:</p> <ol style="list-style-type: none"> 1 obtaining permission to enter a confined space on a vessel 2 preparing to enter a confined space on a vessel 3 safely entering and working in a confined space on a vessel 4 continuously monitoring and checking conditions and hazards when working in a confined space on a vessel 5 using various safety, personal protective and emergency equipment when entering and working in a confined space on a vessel 6 taking appropriate action during an emergency while in a confined space on a vessel 7 communicating effectively with others when working in a confined space on a vessel and during emergencies <p>c Shows evidence of application of relevant workplace procedures, including:</p> <ol style="list-style-type: none"> 1 relevant maritime regulations and standards
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Evidence Guide (continued)**TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL**

2 Evidence required for demonstration of consistent performance (continued)	<ol style="list-style-type: none"> 2 OH&S regulations and hazard prevention policies and procedures 3 <i>AS 2865 Safe working in a confined space</i> 4 shipboard safety management system and procedures <p>d Action is taken promptly to identify, report and/or rectify hazards and emergency situations when working in a</p>
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Evidence Guide (continued)**TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL**

	<p>confined space on a vessel in accordance with established 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 between crew and others</p>
<p>3 Context of assessment</p>	<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 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
<p>4 Specific resources required for assessment</p>	<p>Access is required to opportunities to:</p> <p>a participate in a range of role plays, case studies and/or other simulated practical and knowledge assessments that demonstrate the skills and knowledge to follow regulations, Australian Standard AS2865, and operational and emergency procedures when working in a confined space on a vessel; and/or</p> <p>b follow regulations, Australian Standard AS2865, and operational and emergency procedures during real operations and simulated emergency situations when working in a confined space on an operational vessel</p>

Range Statement

Range Statement

TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL

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:	1 in compliance with the relevant maritime regulations and standards applicable to entry and work in a confined space on a vessel
b. Work is performed:	1 in a team environment with a standby person and some accountability for the safety of self and others
c. Work involves:	1 involves the application of established safe working and hazard control practices and procedures as defined in Australian Standard AS 2865 across a variety of normal and emergency situations when entering and working in a confined space on a vessel

2. WORKSITE ENVIRONMENT

a Vessel may include:	1 any Australian or international commercial vessel
b Safe working practices and hazard control strategies when entering a confined space must be	1 by day or night in both normal and emergency situations 2 under any permissible conditions of weather and loading 3 while underway 4 during berthing and unberthing operations

Range Statement**TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL****applied:**

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| 5 | while anchoring or mooring |
| 6 | When berthed, moored or anchored |
| 7 | when slipped or in dry dock |
| 8 | when bunkering |
| 6 | during cargo, fishing or passenger operations. |
| 7 | when refuelling operations |
| 8 | during cargo handling operations |

Range Statement (continued)**TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL**

VARIABLE	SCOPE
c Types of activities when working in a confined space on a vessel may include:	1 hot work 2 painting 3 survey 4 maintenance 5 cleaning 6 testing residuals 7 working at heights 8 working on ladders
d Hazards may include:	1 oxygen deficiency or excess 2 toxic liquids, solids, vapours, gases and dusts

Range Statement (continued)**TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL**

	3	flammable or explosive liquids, vapours, gases and dusts
	4	harmful non-toxic or non-explosive dusts
	5	external hazards connected to or adjacent to the space
	6	restricted access and movement making escape and rescue difficult
	7	poor visibility and lighting
	8	slippery conditions that may result in injury from falls
	9	corroded or otherwise damaged ladders and landings
	10	engulfment by 'fluid' cargo such as grain
	11	atmospheric conditions such as high temperature and humidity that cause fatigue
	12	electrical wiring and systems
	13	hot pipes and valves (steam, fuel oil, lubricating oil)
	14	cold pipes and valves (refrigeration and liquefied gas cargoes)
	15	working at heights
e Emergencies when working in a confined space on a vessel may include:	1	collapse or injury while in confined space
	2	fire
	3	explosion

Range Statement (continued)**TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL**

VARIABLE	SCOPE
f Personal protective equipment may include:	<ol style="list-style-type: none"> 1 eye and face protection 2 head protection such as helmets 3 foot protection such as boots 4 body protection such as gloves and full coverage protective clothing 5 hearing protection 6 respiratory protective equipment 7 hand protection 8 communications equipment 9 safety harness, safety line and rescue line
g Personnel who may be involved when working in a confined space include:	<ol style="list-style-type: none"> 1 master or other designated person in authority 2 standby person(s) 3 other members of the work team 4 shipboard emergency personnel 5 shoreside emergency personnel
h Hazard identification may include activities associated with:	<ol style="list-style-type: none"> 1 testing of the atmosphere in a confined space before work, entering and during work 2 continuous checking of the atmosphere, hazards and conditions in the confined space 3 checking of tools and equipment to ensure that they are intrinsically safe for the environmental conditions in the

Range Statement (continued)**TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL**

	confined space
1 Documentation and records may include:	<ol style="list-style-type: none"> 1 relevant Australian standards, including AS 2865 <i>Safe working in a confined space</i> 2 vessel's and company's safety management system plans, procedures, checklists and instructions 3 vessel's operational and emergency plans and procedures 4 records required under OH&S legislation: 5 safety and personal protective equipment manuals 6 permit to work documents for entering and working in a confined space 7 material safety data sheets

Range Statement (continued)**TDMMF5907A WORK SAFELY IN ENCLOSED SPACES ON A VESSEL**

VARIABLE	SCOPE
m Applicable legislation, regulations and codes may include:	<ol style="list-style-type: none"> 1 relevant sections of maritime regulations applicable to entry and work in a confined space on a vessel 2 AS 2865 <i>Safe working in a confined space</i> and other standards applicable to safe entry and work in a confined space on a vessel 3 OH&S regulations and codes of practice

Unit Sector(s)

Not applicable.

Field

Field MF Operational Quality and Safety

Relationship to other units

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