Australian Government

Department of Education, Employment and Workplace Relations

TDM50207 DIPLOMA OF TRANSPORT & DISTRIBUTION (MARINE ENGINEERING - ENGINEER WATCHKEEPER)

Release: 1

TDM50207 DIPLOMA OF TRANSPORT DISTRIBUTION(MARINE ENGINEERING - ENGINEER WATCHKEEPER)

Modification History

Not applicable.

Description

Rationale: A qualification aligned to the educational requirements for certification as an Engineer Watchkeeper as described in Marine Orders Part 3: Seagoing Qualifications (Version 6) under the Navigation Act 1912.

Successful completion will require competency in units that relate to work defined as characteristics of AQF Certificate 5:
'*The self-directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others. Applications involve participation in development of strategic initiatives, as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination and management may be involved*'.

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Employability Skills Summary for
TDM50207 - Diploma of Transport & Distribution (Marine Engineering - Engineer Watchkeeper)

The following table contains a summary of the employability skills as identified by the maritime industry for this qualification. This table should be interpreted in conjunction with the detailed requirements of each unit of competency packaged in this qualification. The outcomes described here are broad industry requirements that may vary depending on packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	• Use vessel's engine room communication systems and procedures • Listen to and interpret verbal information related to engine room watchkeeping functions and the operation and maintenance of the vessel • Read and interpret maritime regulations, engineering drawings, gauges and instrument readings, vessel's safety management system, vessel and equipment manufacturer's instructions, etc. • Speak clearly and directly on diverse matters related to engine room watchkeeping functions and engine room operation and maintenance • Write documents as part of engine room watchkeeping duties, including reports on equipment operation and maintenance, safety incident reports, entries in records, etc. • Negotiate issues with others in the course of engine room operations • Recognise and interpret non-verbal signs, signals and behaviour • Interpret and record observations and equipment readings and displays • Communicate with multilingual crew • Use engine room communication equipment and radio equipment
Teamwork	• Assist in the provision of leadership to the engine room personnel on the vessel • Assist in the resolution of any interpersonal conflicts that may arise on board the vessel • Motivate other crew members • Assist crew members to achieve and maintain competency • Avoid and prevent the harassment of others on the vessel

Employability Skill	**Industry/enterprise requirements for this qualification include**:
	• Collaborate with crew members in the course of vessel operations • Work with crew members of different ages, genders, race, religion, political persuasion, etc.

Employability Skill	Industry/enterprise requirements for this qualification include:
Problem solving	• Identify and solve or report problems arising in the course of engine room watchkeeping operations • Monitor and anticipate problems that may occur in the course of watchkeeping operations including hazards and risks and take appropriate action (e.g. avoidance of fire and explosion, avoidance of engine room hazards, etc.) • Manage hazards and risks in a range of engine room watchkeeping situations, (e.g. engine room hazards, operations in heavy weather and seas, etc.) • Use required analysis techniques required when carrying out maintenance program for propulsion, electrical and auxiliary systems in conjunction with the chief engineer and other crew members on the vessel • Use mathematics to solve problems such as various calculations related to the operation of propulsion and auxiliary plant and equipment
Initiative and enterprise	• Modify activities dependent on differing work situations and contingencies such as changes in the weather and sea conditions, changes in operational performance of plant and equipment and engine room emergencies • Take appropriate initiatives in a range of engine room situations such as those above • Respond appropriately to any changes in engine room plant, equipment, standard operating procedures and the vessel's working environment
Planning and organising	• Follow and apply operational and emergency plans, systems and procedures for the vessel, including the vessel's safety management system and emergency procedures • Monitor systems and procedures for compliance with regulations and codes of practice • Implement bridge resource management strategy • Monitor and evaluate operational performance and compliance • Collect, manage and interpret information needed in the course of engine room operations • Organise and plan own management activities as engineer watchkeeper on a vessel • Manage time and priorities in the course of engine room watchkeeping activities
Self-management	• Interpret and apply regulations, survey requirements, standard procedures and codes of practice as they apply to the engine room operations, including OH&S, environmental protection,

Employability Skill	**Industry/enterprise requirements for this qualification include**:
	security and SOLAS requirements • Establish and follow own work plans and schedules • Evaluate and monitor own work and management performance as engineer watchkeeper
Learning	• Contribute to learning and assessment activities on the vessel, including emergency drills, safety and security awareness training, and continuing professional development of crew members • Assist crew members to adapt to any changes in the engine room systems, equipment, procedures and the vessel's operating environment (e.g. sea and weather conditions) • Assist in the instruction, coaching or mentoring of other crew members on the vessel • Contribute to the assessment of the competency of other crew members • Assist in the creation of a learning environment on board the vessel • Adapt own competency to any changes in the vessel type, its propulsion and auxiliary plant and equipment and its operating environment • Update own knowledge and skills required for engine room watchkeeping activities
Technology	• Operate engine room systems including vessel's propulsion and auxiliary systems, electrical systems, radio systems, other engine room equipment, etc. • Follow and apply operational and maintenance systems for the vessel's hull, propulsion, electrical and auxiliary systems, safety and deck equipment and other facilities on the vessel • Follow and apply safety management system and OH&S procedures for use and maintenance of equipment and facilities • Carry out the preventative and remedial maintenance procedures for the vessel's hull, propulsion plant, electrical and auxiliary systems, other engine room equipment and tools

Packaging Rules

Requirements for completion of the qualification:
A successful outcome of the **twenty** units of competency listed below.
Additional units from those listed below or relevant units from this or other Training Packages Note 4 may be included in the qualification to satisfy specific additional needs beyond the minimum requirements. (They may also be achieved separately, either individually or in skill sets, leading to a National Statement of Attainment as described elsewhere in the Training Package)

MANDATORY REQUIREMENTS

FIELD		UNIT	
B	**Equipment Checking and Maintenance**	TDMMB407B	Maintain seaworthiness of vessel
		TDMMB1207B	Fault-find, dismantle, maintain and repair shipboard plant and equipment
		TDMMB1307B	Carry out shipboard fabrication and repair operations
E	**Communication**	TDMME707B	Use English in written and oral form to perform engineering duties
F	**Operational Quality and Safety**	TDMMF307B	Manage business and legal requirements on a vessel
		TDMMF407B	Maintain the operational condition of lifesaving, firefighting and other safety systems
		TDMMF507C	Develop emergency and damage control plans and handle emergency situations on board a vessel
		TDMMF1007B	Provide elementary first aid
		TDMMF1107B	Survive at sea in the event of vessel abandonment
		TDMMF1807B	Apply medical first aid on board a vessel
		TDMMF1907B	Operate survival craft and other lifesaving appliances
		TDMMF3107B	Maintain a safe engineering watch
		TDMMF5607A	Observe personal safety and social responsibilities Note 1
		TDMMF6107A	Manage marine firefighting and prevention activities on board a vessel Note 2

		TDMMF6207A	Prevent, control and fight fires on board an ocean-going vessel Note 3
R	**Carry out Operations on Equipment and Systems**	TDMMR907B	Operate alternators, generators and controls systems to supply shipboard electrical power
		TDMMR1007B	Operate pumping systems and associated control systems
		TDMMR1107B	Operate main and auxiliary machinery and associated control systems
		TDMMR5907A	Operate steam propulsion plant and associated systems on steam vessels
U	**Environment**	TDMMU407B	Ensure compliance with pollution prevention measures

An Engineer Watchkeeper must **also** be able to demonstrated competency in the eight basic engineering units listed below, either through completion of the appropriate engineering trade qualifications, or additional training and assessment, if required:

MEM18001 C	Use hand tools	MEM05006 B	Perform brazing and/or silver soldering
MEM18002 B	Use power tools/hand held operations	MEM05007 C	Perform manual heating and thermal cutting
MEM05001 B	Perform manual soldering/desoldering – electrical/electronic components	MEM05015 C	Weld using manual metal arc welding process
MEM05004 C	Perform routine oxy acetylene welding	MEM07005 B	Perform general machining

Note 1: This is a **new unit** incorporating the requirements of the previous four units TDMMF701B Observe safe working practices, TDMMF801B Comply with emergency procedures, TDMML201A Contribute to effective human relationships on board a vessel and TDMME101A Understand orders and be understood in relation to shipboard duties

Note 2: This is a **new unit** incorporating the requirements of the previous two units TDMMF1301A Manage marine firefighting and prevention activities and TDMMF2001A Prevent, control and fight fires on board a vessel

Note 3: This is a **new unit** incorporating the requirements of the previous two units TDMMF907B Fight and extinguish fires and TDMMF1201A Minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire

OPTIONAL ADDITIONAL UNITS TO MINIMUM REQUIREMENTS

The units**listed below or relevant units from this or other Training Packages Note 4 may be included in the qualification to satisfy specific additional needs beyond the minimum mandatory requirements (they may also be achieved separately, either individually or in sets, leading to a Statement of Attainment as described elsewhere in the Training Package).**

F	**Operational Quality and Safety**	TDMMF5807A	Adapt to basic industry and regulatory requirements for tanker operations
		TDMMF5907A	Work safely in enclosed spaces on a vessel
O	**Security**	TDMMO107A	Follow maritime security procedures
		TDMMO207A	Carry out ship security officer functions
Optional imported units from the Business Services Training Package BSB01		BSBFLM505B	Manage operational plan
		BSBFLM506B	Manage workplace information systems
		BSBFLM509B	Facilitate continuous improvement
Optional imported units from the Training and Assessment Training Package TAA04		TAADEL301A	Provide training through instruction and demonstration of work skills
		TAAASS301A	Contribute to assessment

Note 4: Where units of competency are included from another Training Package, Registered Training Organisations should check the National Training Information System (NTIS) or contact the Industry Skills Council responsible for the Training Package to check if the unit has any pre-requisite or co-requisite requirements