



National Unit specification: general information

Unit title: Merchant Navy Engineer Officer Operation and Maintenance: Work Based Learning

Unit code: F9K7 12

Superclass: ZF

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Summary

This Unit is designed to develop a safe and systematic approach of the prospective Merchant Navy Engineer Officer to the working environment found aboard ship. The Unit includes safety awareness, maintenance and ship operations.

Throughout the Unit candidates will be working independently taking responsibility for their own progress, although assistance will be given, as required, by onboard Designated Training Officers and tutors as appropriate.

This Unit is primarily aimed at candidates who intend to seek sea-going employment as a Merchant Navy Deck /Engineer Officer. However it may also be studied by someone with an interest in the subject area.

Outcomes

- 1 Participate in and safely assist in engineering maintenance.
- 2 Prepare and operate Marine Plant.

Recommended entry

While entry is at the discretion of the centre, candidates would normally be expected to have attained the following, or equivalent:

- ◆ F7HH 12: *Maritime Industry: An Introduction*

General information (cont)

Unit title: Merchant Navy Engineer Officer Operation and Maintenance Work Based Learning

Credit points and level

2 credits at SCQF level 6 (12 SCQF credit points at SCQF level 6*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

National Unit specification: statement of standards

Unit title: Merchant Navy Engineer Officer Operation and Maintenance Work Based Learning

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to the Scottish Qualifications Authority.

Outcome 1

Participate in and safely assist in engineering maintenance.

Performance Criteria

- (a) Participate correctly and safely in engineering maintenance activities.
- (b) Correctly identify the need for the maintenance.
- (c) Correctly prepare a work sequence for the maintenance.
- (d) Correctly describe the confirmation of the safety of the work area and compliance with legislative requirements.
- (e) Complete documents and records accurately.

Evidence Requirements

Evidence is required of the candidate's ability to undertake two maintenance activities safely and to ensure that the maintenance has been effective.

The candidates must:

- ◆ participate correctly and safely in two maintenance activities — one of the activities must involve electrical plant
- ◆ correctly identify the need for the maintenance activities
- ◆ correctly prepare a work sequence for the maintenance
- ◆ correctly describe the confirmation of the safety of the work area and compliance with legislative requirements
- ◆ complete all documents and records accurately. Evidence must include:
 - excerpts from the vessel log
 - relevant documentation and records
 - legislation and Training Record Book (TRB) entries.

The reports must be verified by the Onboard Training Officer or Chief Engineer

National Unit specification: statement of standards (cont)

Unit title: Merchant Navy Engineer Officer Operation and Maintenance Work Based Learning

Outcome 2

Prepare and operate Marine Plant.

Performance Criteria

- (a) Participate correctly and safely in preparing and operating Marine Plant.
- (b) Correctly identify safety rules, regulations and operating instructions to prevent damage or pollution.
- (c) Correctly carry out required checks for start up and shut down of Marine Plant.
- (d) Monitor and assess the condition of the Marine Plant in accordance with operating requirements and instructions.
- (e) Complete documents and records accurately.

Evidence Requirements

Evidence is required of the candidate's ability to prepare and operate Marine Plant safely and to ensure efficient operation.

The candidates must:

- ◆ participate correctly and safely in preparing and operating Marine Plant. At least two activities should be reported on, one of which should involve the main propulsion machinery
- ◆ correctly identify safety rules, regulations and operating instructions to prevent damage or pollution
- ◆ correctly carry out required checks for start up and shut down of Marine Plant
- ◆ monitor and assess the condition of the Marine Plant in accordance with operating requirements and instructions
- ◆ complete all documents and records accurately, evidence must include:
 - excerpts from the vessel log
 - relevant documentation and records
 - legislation and TRB entries.

The reports must be verified by the Onboard Training Officer or Chief Engineer.

National Unit specification: support notes

Unit title: Merchant Navy Engineer Officer Operation and Maintenance Work Based Learning

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 80 hours.

Guidance on the content and context for this Unit

The Unit is concerned with the development of engineering trainee officers studying the Group Award NC Shipping and Maritime Operations. The Unit is designed to reinforce the theory that will have been taught within the NC and it will allow trainee officers the opportunity to complete their MNTB TRB and to use this as a source of evidence for this Unit. The Unit is also based around the national occupational standard A11 and A31 of the STCW 95 convention.

Corresponding to Outcomes 1–2:

Outcome 1

Candidates should participate in 2 maintenance activities, one of which should involve electrical plant. Candidates should be able to identify the need for maintenance, prepare a work sequence for the maintenance and then describe the legislation that will impact on the work completed.

Outcome 2

Candidates will have an opportunity to participate in the preparing and operation of Marine Plant. In the operation of Marine Plant candidates will have the opportunity to work with the main propulsion system. Candidates will be able to examine the safe operation of equipment and complete the steps for safe start-up and shut down of the Plant. The operating requirements and instructions of the Plant will be assessed and monitored during its use.

Candidates could negotiate independently with their Onboard Training Officer a suitable programme of activities which will enable him or her to practise the required skills and also to plan and organise it.

National Unit specification: support notes (cont)

Unit title: Merchant Navy Engineer Officer Operation and Maintenance Work Based Learning

Guidance on learning and teaching approaches for this Unit

The tutor's/Onboard Training Officer's role will be largely consultative and he or she will be a resource for planning, interview techniques, time management advice, planning of the work based evidence, information on health and safety, codes of practice etc. The tutor/Onboard Training Officer's may also act as a general mentor should the candidate require support and encouragement.

It is expected that in the course of the Unit each candidate will compile a folder of assessment evidence which will consist of extracts from the ship's log, shipping company records, the MNTB training record book and verification of activities and exercises by the Onboard Training Officer/Chief Engineer.

The shipboard experience will be a new environment for many candidates and preparation for candidates should recognise this so that they are thoroughly prepared before commencing their sea time.

It may be beneficial for the tutor to interview candidates prior to their sea time to assist the candidate prepare. In addition an interview after sea time will allow a thorough investigation of the candidate's learning. Tutors should not prompt performance but should create an atmosphere and framework within which candidates are encouraged to speak openly about their progress, reactions in relation to the tasks undertaken and the contribution which the learning activities have made towards their development as officer trainees.

Opportunities for developing Core Skills

In completing the assessment work of Outcomes 1 and 2 candidates have the opportunity to develop the writing component of the Core Skill *Communication* at SCQF level 5. Candidates will have the opportunity to describe activities, their roles and the roles of others. This information will be presented in a portfolio. The specific Core Skill elements that the candidate may have to complete are 'Present all essential ideas/information and supporting detail in a logical and effective order', 'Use a structure which takes account of purpose and audience, and emphasises the main points' and 'Use spelling, punctuation and sentence structures which are consistently accurate'.

Whilst onboard ship candidates will have to interact with their Onboard Training Office which will develop the oral component of the Core Skill *Communication* at SCQF level 6. Candidates will have the opportunity to contribute to the Core Skill element 'Respond to others, taking account of their contributions'.

Candidates whilst at sea will have the opportunity in completing assessment work to develop the writing component of the Core Skill *Communication* at SCQF level 5. Candidates will have the opportunity to contribute to the Core Skill element 'Evaluate the effectiveness of the communication in meeting its purpose'.

National Unit specification: support notes (cont)

Unit title: Merchant Navy Engineer Officer Operation and Maintenance Work Based Learning

Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

During the Unit the candidate is required to contribute to the planning and to complete work experience on board ship during which he or she should assemble a folder of assessment evidence in relation to the Outcomes.

The tutor may conduct personal interviews with individual candidates or with groups, as appropriate may draw on relevant evidence from the candidate's assessment folder.

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements

History of changes to Unit

Version	Description of change	Date

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