

SQA Advanced Unit Specification

General information

Unit title: Marine Emergency Response and Communication
(SCQF level 7)

Unit code: HW72 47

Superclass: ZS

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Unit purpose

This unit introduces learners to the internationally recognised distress signals at sea. It also considers the action to be taken when language difficulties are encountered at sea and the correct procedures to be followed when transmitting or receiving information by visual signalling using Morse code or flag signals as per the International Code of Signals (ICS). The unit will also enable the learner to transmit and receive Morse code and flag signals using equipment found on board all merchant vessels.

This unit is primarily aimed at learners who intend to seek employment within the maritime industry.

Outcomes

On successful completion of the unit the learner will be able to:

- 1 Explain how to respond to distress signals in a maritime situation.
- 2 Describe IMO approved communication procedures used to avoid misinterpretation at sea.
- 3 Transmit and receive information by visual means, as directed by the International Code of Signals.

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Credit points and level

1 SQA Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7)

Recommended entry to the unit

Access to this unit is at the discretion of the centre. However it would be beneficial if the learner had completed SQA Advanced Unit *Bridge Watchkeeping* (SCQF Level 7), as this would provide them with an understanding of the material delivered.

Core Skills

Achievement of this unit gives automatic certification of the following Core Skills:

Complete Core Skill Numeracy at SCQF level 6

Core Skill component Critical Thinking at SCQF level 6

There are also opportunities to develop aspects of Core Skills which are highlighted in the support notes of this unit specification.

Context for delivery

If this unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes.

Equality and inclusion

This unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

SQA Advanced Unit Specification: Statement of standards

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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 SQA.

Where evidence for outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Learners should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Explain how to respond to distress signals in a maritime situation.

Knowledge and/or skills

- ◆ Distress, urgency and safety signals
 - Annex IV International Regulations for Preventing Collisions at Sea. SOLAS, IAMSAR Manual. Annual Summary Admiralty Notice to Mariners Notice No.4
 - Ships in distress, Statutory Distress Signals, EPIRBs and SARTs
 - Radio watch for and reception of distress signals
 - Sunken submarine
 - Aircraft casualties at sea
 - RT Distress procedure
 - Instructions to lookouts

- ◆ How to communicate with the distressed craft in accordance with International Regulations and procedures
 - Action on receiving a distress signal
 - Recording the distress message
 - IAMSAR manual: communications

- ◆ How to obtain information on the position and nature of the distress
 - Components of the distress message
 - Identification, position, nature and kind of assistance required
 - Other information
 - Technique of homing on radio signals

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- ◆ The further action required to comply with contingency planning and master's instructions
 - IAMSAR manual: Action by assisting ships
 - Immediate action
 - Proceeding to the area of distress
 - On board preparation
 - Aircraft casualties at sea
 - Follow a contingency plan

- ◆ Planning and preparation for a search
 - Categories of distress incidents: Coastal and ocean
 - Abbreviations, terms and definitions
 - Communications: internal and external
 - Co-ordination of search and rescue operations
 - Designation of SMC and OSC and their responsibilities
 - Responsibility of other craft in the co-ordinated search
 - Search patterns taking into account drift, leeway, visibility and type of assistance available
 - Drift patterns of disabled vessels with relation to wind and currents
 - Rendezvous
 - Establish a datum point before commencing search pattern
 - Contingency planning and training

- ◆ How to conduct a search
 - Proceeding to the area of distress
 - On board preparation
 - Action by assisting ships
 - Approaching the scene, radar search
 - Arrival on scene, implement search plan
 - Assistance by Search and Rescue (SAR) aircraft
 - Homing on radio signals
 - Aircraft casualties

- ◆ How to conduct a rescue
 - When survivors in the water/boats/rafts
 - From ditched aircraft
 - Fire
 - Heavy weather
 - Evacuation by helicopter

- ◆ How to terminate Search and Rescue (SAR) operations
 - Care of and questioning of survivors
 - Decision to terminate, factors to consider
 - Reports to authorities

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- ◆ The general arrangements for search and rescue
 - The global maritime distress and safety system
 - In addition to ships, the assistance which may be given by authorities around the coast of the United Kingdom
 - Ships' position and reporting systems

- ◆ The obligations and responsibilities for assistance at sea and the action to be taken to render assistance
 - IAMSAR Manual
 - Annual Summary of Admiralty Notices to Mariners — Notice 4
 - Consultation with other stations answering the distress
 - Legal obligations
 - Exemptions from answering a distress
 - Log book entries

Outcome 2

Describe IMO approved communication procedures used to avoid misinterpretation at sea.

Knowledge and/or skills

- ◆ IMO standard marine communication phrases
- ◆ International code of signals
- ◆ Radio distress communication procedures

Outcome 3

Transmit and receive information by visual means, as directed by the International Code of Signals

Knowledge and/or skills

- ◆ Send and receive signals using Morse code by means of flashing light
- ◆ Send and transmit signals using the International Code of Signals

Evidence requirements for this unit

Written and/or oral evidence is required for Outcomes 1–2 under closed-book and supervised conditions. Outcomes 1–2 should be combined for assessment but can be assessed separately.

Written and/or recorded oral evidence is required for Outcome 3. It will be assessed separately under closed-book and supervised conditions.

All knowledge and skills are assessed, however there is sampling within some of the knowledge and skills.

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Outcome 1

Learners will need to provide written and/or oral recorded evidence to demonstrate their knowledge and/or skills by showing that they can:

- 1 Explain the format, content, use and means of transmission for a sample of one of the following:
 - (a) Distress message
 - (b) Urgency message
 - (c) Safety message

On each assessment occasion the learner's explanations should conform to that found in the following publications:

- ◆ International Aeronautical and Maritime Search and Rescue Manual (IAMSAR)
 - ◆ Convention on the Safety of Life at Sea (SOLAS)
 - ◆ International Regulations for the Prevention of Collisions at Sea (IRPCS)
 - ◆ Annual Summary of Notices to Mariners Notice to No 4 (ASNM)
- 2 Explain the actions to be followed on receipt of a distress message from either a vessel in distress or an aircraft in distress.
 - 3 Explain the Search and Rescue (SAR) procedures to be followed when rendering assistance to either a vessel in distress or an aircraft in distress.

Learners should include procedures for determining the position of the casualty, preparations to be made on board own vessel, action to be taken when own vessel arrives on scene, typical search patterns, action to be taken to conclude SAR operations.

- 4 Describe the provisions of a sample of one of the following:
 - (a) Global maritime distress and safety system
 - (b) Organisation of search and rescue operations in UK waters
 - (c) Ship reporting systems and organisation of search and rescue operations in ocean regions

Where sampling is used a different sample should be used on each assessment occasion.

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Outcome 2

Learners will need to provide written and/or oral recorded evidence to demonstrate their knowledge and/or skills by showing that they can:

- 1 Describe the standard marine communication phrases to communicate with others where there are language difficulties.
- 2 Describe recognised procedures for coding and decoding flag messages using the international code of signals.
- 3 Describe the correct procedure for communicating via radio during search and rescue operations.

Outcome 3

Learners relay messages transmitted using Morse code and flag signals. They will also state messages to be sent and received, appropriate to a prescribed scenario.

Learners will need to provide written and/or oral recorded evidence to demonstrate their knowledge and/or skills by showing that they can:

- 1 Receive Morse code by light at a rate of 20 letters/numbers in two minutes.
- 2 Transmit letters and numerals by Morse code using light.
- 3 Send and receive Morse code following procedures as per the International Code of Signals (ICS).
- 4 Identify the meanings of single flag codes as per the International Code of Signals.
- 5 Transmit and receive flag messages using the International Code of Signals.

SQA Advanced Unit support notes

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Unit support notes are offered as guidance and are not mandatory.

While the exact time allocated to this unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this unit

This unit forms part of the underpinning knowledge requirements for a Certificate of Competence in the Merchant Navy as Officer of the Watch Unlimited, and reflects the content of the International Maritime Organisations' Standards of Training, Certification and Watchkeeping (STCW 95) requirements for that role.

Guidance on approaches to delivery of this unit

The unit introduces learners to the procedures to be followed by the Officer of the Watch (OOW) when emergencies arise at sea. Extensive reference will be made to the contents of International Code of Signals and also the bridge procedures guide. The contents of relevant merchant shipping notices and marine guidance notes will be explored and their application to various types of emergencies that may occur on board ship, considered.

Learners who successfully achieve this unit will also be eligible for the award of their Maritime and Coastguard Agency (MCA) Signals Certificate. This unit will also contribute towards the award of the STCW GMDSS Certificate.

Outcome 1

This introduces the learner to the role of the OOW and the Master in case of emergencies and the action that should be taken when various types of emergency occur. The learner will learn what initial action should be taken and what subsequent action may be required to ensure the safety of the vessel, the cargo, crew and marine environment.

Outcome 2

This outcome introduces the learner to the internationally recognised procedures to be followed on receipt of distress, urgency and safety signals. The concept GMDSS will be examined and the regulations pertaining to transmission and receiving of the above signals will be explained in detail. The contents of the IAMSAR manual, annual summary of notices to mariners and relevant merchant shipping notices will be examined in depth.

Details of the accepted procedures to be followed will be discussed and the communication required both internally on the ship and externally with relevant authorities explained.

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Outcome 3

This outcome introduces learners to the International Code of Signals and the IMO Standard Marine Vocabulary. Learners will have to use each of the former publications to send and receive information when communicating with other seafarers or shore establishments, where there are problems in understanding the English language.

This outcome also covers the use of Morse code and flag signals to transmit and receive information. It also introduces the phonetic alphabet, which is internationally recognised. Learners will be required to send and receive Morse using light and explain the procedures to be followed when signalling by Morse. Single flag hoists will be examined and learners will be expected to interpret any single flag signal. Multiple flag hoists will be explained and learners should be able to code and decode multiple flag hoists with the assistance of the International Code of Signals. Delivery methods may include individual and group activities created to support the retention of such information so that it is available to the trainee as required.

Guidance on approaches to assessment of this unit

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

Written and/or oral evidence is required for Outcomes 1–2 under closed-book and supervised conditions. Outcomes 1–2 should be combined for assessment but can be assessed separately.

Written and/or recorded oral evidence is required for Outcome 3. It will be assessed separately under closed-book and supervised conditions. As part of the assessment, the learner will demonstrate that they can send Morse, using a standard Morse key, and read Morse code, sent by visual means, capturing answers on a checklist.

All knowledge and skills are assessed, however there is sampling within some of the knowledge and skills.

Outcome 1 and 2 can be assessed by a question paper.

Outcome 3 can be assessed by practical demonstration, capturing answers on a checklist.

Opportunities for 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 social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

Opportunities for developing Core and other essential skills

This Unit has the Core Skill of Numeracy embedded in it, so when learners achieve this Unit their Core Skills profile will be updated to show that they have achieved Numeracy at SCQF level 6.

This unit has the Critical Thinking component of Problem Solving embedded in it. This means that when learners achieve the unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 6.

This unit provides learners with the opportunity to develop the Core Skill of *Communication: Written and Reading* at SCQF level 5. The development of these Core Skills will be achieved through preparation of written assignments. Additionally, Written will be developed through review and understanding of course materials.

Through preparation of assignment and presentation work, the Core Skills of *Problem Solving: Planning and Organising*, and *Reviewing and Evaluating* at SCQF level 5 are able to be developed.

The oral form of assessment in conjunction with presentation assignment will provide an opportunity to develop the Core Skills of *Communication: Oral*, and *Working with Others* at SCQF level 6.

History of changes to unit

Version	Description of change	Date

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SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of SQA Advanced Qualifications.

FURTHER INFORMATION: Call SQA's Customer Contact Centre on 44 (0) 141 500 5030 or 0345 279 1000. Alternatively, complete our [Centre Feedback Form](#).

General information for learners

Unit title: Marine Emergency Response and Communication
(SCQF level 7)

This unit is designed to introduce you to the practices and procedures to be followed when emergencies arise at sea. You will be required to explain your initial and subsequent actions when such emergencies are encountered. The role of the OOW and the Master and their interaction during emergency situations will be covered in some detail.

The unit also covers the global maritime distress and safety system and the responsibility of the OOW when the vessel receives distress messages or is involved in search and rescue operations. The contents of the IAMSAR manual will be explained and the practical use of this publication in the above situations discussed.

The use of Morse code and other signalling means will be demonstrated and you will be required to send and receive messages by Morse code and flag signalling. The contents of the International Code of Signals will be examined. Successful completion of this unit will result in the award of an MCA Signals Certificate. This unit also contributes towards the award of your GMDSS Certificate. The learner will be assessed using oral and written questioning, including the demonstration by the trainee of the skills and actions required in emergency scenarios at sea.

Learners who successfully achieve this unit will also be eligible for the award of their Maritime and Coastguard Agency (MCA) Signals Certificate. This unit will also contribute towards the award of the STCW GMDSS Certificate.

This Unit has the Core Skill of Numeracy embedded in it, so when learners achieve this Unit their Core Skills profile will be updated to show that they have achieved Numeracy at SCQF level 6.

This unit also has the Critical Thinking component of Problem Solving embedded in it. This means that when learners achieve the unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 6.

There are also opportunities to develop the following Core Skills in this unit:

Communication: Written at SCQF level 5

Communication: Oral at SCQF level 6

Communication: Reading at SCQF level 5

Information and Communication Technology (ICT) at SCQF level 5

Problem Solving: Planning and Organising at SCQF level 6

Problem Solving: Reviewing and Evaluating at SCQF level 6

Working with Others at SCQF level 6

You will be assessed through means of written and/or recorded oral questioning, including a demonstration of sending and receiving coded information. This will include the use of flag signals and Morse code. Your ability to respond to emergency situations and take appropriate initial and subsequent actions will also be assessed. This may take the form a series of questions, based on a given scenario.