Maritime & Coastguard Agency

MERCHANT SHIPPING NOTICE

MSN 1853 (M) Amendment 1

The Merchant Shipping (Boatmasters' Qualifications, Crew and Hours of Work) Regulations 2015.

Notice to all operators and masters of passenger vessels and non-passenger vessels on inland waterways and on limited coastal operations.

This notice should be read with Merchant Shipping (Boatmasters' Qualifications, Crew and Hours of Work) Regulations SI 2015/410 as amended and MIN 495, it repalces MSN 1853 (M)

Summary

This notice updates and replaces MSN 1853 to remove references to terms derived from EU law such as 'boatmaster certificates' and 'Rhine navigation licences'. Various minor grammatical and numerical changes/corrections have also been made to this notice which do not alter the detail of the text within.

This notice describes the structure and requirements of "The Merchant Shipping (Boatmasters' Qualifications, Crew and Hours of Work Regulations 2015" which applies to the masters of all passenger and non-passenger vessels operating in the waters of category A, B, C and D and some limited coastal voyages in the UK.

These Regulations supersede The Merchant Shipping (Inland Waterway and Limited Coastal Operations) (Boatmasters' Qualifications and Hours of Work) Regulations 2006 and The Merchant Shipping (Local Passenger Vessels) (Crew) Regulations 2006.

Information about Local Passenger Vessel Crew training arrangements is detailed in MGN 203; manning requirements are contained in MGN 290.

Information about the Hours of Work Code for self-employed boatmasters[1] and other working time regulations is mentioned in MSN 1876 (M).

[1] The term "boatmaster" means the person serving as Master of a vessel of a kind mentioned in regulation 7(2) of the 2015 Regulations on a voyage of a kind mentioned in regulation 7(3) of those Regulations.

1. Introduction

1.1 This notice describes the application of The Merchant Shipping (Boatmasters' Qualifications, Crew and Hours of Work) Regulations 2015 ("the 2015 Regulations"). The 2015 Regulations re-enact the Merchant Shipping Inland Waterway and Limited Coastal Operations) (Boatmasters' Qualifications and Hours of Work) Regulations 2006 and the Merchant Shipping (Local Passenger Vessels) (Crew) Regulations 2006 and introduce:

- a new type of licence for restricted tidal waters;
- additional requirements for specialist operations endorsements (the new Ro-Ro endorsement and revalidation requirements for certain specialist operations); and
- a power enabling the Secretary of State to identify new areas requiring local knowledge endorsements ("LKEs"). (Medway is introduced as such an area in this Notice).

1.2 The limitation for the use of Boatmasters' Licences (**BML**) in coastal areas[2] has been extended to "no more than 5 miles from land and no more than 15 miles from point of arrival or departure".

1.3 The aim of the 2015 Regulations is to underpin safety standards whilst helping facilitate trade and movement of labour on the UK's inland waterways.

1.4 Candidates who wish to be assessed for a BML need to fulfil the training and examination requirements as set out in this and related notices.

2. Application and Scope of the BML 2015 Regulations

2.1 A BML, or alternative qualification[3] specified in this Notice is required for the masters of:

Passenger Ships

- Class IV, V VI and VI(A) including Passenger Ships Operating solely in UK Categorised Waters and High Speed Craft including Hovercraft operating solely in UK categorised waters and limited coastal areas.

Non-Passenger Ships

- Class IX(A) and IX (A) (T).

Descriptions for the classification of these vessels are contained within **Annex 1**.

2.2 On its own the generic licence can be a suitable qualification for operators of workboats and vessels carrying up to 12 passengers.

2.3 When operating on inland waterways[4] and limited coastal areas a BML, or alternative qualification specified in this Notice is not required under the following circumstances:

- for crew members;[5]
- for those in charge of a pleasure vessel or hire boat being used as a pleasure vessel;
- for those in charge of a fishing vessel;

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[2] Under the 2006 Regulations "limited coastal area" was defined as an area of no more than 3 miles from land and no more than 15 miles from point of departure (excluding waters of category A, B, C, or D).

[3] Sections 3 and 4 refer.

[4] "inland waterways" means categorised waters A, B, C, and D as defined in MSN 1837 (M) Amendment 2, as amended and any non-categorised inland waterways.

[5] The training requirements for crew are not specified by the 2015 Regulations. However, crew training for personnel on domestic passenger vessels is contained within MGN 203, as amended.

- for those operating in compliance with The Merchant Shipping (Small Workboats and Pilot Boats) Regulations 1998, as amended, and The Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations 1998[6], as amended;
- for those undertaking low risk operations as listed in **Annex 2** which are exempt from the 2015 BML Regulations;
- for those transiting higher categories of water on small vessels under the conditions outlined in paragraph 3.9.

2.4 Where local byelaws or other local legislation require a master to hold a local licence or other masters' qualification, the holder of a relevant BML will not be subject to those local requirements (Pilotage requirements are not affected).

2.5 The appropriate BML, or alternative qualification, specified in this notice is accepted as a suitable qualification for masters of the following types of vessel when operating on UK inland waterways and limited coastal areas:

- EU Class B, C and D;
- Ships under the Small Seagoing Ship Code.[7]

2.6 However, it should be noted that BMLs are not permitted for use on vessels carrying more than 250 passengers to sea. Masters of vessels (i) carrying more than 250 passengers to sea; and/or (ii) operating beyond the limited coastal area limits must be qualified in accordance with the Convention on Standards of Training, Certification and Watchkeeping 1978, as amended.

3. Alternative Qualifications for Masters of Small Vessels[8] in Commercial use

3.1 A BML is a requirement for masters to serve on vessels in scope of the 2015 Regulations under 24m in load line length or which carry no more than 12 passengers. However, suitable alternative qualifications are accepted for these masters. The list of qualifications together with the medical fitness requirements are contained in **Annex 3**.

3.2 Masters of small vessels in commercial use using one of the qualifications listed in **Annex 3** must obtain a BML specialist operation endorsement or equivalent[9] if undertaking towing and pushing operations. They may not undertake any other specialist operations described in section 8 of this notice unless qualified in accordance with section 5 and 8 of this notice.

3.3 Masters of small vessels in commercial use using one of the qualifications listed in **Annex 3** who carry out those specialist operations, other than towing and pushing, described in section 8 must become qualified in accordance with this notice. Transitional arrangements are described in section 21.

3.4 Candidates wishing to obtain a BML specialist operation endorsement for towing and pushing must meet the qualifying conditions for the relevant operation specified in Table C of **Annex 5** of this Notice.

3.5 Upon meeting the qualifying conditions candidates must complete MSF 4398 and submit it with the statutory fee to their local MCA Marine Office[10]. On receipt of the application, the

[6] This does not refer to vessels operating under the MCA's Small Commercial Vessel and Pilot Boat (SCV) Code(s). Masters of vessels operating under the MCA SCV code must hold one of the qualifications listed in Annex 3 of MGN 280, which is currently available from www.gov.uk, search "MGN 280".
[7] Guidance about the Small Seagoing Passenger Ship Code see MGN 535 (M).
[8] "small vessel means a vessel under 24m in load line length which carries no more than 12 passengers and is not certified to operate under the MCA's Small Commercial Vessel and Pilot Boat (SCV) Code.
[9] Qualifications accepted as equivalents to the BML specialist endorsements are listed in Table C of **Annex 5** of this Notice.
[10] Contact details for MCA local Marine Offices are available from www.gov.uk, search for "Marine Office".

local Marine Office will arrange for the candidate to undertake an oral assessment on underpinning knowledge and practical assessment which is appropriate to the BML specialist operation endorsement sought. Completion of the relevant Maritime Studies Qualifications (MSQ) units[11] is an acceptable alternative to an MCA oral assessment.

3.6 For masters of small vessels in commercial use holding alternative qualifications, the BML specialist operation endorsement will be carried as a separate paper certificate to be kept with the alternative qualification.

3.7 These Regulations supersede the recommendations in section 26 of the MCA/Association of Inland Navigation Authorities' Inland Waters Small Passenger Boat Code[12], in respect of the qualifications for the master of small passenger vessels (carrying no more than 12 passengers) which do not proceed to sea.

3.8 Masters of small vessels in commercial use must comply with pilotage requirements where applicable.

3.9 Masters of small vessels in commercial use who transit[13] more than 12 times a year through waters of a higher category must be qualified in accordance with this notice. However, masters of small vessels in commercial use transiting 12 times or less (with no more than 4 transits in one month) a year (but not to sea) may transit providing the operator completes a risk assessment for the proposed passage. Guidance on the risk assessment can be found in **Annex 14**. The risk assessment must be:

- completed prior to the proposed transit; and
- held on board during the transit.

4. Other Alternative Qualifications

4.1 The holders of equivalent or higher sea-going qualifications may use their qualifications in lieu of the BML without further assessment, subject to a boat handling test which may be required under specified circumstances (paras. 4.2 and 4.3 refer) to act as masters of vessels in scope of the 2015 Regulations (para. 2.1 refers). These qualifications together with the medical fitness requirements are listed in **Annex 4**. However, such masters are still subject to any relevant specialist operation or local knowledge requirements (paras. 5.3 and 5.4 refer).

4.2 Where an alternative qualification listed in **Annex 4** is of a command capacity, a boat handling test is not required in order to act as a boatmaster.

4.3 Where an alternative qualification listed in **Annex 4** does not include a command capacity or function, a boat handling test is required in order to act as a boatmaster. There are two methods through which boat handling tests can be conducted:

- Boat handling test conducted under a company ISM/DSM system, or other company procedures – valid only for vessels operated by the specific company;

or;

- Boat handling test conducted by the MCA – valid for all vessels.

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[11] Further information on MSQ units is available from the Maritime Skills Alliance at www.maritimeskills.org.

[12] Currently available from www.gov.uk, search for "inland waters small passenger boat code".

[13] "Transiting" refers to a vessel entering a category of water for which the master is not qualified as a means of access to another route for which they are qualified. Typically transiting occurs to leave a canal (Category A) and then enter another section of canal by sailing along a section of a river (Categories B and/or C and possibly D) to get there.

4.4 Companies who intend to conduct boat handling tests under their ISM/DSM system, or other company procedures, must obtain prior approval from their local Marine Office. To ensure that relevant standards of competence are maintained, the following conditions must be fulfilled:

a) the company procedure as per the ISM/DSM Code, or other documented company procedures, must provide details of completion of ship handling training and also mention the type of vessel and propulsion;
b) the appropriate training is carried out before command is taken; and;
c) the company must keep a record of the training which must be available for auditing by the MCA as part of any routine inspection or ISM/DSM audit.

4.5 Candidates holding alternative qualifications which do not include a command capacity or function wishing to undergo an MCA conducted boat handling test, must contact their local Marine Office confirming:

- the type/details of vessel they wish to operate;
- waters in which they wish to sail; and
- their work history.

This is required to inform the MCA examiners assessment of the candidate. The local Marine Office will then arrange a time for the test to be conducted. The candidate will need to pay the statutory fee for a practical boat handling assessment. On successful completion of the test, the candidate will be issued with the appropriate BML.

4.6 It is not a requirement that masters using alternative qualifications be issued with a BML, but if they so wish they may apply for a BML.

4.7 Masters who are able to meet the requirements for local knowledge[14] and/or specialist operations[15] endorsements may have their BMLs endorsed accordingly. For masters holding alternative qualifications without a BML, the BML endorsement or accepted equivalent must be carried as a separate paper certificate to be kept with the alternative qualification.

4.8 Those masters holding alternative certification who require a paper certificate must complete MSF 4398 and submit it with the statutory fee to their local MCA Marine Office[16]. On receipt of the application, the local Marine Office will arrange for the candidate to undertake an oral assessment on underpinning knowledge and practical assessment which is appropriate to the BML specialist operation endorsement sought. Completion of the relevant Maritime Studies Qualifications (MSQ) units[17] is an acceptable alternative to an MCA oral assessment.

4.9 Masters must comply with pilotage requirements where applicable.

5. Boatmaster Licencing

5.1 The boatmaster licensing structure is a two-tiered system based on the same overall competency standards. However, the level of training and validation is higher for Tier 1 BMLs to reflect the wider scope of conditions under which a holder may operate.

5.2 The types of BMLs are:

[14] The qualifying requirements for LKE are contained in Table B of **Annex 5** of this Notice.
[15] The qualifying requirements for Specialist Operations Endorsements and recognised alternatives are contained in Table C of **Annex 5** of this Notice.
[16] Contact details for MCA local Marine Offices are available from www.gov.uk, search for "Marine Office".
[17] Further information on MSQ units is available from the Maritime Skills Alliance.

Generic BMLs		Area of Operation
Tier 1	**Level 2**	National licence valid for operating a vessel anywhere on the UK's inland waterways (categories A to D) and limited coastal areas, except where local knowledge requirements apply.
Tier 1	**Level 1**	National licence valid for operating a vessel anywhere on the UK's non-tidal waters (categories A, B and non-linked C), except where local knowledge requirements apply.
Specific BMLs		**Area of Operation**
Tier 2	**Level 2**	Restricted licence valid for specified areas of category A[18] to D waters and a limited coastal area. This licence is not available for the Thames below Teddington.
Tier 2	**Level 1**	Restricted licence valid for all Category A canals and (i) specified areas of category A and/or B waters; or (ii) specified areas of non-linked category C waters.

5.3 To operate in certain waters, in addition to a generic Tier 1 BML (i.e. without endorsements), candidates must also obtain an **LKE**. Please refer to section 7 of this notice for further guidance in this area.

5.4 To undertake certain operations, in addition to a generic Tier 1 BML, candidates must also obtain the relevant Specialist Operations Endorsement. Please refer to section 8 of this notice for further guidance in this area.

5.5 Tier 2 BMLs allow a boatmaster to operate in the area(s) (and undertake the specific operation(s)), as printed in their licence. Therefore, candidates for a Tier 2 BML will not require separate local knowledge or specialist operation endorsements as they will be examined for specific waters and operations for their T2 BML.

5.6 Holders of Tier 2 BMLs who are considering changing the area or type of operation specified in their licence will be required to pass another full oral examination and prove sufficient qualifying service time in the new area or new operation. The candidate may be excused from the boat handling test where the MCA agrees that the required competencies are transferable between the existing and new operation.

5.7 The MCA reserves the right to refuse multiple new areas or operations on Tier 2 licences. Boatmasters who intend to operate in additional areas are expected to obtain the appropriate Tier 1 licence.

6. Generic Licence (Tier 1 BMLs only)

6.1 The generic licence covers the core competencies and boatmanship skills needed for operating in the relevant water category/ies. These generic competencies are divided into the following sections for all candidates:

- Bridge Watchkeeping
- Ship manoeuvring
- Mooring and unmooring a vessel
- Ship knowledge
- Meteorology
- Vessel handling in extreme weather
- Ropework and access
- Basic engineering and machinery

[18] If the area of operation includes a section of Category A or B canals, the candidate may operate on all Category A canals. This description may be printed on the candidate's licence upon request.

- Health and safety
- Emergency action
- Pollution prevention and waste management

6.2 In addition, depending on the categories of waters to be covered, there are sections on:

- Generic chartwork
- Tides and currents
- Compass work
- Anchor work
- Locks and bridges

6.3 The syllabus for the generic licences is set out at **Annexes 8 and 9**.

6.4 A list of port and harbour authorities with local navigational requirements is contained in MIN 495 or any subsequent amendment of it.

6.5 A Tier 1 BML holder must be aware of sources of local information, regulations and navigational requirements and where to find this information. It is their responsibility to contact the port or navigation authority, and ensure familiarity with the local navigation requirements of the new area, as a matter of good practice and seamanship.

7. Local Knowledge Endorsements (LKEs)

7.1 An LKE is required for areas which due to their features and characteristics can present a hazard to safe navigation. Boatmasters who intend to operate in such areas must be trained beyond what is required under the generic skills described in para. 6.3 and this endorsement is in addition to the generic Tier 1 BML.

7.2 The waters where the Secretary of State has determined that an LKE is required are:

Area	
Bristol Port	The River Avon from Ashton Swing Bridge to the mouth of the Avon and King Road from Portishead Point to the port limits to the North and West.
Caernafon and Menai Strait	From the Southern Limit specified in the Menai Strait Pilotage District Pilotage Directions, that is an imaginary line joining positions 53°09.6'N 004°25.7'W (Malltraeth Bay); 53°05.0'N 004°32.15'W (Caernafon Bay) and 53°00.55'N 004°23.58'W (afon Hen, Clynnog) to a line drawn between Bangor Pier and Garth-y-Don.
Dee Conservancy	From an imaginary straight line connecting Point of Ayr (National Grid reference point SJ 12268519) and Hilbre Point (National Grid reference point SJ 20298843) to the Weir at Chester (Tidal Waters Limit).
Dover Harbour	The harbour and the sea within a distance of one mile from the seaward limits of the harbour.
Fowey Harbour	The upper estuary, north of Upper Carne Point.
Gloucester Harbour	The Severn estuary from the harbour limits at Goldcliff to the weirs at Maisemore, Lanthony (Gloucester) on the tidal River Severn, and to Bigsweir Bridge on the tidal River Wye.
Medway	The waters within a line from Garrison Point to Grain Tower thence west to shore-line and from the east limits of the Port of Sheerness to Rochester Bridge including the Swale as far as Shellness.
Padstow Harbour	The waters within a line joining Stepper Point, Gulland Rock

	and Pentire Point.
Port of Liverpool	The River Mersey from a straight line drawn between the Perch Rock Lighthouse and Gladstone River Entrance West Bullnose, south to a straight line drawn between the East Bullnose of Eastham 50' Lock and the West Bullnose of Stalbridge (Garston) Lock.
Port of London[19]	The River Thames from Putney Bridge to Margaretness
Portsmouth Harbour	The waters between No 4 Bar Buoy and a line drawn from No 98 Pile to Whale Island.
Isles of Scilly	The waters within a line drawn from Bishop Rock Lighthouse to Scilly Rock, Round Island, White Island, Hanjague and around the South East of St Mary's.
Teignmouth	All waters east of a line joining Ness Point to Den Lighthouse.

7.3 Proposals for local knowledge areas to be specified by the Secretary of State will be considered against four criteria:

- High traffic density: types and patterns;
- Difficult/complex tides and streams;
- Particular physical hazards (and the difficulty of negotiating them); and,
- If no suitable charts are available for the area.

7.4 Applications for relevant LKEs under the 2015 Regulations should be made in writing by the local port or navigation authority to the Chief Examiner, Seafarer Training and Certification Branch. Contact details can be found at the end of this notice.

7.5 There are a very few areas with no active navigation authority but where there are known substantial hazards to safe navigation; the MCA reserves the right to require a LKE for that area.

7.6 Candidates for LKEs are tested on their local knowledge by an MCA (or MCA approved[20]) examiner before the issue of a formal endorsement on top of the generic Tier 1 BML.

7.7 The syllabus for each local knowledge area against which candidates are tested is contained in **Annexes 11 – 13**.

7.8 Some areas of local knowledge have additional qualifying service requirements; these are detailed in Table B, **Annex 5**.

7.9 Masters who hold a Pilotage Exemption Certificate (PEC) covering waters within a designated local knowledge area may operate within the conditions specified in the PEC without holding an LKE. However, should they wish to operate outside the limits of their PEC in a local knowledge area, they must obtain the relevant LKE.

7.10 Holders of a valid Sailing Barge Master's Qualification are not required to hold a Port of London LKE[21].

8. Specialist Operations Endorsements (Tier 1 BMLs only)

8.1 In addition to the generic licence, a Tier 1 BML candidate may be required to obtain one or more of the following endorsements listed below, according to their type/s of operation (see Regulation 14 Table 2).

[19] Individual endorsements are available for Port of London (Margaretness to Putney Bride), Port of London (Margaretness to London Bridge) and Port of London (Wappingness to Putney Bridge).
[20] Appointed person from the relevant Competent Harbour Authority.
[21] As per the provisions of Thames Byelaw 22.

Type of Endorsement	Descriptions
Cargo - General	Dry cargoes in bulk and packaged dangerous goods
Chemical Cargoes	Chemical cargoes in bulk
Dredging	
Fast craft	Specified type of vessel and route
General Passenger	No more than 250 passengers
Large Passenger Vessel	More than 250 passengers
Liquefied Gas Cargoes	Liquefied Gas cargoes in bulk
Oil Cargoes	Oil cargoes in bulk
Radar	
Ro-Ro operations	
Towing and pushing	

8.2 The practical competencies for each endorsement are listed in the Training Record Book[22], and the syllabi are listed in **Annex 10**. The minimum age requirements, qualifying service times and any other qualifying criteria are included in Table C of **Annex 5**.

9. How to apply for a BML

9.1 To qualify for a BML candidates must:

a) be of the correct **minimum age**;
b) have completed the appropriate **qualifying service time** and present this service in the **Work Record**[23] book;
c) present certificates to reflect having completed the **ancillary safety training**;
d) present the **Training Record Book (TRB)** with relevant sections completed, appropriate to the type of BML sought; and
e) hold a valid accepted **medical certificate** as detailed in Section 16.

9.2 Candidates must complete application form MSF 4364[24] and submit it with proof of identity, evidence of meeting the above criteria and the statutory **fees**[25] to their local MCA Marine Office[26]. On receipt of the application, the local Marine Office will arrange assessments for the candidate:

(a) to demonstrate the level of **underpinning knowledge** required for the type of BML sought[27]; or;
(b) to demonstrate completion of the relevant MSQ units[28]; and;
(c) to demonstrate a satisfactory level of seamanship and vessel handing competencies (**practical boat handling**).

[22] MSF 4367 (As amended).
[23] MSF 4366 (As amended).
[24] BML Application forms are available from www.gov.uk, search "Boatmasters Licences".
[25] The applicable fees are for practical and oral assessments for the generic licence, any assessments for endorsements and for the issue of a BML.
[26] Contact details for MCA local Marine Offices are available from www.gov.uk, search for "Marine Office".
[27] Please refer to paragraph 12.5 regarding the acceptance of Maritime Studies Qualification units as meeting BML underpinning knowledge.
[28] Further information on MSQ units is available from the Maritime Skills Alliance at www.maritimeskills.org.

10. Minimum Age Requirements

10.1 The minimum age to qualify for a BML varies according to the category of water and the type of operation.

10.2 The minimum age requirements for:

- the Tier 1 BML and endorsements are contained in Table A of **Annex 5**.
- the Tier 2 BML are contained in **Annex 6**.

11. Qualifying Service Time Requirements

11.1 The Qualifying Service Time (**QST**) and minimum qualifying period for BMLs will vary according to the category of water and the type of operation.

11.2 Qualifying service means service which has been undertaken:

(a) in an appropriate deck capacity;
(b) in appropriate waters; and
(c) on vessels appropriate to the class of licence / certificate / endorsement applied for.

11.3 Candidates for the generic Tier 1 BML must complete the required QST within a minimum qualifying period to be eligible for the issue of the licence. Details of both are set out in **Annex 5**.

11.4 Additional qualifying service requirements for LKEs are also set out in **Annex 5**. With the exception of qualifying for the Port of London LKE, this service may be served concurrently with the QST for the generic Tier 1 BML.

11.5 The service requirement for the Port of London LKE must be served after completing the service required for the generic Tier 1 Level 2 BML.

11.6 QST for specialist operation endorsements must be served after completing the QST for the generic Tier 1 BML, an illustration on how to count QST is available in **Annex 5**.

11.7 QST for Ro-Ro and fast craft endorsements may be counted concurrently with the QST for other specialist operation endorsements (passenger or cargo endorsement).

11.8 There are no set QST or minimum qualifying period for Tier 2 BMLs. Instead, a candidate must demonstrate that they have sufficient experience to be proficient in handling the vessel, have adequate knowledge of navigation matters, local rules and any necessary related skills. Examples of these are: methods of controlling and directing passengers (for a passenger operator); or the loading of cargo with regard to stability (for a freight operator).

11.9 QST must be recorded in a Work Record – see section 13 below.

12. Underpinning Knowledge

12.1 All BML candidates need to be examined in the theoretical and underpinning knowledge which supports their practical skills.

12.2 Examination of that underpinning knowledge will be carried out by the MCA or an MCA approved examining body.

12.3 The full syllabus for underpinning knowledge for the two generic licences and specialist endorsements is contained in **Annex 7, 8 and 9** respectively.

12.4 Candidates for Tier 2 licences will be examined on the sections of the generic Tier 1 and specialist operation endorsements syllabi that are relevant to their proposed area and type of operation.

12.5 There is no requirement under the 2015 Regulations to attend an underpinning knowledge course prior to the MCA examination. However, BML underpinning knowledge may be assessed through successfully completing the relevant series of MSQ[29] units in lieu of the MCA oral assessment.

12.6 Normally the MCA will conduct an on-board practical and oral assessment for Tier 2 BML candidates.

13. Work Record

13.1 All boatmasters should complete a Work Record to record their service and experience. This Work Record must be submitted to the MCA when the candidate first applies for the BML, and thereafter when the holder of a BML applies to revalidate it. The record can be an important personal record if a boatmaster changes employer.

13.2 The Work Record is available from the MCA's website[30]. This is the recommended format but others will be acceptable provided that they show all the details indicated.

14. Ancillary Safety Training Requirements

14.1 Ancillary safety training is an integral part of the competency requirements. There are three one-day basic safety courses which must be successfully completed by **all candidates**:

(a) Personal Survival;
(b) First Aid;
(c) Fire Safety.

14.2 All ancillary training required for issue of a BML must be completed at an MCA approved training centre. A list of MCA approved training centres is available from the MCA's website[31] or on request from exams@mcga.gov.uk.

14.3 Completion of the relevant MSQ units[32] will be acceptable in lieu of completion of the three one day basic safety courses.

14.4 The syllabi for the three ancillary safety training courses are contained in **Annex 7**.

15. Training Record Book

15.1 The Training Record Book (**TRB**) is an essential and integral part of a candidate's training and certification for the BML. It is designed to be kept by the candidate and is a personal record of skills mastered and knowledge and experience gained. The TRB is also important in helping to ensure accountability and transparency in the training process.

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[29] The Maritime Skills Alliance has developed Maritime Studies units, grouped in a range of Maritime Studies Qualifications (MSQs), to cover BML generic underpinning knowledge (UOK) specialist endorsements and ancillary safety training. The MCA will publish a list of MSQ unit and qualification codes which cover these requirements. MSQs are transferable across the maritime sector, and information on existing units and qualifications is available from www.maritimeskills.org.
[30] The BML Work Record is available on www.gov.uk, search for "MSF 4366".
[31] Approved training providers are listed on www.gov.uk, search for "BML Training Providers".
[32] Further information on MSQ units is available from the Maritime Skills Alliance at www.maritimeskills.org.

15.2 The TRB is divided into the following main sections:

(a) generic requirements for all water categories A, B, C and D;
(b) additional generic requirements for categories A and B only;
(c) additional generic requirements for categories C and D and limited coastal operations;
(d) specialist endorsement requirements.

15.3 For Tier 1 BML candidates, the TRB must be completed in respect of the generic BML and any endorsements they wish to take. It lists a number of tasks that must be performed and mastered, which together with the relevant underpinning knowledge, will satisfy the competency requirements of the BML. When a task is satisfactorily performed or an item of learning completed, it should be recorded in the TRB in the spaces provided.

15.4 For Tier 2 BML candidates the TRB should be completed, as far as is appropriate, for their area, type of operation and vessel, for the following reasons:

- it is a valuable personal record of training done and skills mastered, which may also be useful if a new Tier 2 boatmaster changes vessels or employers;
- any training done and skills mastered which are recorded in the TRB can be used towards a Tier 1 licence if the holder wishes later to apply for a national licence;
- it will improve accountability and transparency with regard to the candidate's training; and
- it will provide a useful quick reference for both the candidate and the examiner.

15.5 The completed TRB must be submitted to the examiner for the candidate's onboard practical and oral assessment. The examiner will refer to the TRB in testing the candidate's skills and knowledge during the assessment.

15.6 Further details and guidance are given in the TRB, which is available from www.gov.uk, search for "BML TRB".

16. Medical Fitness

16.1 A valid medical fitness certificate must be submitted when applying for a BML, upgrade or endorsement.

16.2 To serve as a boatmaster BML holders aged 45 to 64 must be in possession of a valid medical fitness certificate.

16.3 To serve as a boatmaster BML holders aged 65 and over must be in possession of a valid medical fitness certificate issued within the last year.

16.4 To serve as a boatmaster, qualified licence holders of any of the acceptable alternative qualifications under the 2015 Regulations must be in possession of a valid medical fitness certificate appropriate to the type and area of operation.

16.5 Any BML holder wishing to operate a passenger vessel which goes beyond categorised waters must hold a valid **ENG1** seafarer medical certificate (or equivalent issued by a recognised country as specified in MSN 1815 or any subsequent revision).

16.6 A valid ML5 Medical Certificate is required for all other types of operation in the following circumstances:

(a) a new entrant making a first application for a BML;
(b) a BML holder applying for an upgrade or endorsement;

(c) a BML holder aged 45 to 64 must hold an ML5 issued within the last 5 years;
(d) a BML holder aged 65 and over must hold an ML5 issued within the last year.

16.7 A valid ENG1 is an acceptable alternative to a ML5 Medical Certificate.

16.8 ENG1 certificates are issued following an examination by an MCA approved doctor[33]. An ENG1 certificate is valid for one year for seafarers aged less than 18 years old and a maximum of 2 years for those aged 18 years old and over.

16.9 An ML5 form containing the blank certificate (MSF 4112) is available on request from any MCA Marine Office, or may be downloaded from www.gov.uk, search "MSF 4112". The form must be completed by a General Medical Council registered medical practitioner with a valid licence to practice. An ML5 Medical Certificate is valid for a maximum of 5 years for seafarers up to 64. For seafarers 65 and over the ML5 Medical Certificate is valid for a maximum of 1 year.

16.10 At revalidation BML holders under the age of 45 must sign a self-declaration on the application form attesting medical fitness. BML holders aged 45 and over must also submit either a valid ENG1 or ML5 Medical Certificate with their revalidation application.

16.11 Whilst the validity periods of the BML qualifications may differ from that of the medical fitness certificates, it is the individual boatmaster's responsibility to ensure they are medically fit to serve as master.

16.12 The MCA may, if it becomes aware that the licence holder is suffering from a relevant medical condition, call for a medical report, and has the power to suspend or revoke a licence on the grounds that, for health reasons, the holder is not fit.

16.13 All BML holders must notify the MCA Marine Office that approved their licence application of any changes or deterioration in health that might affect their medical fitness to operate a vessel.

16.14 A BML holder is considered to be medically fit if they hold the appropriate valid medical fitness certificate as specified in para. 16.5 and 16.6 and there has been no subsequent deterioration in their health.

16.15 A BML holder is considered to be medically unfit if they develop any medical condition including those listed in sections 1-8 of Part B to the Seafarer Medical Report Form (ML5).

16.16 Should boatmasters develop any medical conditions on the ML5, they must cease operating until they are assessed by a qualified medical practitioner as medically fit to resume duties and issued with a valid ML5 or ENG1 medical certificate.

16.17 More detailed information on medical fitness requirements is contained in MGN 264.

17. Practical Boat Handling

17.1 All BML candidates must undergo a practical test of their seamanship and vessel handling competencies under various circumstances. The practical test will be carried out by an MCA examiner or, with the agreement of the MCA, under a company's ISM/DSM system.

17.2 The examiner will normally refer to the candidate's Training Record Book and Work Record before and during the assessment. The examiner may ask questions relating to information that has been entered into both documents and regarding any tasks that have not been completed to ensure that the candidate meets the competency requirements.

[33] A list of MCA approved doctors is available from www.gov.uk, search "MCA Approved Doctor".

18. Validity of BMLs

18.1 All BMLs are valid for a maximum of five years. To enable the boatmaster to continue operating, it is advised that the licence be revalidated before its expiry date, although an application can be made up to 6 months after the licence has expired.

19. Revalidation requirements for a BML and how to apply

19.1 Evidence of qualifying service is required to revalidate all BMLs and vessel/operation specific service time is required to revalidate the following endorsements: General Passenger, Large Passenger, Towing and Pushing, Fast Craft, Oil Cargoes, Chemical Cargoes and Liquefied Gas Cargoes operations and local knowledge.

19.2 To revalidate a generic BML and any relevant endorsements, candidates must meet the following criteria:

(a) have completed the appropriate **revalidation qualifying service time** for the generic BML in the five years preceding the date of application;
(b) have completed the appropriate **revalidation qualifying service time** for the relevant specialist operations endorsement in the five years preceding the date of application, or submit the relevant accepted equivalent certificate[34] to the BML endorsement;
(c) submit a letter from the relevant competent harbour authority confirming revalidation requirements for the LKE have been met;
(d) produce evidence of this service in an accepted format[35]; and
(e) produce evidence attesting to their **medical fitness**.

19.3 The revalidation qualifying service requirements for masters holding a BML issued under the 2015 Regulations and certain specialist operation endorsements are set out in the following table:

Generic BML / Endorsement	Revalidation qualifying service
Tier 1 Level 2	120 days
General Passenger	60 days
Large Passenger	60 days
Towing and Pushing	60 days
Oil	30 days
Chemical	30 days
Gas	30 days
Ro-Ro	30 days
Fast Craft	60 days

[34] Accepted equivalents to BML endorsements are listed in Table C of **Annex 5** of this Notice.
[35] Where an accepted format is one of the following: (1) A company letter signed by an appropriate person (e.g. the owner or fleet manager); (2) A completed BML Work Record (MSF 4366); (3) A letter from a representative of the statutory navigation/port authority responsible for the area in which the applicant operates; (4) A letter from a shipper or customer who can verify the applicant has the relevant experience; or (5) A letter from a trade association who can verify the applicant has the relevant experience.

Tier 1 Level 1 General Passenger Large Passenger Towing and Pushing Oil Chemical Gas	120 days 30 days 30 days 30 days 30 days 30 days 30 days
Tier 2 Level 2	50 days
Tier 2 Level 1	50 days

19.4 No vessel specific service time is required to revalidate the Cargo, Dredging or Radar endorsements – they are automatically carried forward on revalidation of the generic licence.

19.5 The revalidation requirements for LKEs are determined by the relevant competent harbour authority and are set out below:

Local Knowledge	**Practical Exam**	**Oral Exam**	**Revalidation Service Time / Experience**
Bristol Port	N/A	N/A	6 passages (3 round voyages) within the preceding year of the application.
Local Knowledge	**Practical Exam**	**Oral Exam**	**Revalidation Service Time / Experience**
Caernafon and Menai Straits	N/A	N/A	60 days within preceding 5 years of the application.
Dee Conservancy	N/A	Yes	N/A
Dover Harbour	N/A	Yes	N/A
Fowey Harbour	N/A	N/A	6 weeks within the preceding 2 years of the application.
Gloucester Harbour	N/A	N/A	6 passages (3 round voyages) within the preceding year of the application.
Medway	N/A	Yes	60 days within preceding 5 years of the application.
Port of Liverpool	N/A	N/A	N/A
Port of London[36]	N/A	Yes	Not less than 60 days' qualifying service, undertaken in varying conditions including trips in different directions and trips during the hours of darkness, with the last day of that service being undertaken not less than 6 months after the first day.
Padstow Harbour			6 voyages outward from the harbour and 6 voyages inward to the harbour under the supervision of a person authorised by Padstow Harbour Authority.

[36] Qualifying service completed across the length of the Port of London LKE area will enable a Boatmaster to revalidate a Port of London LKE (Margaretness to Putney Bridge). Boatmasters who have completed their qualifying service exclusively in either the Margaretness to London Bridge area or Wappingness to Putney Bridge area will receive an endorsement for that area at revalidation.

Portsmouth Harbour			60 days within preceding 5 years of the application.
Isles of Scilly	Yes	Yes	N/A
Teignmouth	Yes	Yes	N/A

19.6 Candidates that do not have sufficient revalidation qualifying service time may revalidate their generic BML and/or endorsements through successfully passing either the MCA conducted assessment on underpinning knowledge, or by attending an MCA approved revalidation course.

19.7 For revalidation purposes, qualifying service for the endorsements may be counted concurrently with qualifying service for the generic BML.

19.8 Medical fitness requirements are set out in section 16.

19.9 Once the above criteria have been met, candidates must complete application form MSF 4365[37] and submit it with the statutory **fee**[38] to the Registry of Shipping and Seamen at the address on the application form.

20. Upgrades

20.1 Holders of a Tier 1 Level 1 licence wishing to upgrade to a Tier 1 Level 2 licence must:

(a) have completed the appropriate outstanding **qualifying service time** to meet the requirement for operations in tidal waters for the generic licence and any endorsements[39]. This service should be presented in the **Work Record book**;
(b) present certificates to reflect having completed the **ancillary safety training**;[40]
(c) present the **TRB** with the relevant sections completed which are appropriate to the type of BML sought; and
(d) present a valid accepted certificate attesting to their **medical fitness**.

20.2 Holders of a Tier 2 licence wishing to add an area of operation[41] or a type of operations must:

(a) be of the correct **minimum age** for the type of operation;
(b) have completed the appropriate **qualifying service time** and present this service in the **Work Record** book;
(c) present the **Training Record Book** (TRB) with the relevant sections completed which are appropriate to the type of BML sought; and
(d) hold a valid accepted certificate attesting to their **medical fitness**.

[37] BML Application forms can be located on www.gov.uk, search "Boatmasters Licences".
[38] Merchant Shipping (Fees) Regulations 2018 (SI 2018 No:1104).
[39] All/at least 50% of the difference in QST requirements between non-tidal and tidal operations must be completed in tidal waters. For example: QST for General Passenger Operations in non-tidal waters is a minimum of 60 days in a minimum qualifying period of 6 months, whist for tidal waters QST is a minimum of 120 days in a minimum qualifying period of 12 months. Therefore 30 days of the outstanding 60 days in 6 months must be completed in tidal waters to meet the QST requirement.
[40] Training on Category C Stores is required for First Aid training for Tier 1 Level 2 BML.
[41] Granting of additional areas on a Tier s licence is subject to MCA discretion, and will be limited to an adjacent area or an extension of existing operations. The addition of a completely different area or to accumulate a large number of areas is not permitted. Candidates wishing to increase scope substantially must obtain a Tier 1 licence.

20.3 Candidates wishing to upgrade must complete application form MSF 4370 and submit it with their existing BML, evidence of meeting the above criteria and the statutory **fees**[42] to their local MCA Marine Office[43]. On receipt of the application, the local Marine Office may then arrange assessments for the candidate:

(e) to demonstrate the required level of **underpinning knowledge** appropriate to the type of BML or endorsement sought[44]; and
(f) to demonstrate a satisfactory level of seamanship and vessel handing competencies (**practical boat handling**).

21. Transitional Arrangements

21.1 These Regulations supersede The Merchant Shipping (Inland Waterway and Limited Coastal Operations) (Boatmasters' Qualifications and Hours of Work) Regulations 2006 ('the 2006 BML Regulations') and The Merchant Shipping (Local Passenger Vessels) (Crew) Regulations 2006 ('the 2006 Crew Regulations').

21.2 BMLs issued under the 2006 BML Regulations are accepted under the 2015 Regulations for the remainder of their periods of validity. Crew Agreements issued under the 2006 Crew Regulations are also accepted under the 2015 Regulations.

21.3 This section explains the new provisions and requirements for masters qualified in accordance with the 2006 BML Regulations.

21.4 To revalidate an existing BML, boatmasters must meet the revalidation requirements set out in section 19 of this notice and complete MSF 4365 submitting it with the statutory fee[45] to the Registry of Shipping and Seamen at the address on the application form.

22. Existing masters named on BML vessel exemptions

22.1 Whilst the 2015 Regulations were being developed, in order to facilitate the recruitment of new and replacement boatmasters operating in restricted local tidal waters the MCA issued BML vessel exemptions under section 48 of the Merchant Shipping Act 1995.

22.2 The intention was that during the validity period the named masters could obtain the required knowledge, training and service time for the national Tier 1 Level 2 (**T1L2**) BML which under the 2006 BML Regulations was the only available licence for tidal waters.

22.3 BML Vessel Exemptions[46] are accepted under the 2015 Regulations for their remaining validity. When they expire, named masters on exemptions which include tidal or limited coastal waters; must complete application form MSF 4399 for the issue of the new Tier 2 Level 2 (**T2L2**) BML and submit it with the statutory fee to their local MCA Marine Office[47].

22.4 Upon receipt of such an application the local MCA Marine Office will assess whether the named master is eligible for a T2L2 BML before forwarding the application to the Registry of Shipping and Seamen for the issue of the licence.

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[42] The applicable fees are: practical and oral assessments for the generic licence, any assessments for endorsements and for the issue of a BML. The fees are contained within The Merchant Shipping (Fees) Regulations 2006 (S.I No 2006/2055), as amended.
[43] Contact details for MCA local Marine Offices are available from www.gov.uk, search for "Marine Office".
[44] Please refer to paragraph 12.5 regarding the acceptance of Maritime Studies Qualification units as meeting BML underpinning knowledge.
[45] Detailed in The Merchant Shipping (Fees) Regulations 2018 (SI 2018 No: 1104).
[46] BML Vessel Exemptions are valid for a maximum of three years.
[47] Contact details for MCA local Marine Offices are available from www.gov.uk, search for "Marine Office".

22.5 The local MCA Marine Office may require named masters to undergo a practical boat handling and/or oral underpinning knowledge assessments prior to the issue of a T2L2 BML for the following reasons:

- the original BML Vessel Exemption examination did not meet the T2L2 standard;
- the named master wishes to undertake additional operations and/or extend the area specified on the original BML Exemption.

22.6 To enable the master to continue operating, it is advised that the application be made prior to the expiry of their BML Vessel Exemption.

22.7 All applications for the T2L2 BML from named masters on BML Vessel Exemptions must be received by the local MCA Marine Office within **3 years of 4 April 2015 (the date on which the 2015 Regulations came into force)**; all subsequent applications will be treated as from a new entrant.

23. Existing T1L2 BML holders operating on the Medway

23.1 The 2015 Regulations have introduced the requirement for boatmasters holding a T1L2 licence operating on the Medway in the waters specified in para. 7.2 to hold the Medway LKE.

23.2 Existing holders of a T1L2 BML who can evidence having operated 40 days in the waters specified above prior to the introduction of the 2015 Regulations may continue operating in this area. Such boatmasters must become qualified in accordance with the 2015 Regulations (i.e. obtain a Medway LKE) within **5 years of 4 April 2015 (the date on which the 2015 Regulations came into force)**. Due to their experience these masters will not be subject to the local knowledge examination but will be required to meet the service time requirements specified in para. 23.4.

23.3 Existing holders of a T1L2 BML who cannot evidence having operated in the waters specified above prior to the 2015 Regulations must meet the full requirements for the Medway LKE specified in para. 23.4 should they wish to operate on waters encompassed by the Medway LKE.

23.4 To qualify for the Medway LKE, existing boatmasters must

- have not less than 80 days' qualifying service with the last day of that service being undertaken not more than 5 years after the first day; and
- successfully pass a test[48] on local knowledge conducted by an MCA (or MCA approved) examiner.

23.5 Existing boatmasters should apply for the Medway LKE by completing application form MSF 4370 and submit it to the Registry of Shipping and Seamen with the statutory **fee**.

24. Existing T1L2 BML holders undertaking specialist operations

24.1 The Ro-Ro endorsement was introduced by the 2015 Regulations. Existing boatmasters holding a T1L2 BML[49] who can evidence having operated 30 days prior to the introduction of the 2015 Regulations on Ro-Ro vessels may continue to do so for the validity of their current licence. On revalidation, these boatmasters will need to evidence having at least 60

[48] The requirements covered during test on local knowledge for Medway are specified in **Annex 12** of this Notice.
[49] The Ro-Ro endorsement will only be required for operations on tidal waters.

days qualifying service in the five years preceding the date of application to have their BML endorsed for Ro-Ro operations.

24.2 The 2015 Regulations separate out the 'oil and chemical cargo endorsement' under the 2006 BML Regulations into three distinct oil, chemical and liquefied gas cargo endorsements. Existing boatmasters holding a Tier 1 BML operating vessels carrying any of the three cargoes may continue to do so for the validity of their current licence. On revalidation, these boatmasters will need to evidence having at least 30 days qualifying service (appropriate to the endorsement which they wish to revalidate) in the five years preceding the date of application to have their BML endorsed.

25. Existing Tier 2 BML holders

25.1 Tier 2 BMLs issued in accordance with the 2006 BML Regulations are accepted under the 2015 Regulations for their current validity period. On revalidation holders of Tier 2 licences for areas:

- including tidal waters, will be issued with a Tier 2 Level 2 (**T2L2**) BML;
- of non-tidal waters only, will be issued with a Tier 2 Level 1 (**T2L1**) BML.

25.2 Furthermore, on revalidation, T2L1 BMLs will be automatically upgraded to enable the holder to operate on all Category A Canals nationally. This upgrade can also be extended to T2L2 BML holders upon request and submission of evidence confirming they have operated 30 days on Category A Canals in the five years preceding the date of application.

26. Existing masters using accepted alternative qualifications to operate small vessels in commercial use

26.1 The 2015 Regulations introduced the requirement for masters of a small vessel in commercial use using an accepted alternative qualification to obtain a BML specialist operations endorsement or equivalent[50] if undertaking towing and pushing operations.

26.2 Existing masters to which para. 26.1 applies, must have become qualified in accordance with the 2015 Regulations (i.e. obtain a BML specialist operations endorsement for towing and pushing or accepted equivalent) within **1 year of 4 April 2015 (the date on which the 2015 Regulations came into force)**.

26.3 Existing masters who can evidence a minimum of 60 days qualifying service appropriate to towing and pushing operations in the 12 months preceding the 2015 Regulations coming into force, will be granted the relevant BML paper specialist operations endorsement(s) without further assessment.

26.4 Existing masters meeting the condition outlined in para. 26.3 should apply for the relevant BML specialist operation endorsement(s) by completing MSF 4398 and submit it with the statutory **fee** to their local Marine Office.

26.5 For masters holding alternative qualifications, the BML specialist operation endorsement will be carried as a separate paper certificate to be kept with the alternative qualification.

26.6 Those masters carrying out specialist operations other than towing and pushing must have become qualified in accordance with the 2015 Regulations (i.e. either obtain the relevant Tier1 BML and specialist operations endorsement or the relevant Tier 2 BML for the specific operation) within **2 years of 4 April 2015 (the date on which the 2015 Regulations came into force).**

[50] Qualifications accepted as equivalents to the BML specialist endorsements are listed in Table C of **Annex 5** of this Notice.

26.7 Existing masters to which para. 26.6 applies should apply for the relevant BML and endorsement by completing MSF 4364 and submit it with the statutory fee to their local Marine Office.

27. Existing crew approvals issued under the 2006 Crew Regulations

27.1 Any crew approvals issued under the 2006 Crew Regulations or The Merchant Shipping (Local Passenger Vessels) (Masters' Licences and Hours, Manning and Training) Regulations 1993 continue to have effect under the 2015 Regulations.

28. Fees

28.1 The fees for the BMLs and endorsements are detailed in the Merchant Shipping (Fees) Regulations 2018 (SI. No. 2018 No:1104).

29. Exemptions

29.1 MCA has powers to issue an exemption from the 2015 Boatmasters' Regulations requirements for a specified vessel. These powers will only be exercised where there are strong grounds for why the requirements of the 2015 Regulations cannot be met in full and safety is not jeopardised.

29.2 Exemptions will be time-limited and conditional on the operator satisfying the MCA that the alternative arrangements proposed are equivalent, in terms of the safety of the crew and any passengers carried, to the vessel being manned in accordance with the 2015 Regulations.

30. Penalties

30.1 It is an offence under section 52 of the Merchant Shipping Act 1995 (unqualified persons going to sea as qualified officers and seamen) for a person to whom the 2015 Regulations apply, to serve as master of a vessel which goes to sea, without a BML, or accepted alternative qualification that is valid for both the area and type of operation. A person guilty of such an offence is liable to a fine.

30.2 It is an offence under regulation 45(1) of the 2015 Regulations for a boatmaster to serve as a master of a vessel to which part 2 of the 2015 Regulations applies, to sail without being medically fit to perform duties.

30.3 The owner of a vessel who allows the vessel to sail knowing that the master is not medically fit, commits an offence under regulation 45(2) of the 2015 Regulations.

30.4 It is an offence under regulation 46(1) of the 2015 Regulations for the holder of a BML to fail to disclose a medical certificate as required by the 2015 Regulations.

30.5 The owner of a vessel who allows the vessel to sail knowing that the master has failed to disclose a medical condition as required, commits an offence under regulation 46(2) of the 2015 Regulations.

30.6 It is an offence under regulation 47(1) of the 2015 Regulations for a master to proceed on a voyage without approval by the Secretary of State under regulation 41 or 53 where approval is required.

30.7 The owner of a vessel who allows a master to proceed on a voyage without approval by the Secretary of State under regulation 41 or 53 where approval is required, commits an offence (see regulation 47(2) of the 2015 Regulations).

30.8 It is an offence under regulation 48 of the 2015 Regulations for a master to work in contravention of the self-employed masters' hours of work requirements in Part 4 of the 2015 Regulations.

30.9 The afore-mentioned enforcement provisions also set out the relevant penalties and defences which may be available.

30.10 Information on medical fitness requirements is contained in section 16 of this notice.

30.11 In relation to para. 30.6 and 30.7 the process for proposal and approval of qualifications for crew members is set out in Part 3 of the 2015 Regulations.

31. Grievances

31.1 Any BML candidate aggrieved by an assessment under the 2015 Regulations may set out their complaint and reasons for it in writing[51] to the Secretary of State, via the Surveyor in Charge at the appropriate local Marine Office of the MCA.

31.2 Upon receipt of such representations, the Surveyor in Charge must investigate the complaint and, if it is considered justified, may offer to take such action as is deemed appropriate in relation to the complaint.

31.3 A candidate who is not satisfied with the action offered may appeal in writing to the Chief Executive of the MCA at Spring Place, 105 Commercial Road, Southampton SO15 1EG setting out the grounds of their appeal.

31.4 Upon receipt of such representations the Chief Executive must investigate the complaint and if it is considered justified, may offer to take such action as is deemed appropriate in relation to the complaint.

31.5 A candidate who is not satisfied with the action offered may ask the Chief Executive to refer the complaint to an independent adjudicator for a review of the fairness of the handling of the complaint.

31.6 The independent adjudicator may request such further written evidence as is reasonably required and may make such recommendations as is deemed appropriate to the Chief Executive who must act upon them.

32. Further Information

32.1 Further information on the contents of this Notice can be obtained from the MCA at the address given below.

[51] In writing includes email.

More Information

Seafarer Services
Maritime and Coastguard Agency
Bay 2/13
Spring Place
105 Commercial Road
Southampton
SO15 1EG

Tel: +44 (0) 203 8172200
e-mail: boatmaster@mcga.gov.uk

Website Address: www.gov.uk/government/organisations/maritime-and-coastguard-agency

General Enquiries: infoline@mcga.gov.uk

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Please note that all addresses and
telephone numbers are correct at time of publishing

Safer Lives, Safer Ships, Cleaner Seas

Annex 1

Classification of Vessels

A. VESSELS WHICH ARE PASSENGER SHIPS

Class IV	Vessels engaged only on voyages in waters of category A, B, C or D.
Class V	Vessels engaged only on voyages in waters of category A, B or C.
Class VI	Vessels carrying not more than 250 passengers engaged in voyages to sea or in waters of category A, B, C or D, in favourable weather and during restricted period, in the course of which the vessels are at no time more than 15 miles (exclusive of waters of category A, B, C or D) from their point of departure or more than 3 miles from land.
Class VI(A)	Vessels carrying not more than 50 passengers engaged on voyages over a distance of not more than 6 miles to or from isolated communities on the islands or coasts of the United Kingdom and in the course of which they are never more than 3 miles from land.
Passenger Ships Operating Solely in UK Categorised Waters	Vessels in compliance with The Merchant Shipping (Passenger Ships) (Safety Code for UK Categorised Waters) Regulations 2010 (SI 2010 No: 680) built to the standard specified in MSN 1823, as amended.
High Speed Craft	Vessels in compliance with The Merchant Shipping (High Speed Craft) Regulations 2004 (SI 2004 No:302) as amended, if operating exclusively in categorised waters.

B. VESSELS WHICH ARE NOT PASSENGER SHIPS

Class IX(A)	Vessels other than passenger ships and tankers which do not proceed to sea.
Class IX(A)(T)	Tankers which do not proceed to sea.

Annex 2

Vessels exempted under the 2015 Regulations

Masters of small commercial vessels certificated under the SCV Regulations holding an appropriate SCV Code qualification do not need to comply with these Regulations.

"certificated" in relation to a small commercial vessel, means complying with the requirements as to the possession and display of a certificate contained in the SCV Regulations.

"SCV Code qualification" means a qualification specified in a code of practice for the safety of seagoing small commercial vessels which satisfies a requirement as to the manning of vessels imposed by the SCV Regulations.

"SCV Regulations" means The Merchant Shipping (Small Workboats and Pilot Boats) Regulations 1998, as amended, and The Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations 1998[52], as amended.

Masters operating vessels considered to be engaged in low risk operations do not need to comply with the 2015 Regulations. Vessels operating in low risk conditions are:

1) An unpowered vessel, including oared and poled vessels less than 24 metres in load line length and carrying not more than 12 passengers;

2) A horse drawn vessel less than 24 metres in load line length and carrying not more than 12 passengers;

3) Vessels in use primarily as a home for the owner, where:

   - any trade carried out from the vessel is ancillary to its use as a home,
   - and the vessel is not licenced or registered for commercial purposes by the competent navigation authority.

4) Vessels licenced as 'Low Risk Roving Traders' by the Canal & River Trust (formerly known as 'British Waterways) where:

   - trade is only conducted whilst the vessel is securely moored in locations with firm and safe pedestrian access to the vessel;
   - customers do not board the vessel;
   - the combined weight of goods, materials and tools necessary for trade is less than 1 tonne;
   - no fuel, waste or hazardous substances are carried or sold;
   - the vessel is not used to carry out boat maintenance works or tow other boats as part of the vessel's trade;
   - power tools are not used as part of the trading activity, and
   - no operations are undertaken that have the capability of causing harm to any other water user.

5) Vessels less than 24m, engaged in low risk operations within categorised waters that are under the control/direction of the local harbour authority or, where no local harbour

[52] Masters of vessels operating under the MVA's Small Commercial Vessel and Pilot Boat (SCV) Code(s) must hold one of the qualifications listed in Annex 3 of MGN 280, which is currently available from www.gov.uk, search "MGN280".

authority exists, the relevant authority. This is subject to conditions i-iii and the skipper holding an appropriate qualification acceptable to the local harbour authority or relevant authority; examples include:

- RYA Powerboat Level 2 (without commercial endorsement) – daytime operations;
- RYA Advanced Powerboat (without commercial endorsement) – night time operations.

Examples of such low risk operations include:

- harbour patrols/pilot boat operations;
- hydrographic surveys;
- checking navigational lights;
- supporting local, civil and military authorities;
- collection of harbour dues from visiting yachts;
- providing safety boat cover to volunteers clearing river or canal banks; and similar low risk activities.

6) Vessels not normally used for commercial purposes, or are only used very occasionally for commercial purposes and, if not so used would be pleasure vessels; for example:

- when used for local fetes;
- when used for events marshalling;
- when used as a committee boat;
- when used for boat demonstrations, 'Try a Boat' events or second hand boat show trips;
- an historic vessel operated during a festival or similar event;
- undertaking trials following repair work on a new build vessel but not proceeding beyond the 'limited coastal area' as defined in the 2015 Regulations.

These operations are subject to conditions i-iii.

7) Small vessels[53] in use as a working platform for works in non-navigable waters[54] or in waters where there is no other commercial traffic. These operations are subject to conditions i-iii.

8) Small vessels in use, subject to conditions i-iii:

- within a marina, dock or similarly enclosed or partially enclosed premises

or;

- for occasional trips in support of the operation of the business in those premises within the local area but not proceeding to sea.

The conditions are:

i. The company or organisation has carried out a risk assessment of the operation—
   - In accordance with the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 ("the 1997 Regulations"); or
   - (where the 1997 Regulations do not apply) in a manner which would comply with the 1997 Regulations if they did apply; and

[53] "small vessels" means a vessel which does not carry more than 12 passengers (if any) which in the judgement of the Secretary of State does not pose a risk to other vessels operating in the same area.
[54] "non-navigable waters" means waterways which are not open for the normal passage of vessels but admit the access of vessels for maintenance works and similar limited purposes.

- taken any measures necessary to reduce all risks to “low” level of likelihood and a “low” severity of harm (see MGN 20); or
- found that any risks have a “low” risk of likelihood of harm and “low” severity of harm (see MGN 20); and

ii. The company or organisation runs an in-house training scheme which covers safe operation of such vessels, and ensures that a safe place of work is provided and maintained; and

iii. The person serving as the master of the vessel has received appropriate training or experience to minimise the risks identified.

Annex 3

Alternative qualifications for masters of small vessels

Masters of small vessels in commercial use under 24m in loadline length which carry no more than 12 passengers and are not certificated to operate under the MCA's Small Commercial Vessel and Pilot Boat (SCV) Code) may hold one of the following qualifications in lieu of a BML.

The possession of a Certificate of Competency or Service should not, on its own, be regarded as evidence of the ability to serve in a particular rank on a specific vessel. The owner(s)/managing agent(s) must ensure that there are sufficient trained personnel on board to work the vessel having due regard for the nature and duration of the voyage.

Certificate	**Valid for Categories of Waters**					**Limitations**	**Evidence of Medical Fitness**[55]
	A	**B**	**C**	**D**	**5/15**		
British Wakeboard & Ski Federation (BWSF) Ski Boat Driver Level 2 Certificate	√	√	√	√		Powerboats of not more than 375 kilowatt engine power and not more than 8.5m in length; within inland waterways or in sheltered waters within one mile from the coast; for the towing of water skiers only.	None
British Wakeboard & Ski Federation (BWSF) Ski Boat Driver Level 3 Certificate	√	√	√	√		Powerboats of not more than 375 kilowatt engine power and not more than 8.5m in length; within inland waterways or in sheltered waters within one mile from the coast; for the towing of inflatables or water skiers only.	None
Boatman's licence issued by a Competent Navigation Authority /Local Authority	√	√	√	√	√	Restricted to the areas specified in the licence.	As specified by Competent Navigation Authority/Local Authority[56]
Inland Waterways Association (IWA) Certificate of Boat Management	√						None

[55] With the exception of the UK Master Code Vessel Certificate of Competency, the following qualifications are also accepted as evidence of meeting the medical fitness requirements: (a) Civil Aviation Authority Commercial Pilot's Licence; (b) Health and Safety Executive (HSE) Diving Medical Certificate; and (c) Driver Vehicle Licensing Agency (DVLA) Group 2 Driver's Licence. Masters of small vessels holding these certificates should refer to Annex 3 of MGN 280 for guidance on validity and colour vision requirements.

[56] Where a local authority issues its own licences it is the duty of the Competent Navigation Authority/Local Authority to ensure their licence holders are medically fit. Where the ML5 report is used in conjunction with a Boatman's Licences issued by a Competent Navigation Authority/Local Authority the holder is not eligible for the MCA referral process. Any medical referral process required for ML5 holders with Boatman's Licences issued by a Competent Navigation Authority/Local Authority must be completed to the satisfaction of the Competent Navigation Authority/Local Authority.

Certificate	Valid for Categories of Waters					Limitations	Evidence of Medical Fitness
	A	B	C	D	5/15		
IYT Master of Yachts 200 tons (Coastal) and 3 months relevant experience	√	√	√	√	√		ENG1
IYT Master of Yachts 200 tons (Limited) and 3 months relevant experience	√	√	√	√	√		ENG1
IYT Master of Yachts 200 tons (Unlimited) and 3 months relevant experience	√	√	√	√	√		ENG1
National Community Boats Association Certificate in Community Boat Management	√	√					None
RYA Advanced Powerboat CoC with commercial endorsement	√	√	√	√	√		ML5 or ENG1
RYA Advanced Powerboat CoC	√	√					None
RYA Advanced Powerboat Practical Certificate with commercial endorsement and 12 months experience – if issued before 1 Jan 2005	√	√	√	√	√		ML5 or ENG1
RYA Advanced Powerboat Practical Certificate	√	√					None
RYA Day Skipper - Practical Certificate with commercial endorsement and 3 months experience	√	√	√	√		Within 3 miles from a nominated departure point(s) named in the certificate and never more than 3 miles from land, in favourable weather and daylight.	ML5 or ENG1
RYA Day Skipper - Practical Certificate	√	√				In favourable weather and daylight only.	None
RYA Day Skipper - Theory & Practical Certificate with commercial endorsement and 3 months relevant experience	√	√	√	√	√	In favourable weather and daylight only.	ML5 or ENG1
RYA Inland Waterways Helmsman Certificate	√	√					None
RYA Powerboat Level 2 with commercial endorsement and 3 months relevant experience	√	√	√	√	√	Within 3 miles from a nominated departure point(s) named in the certificate and never more than 3 miles from land, in favourable weather and daylight.	ML5 or ENG1
RYA Powerboat Level 2	√	√				In favourable weather and daylight only.	None
RYA Yachtmaster Coastal Certificate of Competency or Service with commercial endorsement and 3 months relevant experience	√	√	√	√	√		ML5 or ENG1

Certificate	Valid for Categories of Waters					Limitations	Evidence of Medical Fitness
	A	B	C	D	5/15		
RYA Yachtmaster Coastal CoC or CoS	√	√					None
RYA Yachtmaster Ocean Certificate of Competency with commercial endorsement and 3 months relevant experience	√	√	√	√	√		ML5 or ENG1
RYA Yachtmaster Ocean CoC	√	√					None
RYA Yachtmaster Offshore Certificate of Competency with commercial endorsement and 3 months relevant experience	√	√	√	√	√		ML5 or ENG1
RYA Yachtmaster Offshore CoC	√	√					None
UK Certificate of Competency - Master Code Vessel less than 200gt (unlimited or limited to 150 miles from a safe haven)	√	√	√	√	√		ENG1

Annex 4

Alternative qualifications for masters of all vessels

Subject to a practical boat handling examination for holders of alternative qualifications which do not include a command capacity or function[57], the 2015 Regulations allow equivalent or higher sea-going qualifications to be used in lieu of the BML for vessels in scope of the 2015 Regulations. The accepted qualifications are listed below:

Certificate	**Limitations**[58]	**Medical Fitness Certificate**
Canal & River Trust Helmsman Certificate	For Canal & River Trust Employees and volunteers only, within the Canal & River Trust waters specified by the licence.	Canal & River Trust medical
Skipper Full		ENG 1
Second Hand Full		ENG 1
Second Hand Special		ENG 1
Sailing Barge Master's Certificate	For use on Thames Sailing Barges only Restricted to areas specified in the licence.	ML5 or ENG1
UK Certificates of Competency[59] (STCW Class II/1, II/2 or II/3, except Master Code Vessel less than 200gt)		ENG 1
UK Certificates of Equivalent Competency (STCW Class II/1, II/2 or II/3)		ENG 1
UK Fishing Deck Certificates of Competency Class 1 or 2 (or pre 1984 equivalent)		ENG 1
UK Inshore Tug Certificate	For use on inshore tugs only.	ENG 1
UK Royal Navy Certificates of Competency (STCW Class II/1 or II/2)		ENG 1
UK VQ Level 3 Fishing Vessel Operations (Skipper (Fishing)- Inshore)		ENG 1
UK VQ Level 4 Fishing Vessel Operations		ENG 1

[57] Paras 4.3-5 of this Notice refer.
[58] As per para. 4.2 of this Notice, holders of these alternative qualifications must still comply with specialist operation or local knowledge requirements where applicable. Details of these endorsements are contained within **Annex 5.**
[59] Service time accumulated serving as a master of vessels on inland waterways is accepted for the revalidate on of a master's or officer's Certificate of Competency issued in accordance with STCW '78, as amended. Please refer to MSN 1861, for further details.

Annex 5

Qualifying requirements for Tier 1 Boatmasters Licences and endorsements

Table A. GENERIC BOATMASTERS LICENCE

			Qualifying Service Time (QST)	
Generic Licence[60]	**Waters**	**Min. age**	**Min. no. of days**	**Min. qualifying period**
Tier 1 Level 2	Tidal[61] and Non- Tidal[62]	18	240	24 months
Tier 1 Level 1	Non-Tidal	18	120	12 months

Table B. LOCAL KNOWLEDGE ENDORSEMENT (LKE)

In addition successfully passing a local knowledge test (paras. 7.6 and 7.7 refer), candidates for certain areas must also have completed qualifying service for the issue of an LKE. The qualifying service requirements are specified below:

Area	**Min. age**	**Qualifying Service**[63]
Bristol Port	18	N/A
Caernafon and Menai Strait	18	N/A
Dee Conservancy	18	N/A
Dover Harbour	18	N/A
Fowey Harbour	18	N/A
Gloucester Harbour	18	N/A
Medway	18	Not less than 80 days qualifying service with the last day of that service being undertaken not more than 5 years after the first day.
Padstow Harbour	18	6 voyages outward from the harbour and 6 voyages inward to the harbour under the supervision of a person authorised by Padstow Harbour Authority.
Port of Liverpool	18	N/A
Port of London[64]	18	Not less than 60 days' qualifying service, undertaken in varying conditions including trips in different directions and trips during the hours of darkness, with the last day of that service being undertaken not less than 6 months after the first day.
Portsmouth Harbour	18	Not less than 60 days' qualifying service with the last day of that service being undertaken not less than 6 months after the first day.
Isles of Scilly	18	Not less than 60 days' qualifying service with the last day of that service being undertaken not less than Not less than 60 days' qualifying service with the last day of that service being undertaken not less than 6 months after the first day.
Teignmouth	18	N/A

[60] Holders of a generic Tier 1 BML are permitted to carry no more than 12 passengers and undertake any operations which do not require a specialist operations endorsement. They may operate nationally in the waters determined by the level of their licence subject to local knowledge requirements.
[61] Tidal waters means inland waters of categories C and D. Limited coastal means outside of categorised waters, but no more than 15 miles from point of arrival or departure and 5 miles to sea.
[62] Non-tidal waters means inland waters of categories A, B and non-linked C.
[63] With the exception of qualifying service for the Port of London LKE which must be counted consecutively (in addition), qualifying service for other LKEs may be counted concurrently to the QST for the generic BML.
[64] Qualifying service completed across the length of the Port of London LKE area will enable a Boatmaster to revalidate a Port of London (Margaretness to Putney Bridge) LKE. Boatmasters who have completed their qualifying service exclusively in either the Margaretness to London Bridge area or Wappingness to Putney Bridge area will receive an endorsement for that area at revalidation.

Table C. SPECIALIST OPERATIONS ENDORSEMENT

Candidates must in addition to a generic BML, obtain a specialist operation endorsement to undertake operations specified in the 2015 Regulations. The qualifying service requirements are specified below:

Endorsement	Min. age	QST[65]		BML Endorsement Qualifying Conditions (+ MCA oral assessment)	Accepted Equivalent[66] to the BML Endorsement Qualifying Conditions
		Min. no. of days	Min. qualifying period		
Passenger Operations (General) – non-tidal waters	21	60	6 months	The candidate must be working in an appropriate deck capacity on a passenger ship. At least half of the required number of service days should be undertaken in the relevant category of waters.	Either: • Crisis Management and Human Behaviour Certificate and Passenger Safety Certificate; and Passenger safety, cargo safety and hull integrity certificate; or • Company ISM/DSM Code Safety Management System training[67] for passenger operations.
Passenger Operations (General) – tidal and limited coastal waters	21	120	12 months		
Large Passenger Operations	22	60	6 months	The candidate must either: (1) have at least 12 months experience (including an aggregated 120 service days) operating as the master of a passenger vessel (carrying no more than 250 passengers); or (2) have at least 12 months experience (including an aggregated 120 service days) in an appropriate deck capacity on a large passenger vessel. In addition to meeting the large passenger QST, at least half of the required number of service days should be undertaken in the relevant category of waters.	Either: • Crisis Management and Human Behaviour Certificate and Passenger Safety Certificate; or • Passenger safety, cargo safety and hull integrity certificate; or • Company ISM/DSM Code Safety Management System training[67] for passenger operations.

[65] QST for all specialist operation endorsements is in addition to the QST for the generic BML.

[66] The successful completion of the relevant Maritime Studies Qualification unit will be accepted as an equivalent to the BML endorsement requirements for the corresponding specialist operation.

[67] The following conditions apply for all ISM/DSM Safety Management System training accepted as equivalent to the respective BML endorsement:

The company ISM/ DSM Code system must detail the appropriate competencies and how these are demonstrated during assessment.

The appropriate assessment is carried out before command is taken.

The master has the relevant qualifying service time for the endorsement as given in the 2015 Regulations.

The company must keep a record of the training and qualifying service time which will be available for auditing by the MCA as part of any routine inspection or ISM/DSM audit.

Operation	Min. age	QST[65]		BML Endorsement Qualifying Conditions (+ MCA oral assessment)	Accepted Equivalent[66] to the BML Endorsement Qualifying Conditions
		Min. no. of days	Min. qualifying period		
Oil Cargoes	18	60	6 months	The candidate must be working in an appropriate deck capacity on a vessel carrying oil cargoes. At least half of the required number of service days should be undertaken in the relevant category of waters.	UK STCW CoC or CEC with Oil endorsement.
Chemical Cargoes	18	60	6 months	The candidate must be working in an appropriate deck capacity on a vessel carrying chemical cargoes. At least half of the required number of service days should be undertaken in the relevant category of waters.	UK STCW CoC or CEC with Chemical endorsement.
Liquefied Gas	18	60	6 months	The candidate must be working in a suitable deck capacity on a vessel carrying liquefied gas cargoes. At least half of the required number of service days should be undertaken in the relevant category of waters.	UK STCW CoC or CEC with Liquefied Gas endorsement.
Cargo – on vessels under 40m overall length	18	60	6 months	The candidate must be working in an appropriate deck capacity on a cargo vessel. At least half of the required service days should be undertaken in the relevant category of waters.	UK STCW CoC or CEC with Function 2 for Cargo Handling.
Cargo – on vessels of 40m and over, overall length	21				
Ro-Ro Operations[68] – tidal and limited coastal waters	18	60	6 months	The candidate must be working in an appropriate deck capacity on a Ro-Ro vessel. At least half of the required number of service days should be undertaken in the relevant category of waters.	Either: • Company specific ISM/DSM Code Safety Management System training[67] for Ro-Ro operations; or • Crisis Management and Human Behaviour Certificate and Passenger safety, cargo safety and hull integrity certificate.
Fast Craft Operations	21	As per the requirement for the other operations undertaken (i.e. cargo and/or passenger operations)		The candidate must be working in an appropriate deck capacity on: (a) a vessel undertaking the same operations as the vessel on which they will normally serve as master; and (b) voyages following a route on which that vessel would normally take.	Either: • Company specific ISM/DSM Code Safety Management System training[67] for fast craft operations; or • A Type Rating Certificate that is specific to the vessel and route being operated.

[68] QST for Ro-Ro and Fast Craft endorsements may be counted concurrently with QST for the Cargo or Passenger endorsements.

Operation	Min. age	QST[65]		BML Endorsement Qualifying Conditions (+ MCA oral assessment)	Accepted Equivalent[66] to the BML Endorsement Qualifying Conditions
		Min. no. of days	Min. qualifying period		
Dredging Operations	18	60	6 months	The candidate must be working in an appropriate deck capacity on a vessel carrying oil cargoes. At least half of the required number of service days should be undertaken in the relevant category of waters.	Company specific, ISM/DSM Code Safety Management System training[72] for dredging operations.
Radar	18	N/A	NLA	The candidate must have completed one of the following courses: • MNTB Small Ships Navigation and Radar; • Navigation, Radar and ARPA Simulator (NARAS) (Operational or Management level); • Navigation Aids, Equipment and Simulator Training (NAEST) (Operational or Management level); • Fishing Electronic Navigation Systems (ENS) Certificate; • Fishing Navigation Control Certificate (NCC); • Seafish Bridge Watchkeeping Certificate (five-day course); • Navigation, Radar and ARPA Simulator (Master Yachts); • Navigation and Radar (Officer of the Watch Yachts).	One of the following: • UK Merchant Navy CoC or CEC; • UK Master Yacht 500gt or 3000gt CoC; • UK Fishing Deck CoC Class 1, 2 or pre-1984 equivalent.
Towing and Pushing – non-tidal waters[69]	21	60	6 months	The candidate must be working in an appropriate deck capacity on a vessel engaged in towing or pushing, with at least half of the required number of service days should be undertaken in the relevant category of waters.	Either: • Company specific ISM/DSM Code Safety Management System training[67] for towing and pushing operations; • UK STCW CoC or CEC with a tug endorsement; or • General Towage Endorsement issued in accordance with the Voluntary Towage Endorsement Scheme.[70]
Towing and Pushing Operations tidal waters	21	120	12 months		

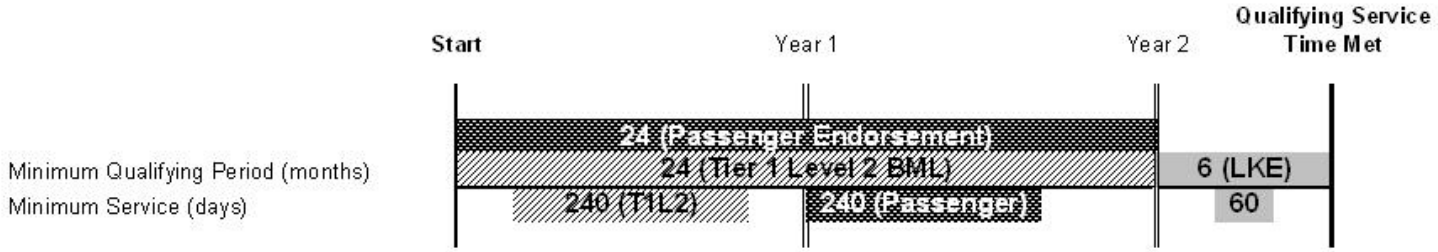
[69] Masters operating a 'pair' of narrow boats on Category A canals are exempt from the requirement to hold a towing and pushing endorsement.
[70] Details for the Voluntary Towage Endorsement Scheme is contained within MGN 468, as amended.

Illustrations of calculating Service Time:

(i) To obtain a licence for the entire Thames LKE area to carry no more than 250 passengers, the candidate must complete:

QST for a Tier 1 Level 2 BML with a Port of London (Margaretness to Putney Bridge) LKE and passenger endorsement

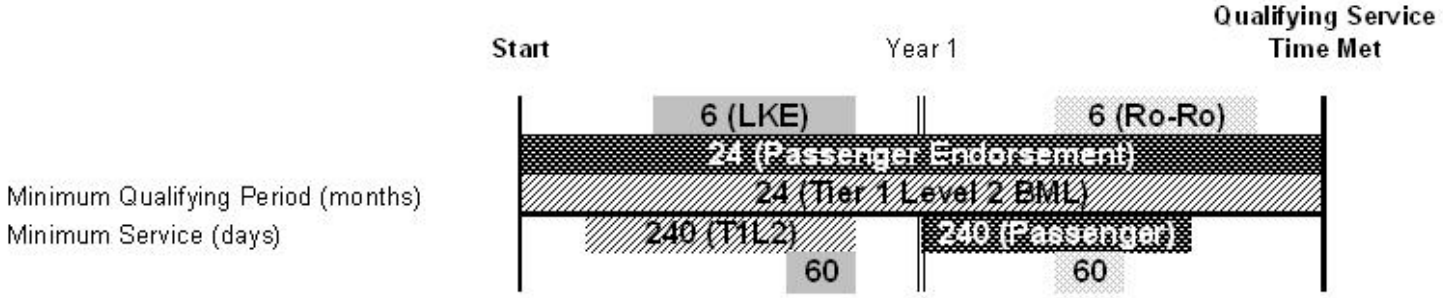
a. A minimum 240 days qualifying service within a minimum of 24 months to qualify for the T1L2 BML;
b. A minimum 240 days qualifying service (which must be after the qualifying service for the T1L2 BML) within a minimum of 24 months on a passenger vessel to qualify for the passenger endorsement; and
c. A minimum 60 days qualifying service within a minimum of 6 months to qualify for the Port of London (Margaretness to Putney Bridge) LKE (which must be after the qualifying service for the T1L2 BML).



(ii) To obtain a licence for Portsmouth Harbour to carry no more than 250 passengers on a Ro-Ro/Passenger vessel, the candidate must complete:

QST for a Tier 1 Level 2 BML with Portsmouth Harbour LKE and passenger and Ro-Ro endorsements

a. A minimum of 240 days qualifying service within a minimum of 24 months to qualify for the T1L2 BML, of which if 6 months is in the Portsmouth Harbour area with 60 days qualifying service, this can be counted towards the Portsmouth Harbour LKE (concurrent); and
b. A minimum 240 days qualifying service within a minimum of 24 months on a passenger vessel to qualify for the T1L2 BML; of which if 6 months is on a Ro-Ro with 60 days qualifying service, this can be counted towards the Ro-Ro endorsement (concurrent).



Annex 6

Qualifying requirements for Tier 2 Boatmasters Licences

Tier 2 licences are not required to have endorsements for specific operations, nor do they require specific qualifying service time for issue. However, the table below is for the guidance of Masters, Owners and Surveyors as to the experience considered necessary for the licence holder to undertake specific operations.

Generic Licence		Min. age	Guideline Qualifying Service Time
For the issue of a Tier 2 licence		18	40 days in a minimum of 6 months
Tier 2 Level 2[71] (tidal and non-tidal)	Passenger carrying operations:		
	- up to 100 passengers	18	40 days in a minimum of 6 months
	- 101 to 250 passengers	20	80 days in a minimum of 6 months
	Other operations:		
	Towing operations	18	80 days in a minimum of 12 months
	Cargo operations	18	60 days in a minimum of 9 months
	Oil cargoes operations	18	60 days in a minimum of 9 months
	Chemical cargoes operations	18	60 days in a minimum of 9 months
	Liquefied gas cargoes operations	18	60 days in a minimum of 9 months
	Dredging operations	18	60 days in a minimum of 9 months
	Fast craft operations	18	60 days in a minimum of 9 months
	Radar	18	N/A - on completion of an accepted radar course[72]
	Ro-Ro operations	18	60 days in a minimum of 9 months
Tier 2 Level 1 (non-tidal)	Passenger carrying operations:		
	- up to 100 passengers	18	40 days in a minimum of 6 months
	- 101 to 250 passengers	20	40 days in a minimum of 6 months
	- more than 250 passengers	21	40 days in a minimum of 6 months
	All other operations	18	40 days in a minimum of 6 months

[71] Holders of a Tier 2 Level 2 BML may carry a maximum of 250 passengers. Masters must obtain a Tier 1 Level 2 BML with a large passenger vessel endorsement to carry more than 250 passengers in tidal waters.

[72] The list of accepted radar courses is found in Table C of **Annex 5** of this Notice.

Annex 7

Syllabus for Ancillary Safety Training

1. Personal Survival/Water Safety

a) Demonstrates an awareness of safe practices and accident prevention in order to minimise risks including:
   - the types of emergency situations which may occur, such as collisions, fire, grounding and man overboard;
   - the need to adhere to the principles of survival.

b) Identifies the types of life saving appliances normally carried on inland waterways vessels for the relevant areas of operation including lifebuoys, lifejackets/vests, lines.

c) Describes the correct utilisation of appliances to aid another crew member, or self in the water.

d) Demonstrates a knowledge of effects of immersion in water including hypothermia and how to treat affected persons.

e) Demonstrates a knowledge of recovery procedures in man-overboard situations.

<u>Additional elements for categories C and D, and adjacent coastal sea</u>

a) Demonstrates a knowledge of types of lifejackets likely to be carried on board including the donning and use of lifejackets.

b) Demonstrates an awareness of the types of life rafts likely to be carried and encountered on board including:
   - Stowage and deployment;
   - Maintenance and servicing requirements
   - Hydrostatic release units;
   - Distress signals;
   - Helicopter strop;
   - Portable radio equipment or set (if any).

2. Fire Safety

a) Demonstrates a knowledge of the theory of combustion.

b) Demonstrates a knowledge of types and sources of ignition likely to be encountered on vessels including:
   - classification of fires (A, B, C and D);
   - correct extinguishing equipment and methods for each type.

c) Demonstrates an awareness of flammable materials, fire hazards and the spread of fire on board including:
   - The knowledge of best practice precautions arid the need for vigilance.

d) Demonstrates a knowledge of correct sequence for fire detection and raising the alarm ("FIRE"): find, inform, restrict and extinguish.

e) Demonstrates a knowledge of types of extinguishers including:
   - Water
   - Dry powder
   - Foam

- C02
- Fire blanket

f) Describes how to extinguish fire including practical demonstration of the use of extinguishers.
g) Demonstrates a knowledge of correct location of fire-fighting equipment on a vessel.

Additional elements for categories C and D, and adjacent coastal sea

a) Demonstrates an awareness of types and use of fixed fire fighting installations on large vessels.

3. First Aid

a) Demonstrates an awareness of body structure and functions
b) Demonstrates a knowledge of the measures to be taken in cases of emergency, including:
   - How to position a casualty
   - How to apply resuscitation techniques and maintain a clear airway
   - How to control bleeding
   - How to apply appropriate measures of basic shock management

c) Describes the appropriate measures in the event of burns and scalds including accidents caused by electric current.
d) Describes how to improvise bandages and use materials in emergency kit.
e) Demonstrates how to raise the alarm efficiently and effectively for accidents or medical emergencies in different situations.

Additional elements for categories C and D, and adjacent coastal sea

a) Describes how to rescue and transport casualty (e.g. use of stretchers for Class VI vessels).
b) Demonstrates how to identify promptly the probable cause, nature and extent of any injuries.
c) Demonstrates awareness of 'Category C' medical stores, and when they should be carried.

Annex 8

Generic Syllabus for Tier 1 Level 1 BML Underpinning Knowledge (Categories A, B and non-linked C)

Contents

Introduction

The mandatory requirements for the issue of a BML and the standards of competence to be achieved are set out in MSN 1853(M) Amendment 1. The Maritime and Coastguard Agency (MCA) has agreed with the relevant sector that the specifications described in this document will satisfy these requirements for Boatmasters' training and certification undertaken in the United Kingdom.

Health and Safety: Conduct of training
Training relevant to the certification and if undertaken must adhere to applicable regulations made under the Health and Safety at Work etc. Act 1974 and take proper account of the advice given in associated guidance documents and 'Approved Codes of Practice'.

Organisations or centres providing related training are required to make assessments of any potential risks to the health and safety of staff and trainees that may be associated with their activities. They are also required to identify, implement, monitor and review effective measures for minimising and controlling them. In addition, centres will be required to make effective arrangements for dealing with any emergency, incident or accident that may occur during the course of training. In the UK, the foregoing is required in accordance with the Management of Health and Safety at Work Regulations 1999.

Training Guidance
It is expected that participants would spend at least 150 hours of full time study to complete the syllabus.

GENERIC SYLLABUS

1. Bridge Watchkeeping and Navigation

1. Arrival and Departure

a) Demonstrates a knowledge of securing a vessel for departure.

b) Describes the process of pre-sailing checks.

c) Describes the process of pre-arrival checks and preparations including passenger briefing, readiness of ropes and warps, gangplanks, crew briefing. Assessment of wind and/or flow conditions.

2. Bridge Watchkeeping

a) Describes the duties expected of a watch-keeper.

b) Describes the procedures for relief, maintenance, takeover and handover of a watch.

c) Understands the importance of avoiding unnecessary distractions whilst watchkeeping.

d) Recognises the speed at which dangerous situations may develop.

e) Describes routine communication procedures with other members of the watch/crew on matters relating to watchkeeping.

f) Recognises and demonstrates knowledge of the use and meaning of single letter code flags listed in the `international Code of Signals' (Code flags that are considered essential for the tests are :- A, B, C, D, E, F, J, K, L, M, N, O, U, V, Y and Z).

g) States the distress signals as applicable to International Code.

h) Describes the use of phonetic alphabets.

i) Describes routine and emergency communication procedures.

j) Demonstrates the use of telephones, hand held radios and emergency signals.

k) Describes the incident and accident reporting procedures.

l) Demonstrates the working knowledge of the English language in marine terminology.

3. Navigation

a) Demonstrates a knowledge of good navigational practice while underway.

b) Demonstrates knowledge of the content and application of the International and National Regulations for Preventing Collisions at Sea as appropriate for vessels in inland waterways, harbours and coastal sea waters (as would be applicable to BML).

c) Describes IALA Buoyage System A and demonstrates knowledge of the direction of buoyage, recognition of marks from shape, colour, top mark and light.

d) Describes the procedure for taking the correct action for passing cardinal marks.

e) Demonstrates the knowledge of depth finding methods and equipment.

f) Explains the responsibilities of a lookout.

g) Recognizes the relative movement of other vessels.

4. Anchor Watch

a) Demonstrates a knowledge of maintaining an anchor watch including checks made for dragging an anchor.

2. Meteorology

a) Demonstrates a knowledge of the weather services available to shipping.

b) Explains meteorological terms in sufficient depth to interprets weather conditions.

c) Describes types of cloud, cloud cover and precipitation.

d) Defines visibility including horizontal visibility.

e) Explains use of non-instrumental observations.

f) Recognise and respond to extreme weather forecast and emerging conditions.

3. Ship Manoeuvring

1. Steering Systems & Their Function

a) Describes the component of steering systems and states their function

b) Demonstrates an ability to deal with minor malfunctions.

2. Helm Orders and Vessel Steering

a) Demonstrates a knowledge of steering a vessel/boat.

b) Demonstrates a knowledge of the process of maintaining course by shore marks.

c) Explains the effect of weather, ship's speed and condition of loading on steering.

3. Ship Manoeuvring

a) Demonstrates the knowledge of manoeuvring vessel under normal condition, including stopping and going astern; coordinating helm and engine.

b) States the effects of transverse thrust, single, twin, controllable pitch and fixed propellers on manoeuvring/boat handling, turning circles and stopping distances on the handling of vessel.

c) Describes the effects of wind, current on vessel manoeuvring.

d) Describes the effects of underkeel clearance, squat and shallow water on vessel manoeuvring

e) Describes the effects of vessel to vessel and vessel / bank interaction.

4. Locks, Docks and Bridges

a) Describe the terminology and mechanical principles of locks.

b) Demonstrates knowledge of entering and leaving a dock or a lock in all stream conditions.

c) Demonstrates a knowledge of the rope techniques pertinent to lock or dock operations.

d) Demonstrates a knowledge of passing through (under) bridges and navigating in close proximity to other structures.

5. Emergency Manoeuvres

a) States the precautions to be taken after grounding and collision and the minimising of collision damage.

b) Demonstrates a knowledge of the manoeuvres for turning short round, emergency stop and man overboard.

4. Vessel Handling in Extreme Weather

a) Describes the precautions and procedures required to be carried out when heavy weather is expected including the rigging of safety lines, restriction of access to the weather deck and securing of loose items.

b) Demonstrate the knowledge of assessing a place of safety.

c) Demonstrates a knowledge of turning a vessel in adverse weather.

5. Mooring and Unmooring a Vessel

a) Demonstrates a knowledge of relevant sections of Merchant Shipping and HSE regulations, M Notices, company regulations and requirements, manufacturers' recommendations.

b) Explains the need for personal safety equipment and clothing, importance of sufficient personnel during mooring and safe positions when mooring ropes under strain.

c) Demonstrates the use and safe handling of ropes in mooring operations.

d) Explains preparation and safe operation of winches, windlass, drum ends and similar machinery all weather situation.

e) Explains the dangers of rope bights during towing, securing and mooring operations.

f) Identifies head and stern ropes, breast ropes, back springs, shore moorings, mooring bitts, fairleads and Panama roller leads.

g) Explains the characteristics, safe handling and use of ropes including heaving lines in mooring operations.

h) Demonstrates the knowledge of general best practice in getting underway, coming alongside, securing to and letting go from buoys, berth at and leave quay or jetty or another vessel or buoy, with or against wind and/or current.

i) Demonstrates the use of fenders, overboard discharge covers.

j) Explains the need to secure the mooring area on departure.

k) Explains the need to keep moorings clear of thrusters and propellers.

l) Demonstrates a knowledge of adjusting moorings when alongside, warping along a quay.

m) Explains the use of lines to assist vessels or to tie-up to a vessel for cargo operations.

n) Describes routine and emergency communication procedures.

6. Ropework, Safe Access and Lifting Gear

1. Ropework

a) Demonstrates a knowledge of safe use of man-made fibre, wire and combination ropes.

b) Demonstrates the knowledge of inspection and certification of all wires and ropes.

c) Demonstrates knowledge of correct use of knots, splices, bends, hitches and stoppers.

2. Access

a) Describes the gangways, accommodation ladders and other approved means of access to the vessel, and how safe means of access to a vessel is achieved.

b) Describes the methods available to ensure safe movement onboard ship.

7. Ship Knowledge

1. Publications and General

a) Demonstrates a knowledge of terms and definitions used in connection with watchkeeping, vessel operations and vessel construction.

b) Explains the relationship between law, codes and other forms of guidance.

c) Demonstrates a knowledge of legislation, Codes of Practice and M Notices and Safety Management System.

d) Demonstrates a knowledge of the law, codes, principles and procedures and other forms of guidance relating to:
- maintaining a safe working environment on board ship;
- safe movement to, from and around the vessel;
- reporting of accidents and dangerous occurrences;
- risk assessment;
- using chemicals or other hazardous materials, COSHH Regulations (Control of Substances Hazardous to Health) Regulations;
- personal protective clothing and equipment.

e) Appreciates the requirements of record keeping for legal or commercial purpose including:

f) The recording methods available – written records.

g) Explains the requirement for accuracy in record keeping.

2. Ship Construction

a) Demonstrate a knowledge of ship construction features for various ship types sufficient to assist with ensuring watertightness and sea worthiness including the function and structure of tanks.

b) Explains the methods of ensuring watertightness and seaworthiness when closing openings in deck, bulkheads, deck machinery and lifting devices, ventilators, air and sounding pipes including features to aid the shedding of water.

c) Describes the siting and securing of air and sounding pipes, bilge and ballast piping systems from tanks/holds to engine rooms including non-return valves, sea chests and mud boxes.

d) Demonstrates knowledge of bilge pumping system.

e) Explains the causes of stress in a ship's structure.

f) Describes the cause and regions affected by forces exerted on a ship – loads that create stress and strain in still water and a seaway.

g) Describes the variation in stress and strain – effect of pressure caused by the sea and by liquids in tanks (static and moving), stresses due to uneven loading on decks, holds and engine spaces.

h) Identifies structures liable to sustain damage due to heavy weather, vibration, shifting cargo, grounding or collision.

3. Ship Stability

a) Describes the basic principles of ship stability including the principles of floatation.

b) Describes water and weather tightness, watertight integrity and reserve buoyancy, watertight doors, ports, windows, deadlights and doors.

c) Define mass, volume, density, relative density.

d) Define volume, displacement, deadweight, buoyancy, waterline length, breadth, draught, Length overall, Length between perpendicular, freeboard (freeboard deck/deck line to water line) and identifies hydrostatic data.

e) Define Centre of Buoyancy, Centre of Gravity, free surface, transverse metacentre, righting lever, righting moment at small angle of heel.

f) Explain stable, neutral and unstable equilibrium, stiff and tender vessels.

g) Explain the effect on Centre of Gravity (G) on loading, discharging, moving weights, ballasts or bunkers and changes (if any) in stability during voyage.

h) Explain the dangers and effect of free surface at small angle of heel.

4. Maintenance

a) Identifies plans, specifications, materials and equipment and the need to ensure availability.

b) Demonstrates a knowledge of use of various types of paints and correct lubrication of moving parts including scheduling of lubrication for deck machinery and equipment.

c) Prepares surfaces for coating i.e. steel, aluminium and wood.

d) Explains the maintenance of fire-fighting and life-saving equipment.

e) Demonstrates a knowledge of the need for preparation of work area and resources for maintenance.

f) Identifies work area, tools and materials including safe stowage and use of materials.

g) Explains `Permit to Work' procedures.

5. Lifting Gear

a) States the precaution to take when using lifting gear.

b) States the precautions to be taken when fork-lift trucks or similar devices are used.

c) States that all cargo gear should be inspected before the start of operations each day.

d) Identifies lubrication schedules for deck machinery and equipment including correct lubrication of moving part.

e) Outlines the care and maintenance of lifting gear including derricks, cranes and other gear.

8. Basic Engineering and Vessel's Machinery

1. General Engineering Practice and Procedures

a) Demonstrates a knowledge of relevant safety regulations, machinery operating instructions, conditions, manufacturer's instructions.

b) Plans engineering practices and procedures for small vessel propulsion machinery, auxiliaries and services in compliance with safety regulations including the use of machinery schedules and instructions (to include manufacturer's instructions).

c) Explains system operation and principles involved including the appropriate sequence and timing of activities for machinery and auxiliary operations.

d) Explains preparation of machinery and auxiliaries and knows how to carry out operations according to plan.

e) Describes how to locate common faults including the causes of machinery malfunctions and actions required to be taken.

f) Describes how to operate the control systems, possible problems and how to identify and correct minor deviations.

g) Describes emergency shut-down sequence, timing and hazards.

h) Describes how to make adjustments to achieve and maintain safe operation including the use of instruments to monitor conditions.

i) Describes measures to avoid pollution of the marine environment.

2. Pumping and associated Control Systems

a) Demonstrates a knowledge of relevant safety regulations, conditions, manufacturer's instructions and maintenance schedules with respect to pumping and associated control systems.

b) Describes planning for pumping operations.

c) Describes routine pumping operations, bilge, ballast and operational pumping systems, equipment and machinery operations and possible problems that could occur.

d) Describes how to use instruments to monitor conditions.

e) Demonstrates a knowledge of precautions to prevent pollution of the marine environment, anti-pollution procedures and associated equipment.

3. Electrical Equipment

a) Describes the basic principles and operation of electrical machines (to include alternators or generators and control systems).

b) Describes electrical systems, protection arrangements, circuits and circuit breakers, instruments to monitor conditions.

c) Describes the maintenance of electrical supply within given conditions, possible problems and irregularities that could occur.

d) Explains fault detection system operation and isolating procedures including simple fault diagnosis.

9. <u>Health and Safety</u>

a) Demonstrates a knowledge of the principles of health and safety practice.

b) Demonstrates a knowledge and understanding of the regulations applicable to the vessel type, Code of Safe Working Practices for Merchant Seamen on risk assessment.

c) Demonstrates a knowledge of the safety precautions, regulations, codes of practice and guidelines relating to:

- working at a height or outboard;
- demonstrates knowledge of planned maintenance systems for LSA and FFA;
- entry into and working in enclosed spaces;
- use of powered cleaning devices, hand and powered tools;
- operating lifting plant and the slinging of heavy equipment;
- use and storage of chemical or other hazardous materials;
- protective equipment and clothing;
- cargo access equipment;
- maintenance of batteries;
- noise;
- vibration.

10. <u>Emergency Action</u>

a) States the contingency plans and actions to take in the event of emergencies including imminent collision, collision, grounding, beaching, flooding, man-overboard and abandon ship and fire.

b) Identifies the nature of emergency and takes initial action to conform to the vessel's emergency procedure.

c) Communicates information to the relevant personnel promptly and accurately.

d) Takes appropriate action on recognising an alarm signal in accordance with emergency procedure including the raising of alarm promptly by the most appropriate method available.

e) Explains the methods of making distress and emergency alerts including use of equipment.

f) Describes how to avoid sending false alerts and the remedial action to take if a false alert is sent.

g) Demonstrates a knowledge of basic Search and Rescue arrangements including SARCo plans as applicable to inland waterways and limited distances to sea.

11. Pollution Prevention and Waste Management

a) Describes how MARPOL and other current guidance and legislation provides knowledge of the precautions and procedures to be taken to prevent pollution of the marine environment.

b) Demonstrates a knowledge of pro-active and re-active policies, vessel operations, bunkering, hazardous substances on board, garbage and tank residual disposal, noise and clean air.

Annex 9

Generic Syllabus for Tier 1 Level 2 BML Underpinning Knowledge (Categories A to D, and to Limited Coastal Sea Waters)

Contents

Introduction

The mandatory requirements for the issue of a BML and the standards of competence to be achieved are set out in The Merchant Shipping (Boatmasters' Qualifications, Crew and Hours of Work) Regulations 2015 (SI 2015 No: 410). The Maritime and Coastguard Agency (MCA) has agreed with the relevant sectors that the specifications described in this document will satisfy those requirements for Boatmasters' training and certification undertaken in the United Kingdom.

Health and Safety: Conduct of training
Training relevant to the certification and if undertaken must adhere to applicable regulations made under the Health and Safety at Work Act 1974 as amended and take proper account of the advice given in associated guidance documents and 'Approved Codes of Practice'.

Organisations or centres providing related training are required to make assessments of any potential risks to the health and safety of staff and trainees that may be associated with their activities. They are also required to identify, implement, monitor and review effective measures for minimising and controlling them. In addition, centres will be required to make effective arrangements for dealing with any emergency, incident or accident that may occur during the course of training. In the UK, the foregoing is required in accordance with the Management of Health and Safety at Work Regulations 1999.

Training Guidance

It is expected that participants would spend at least 180 hours of full time study to complete the syllabus.

GENERIC SYLLABUS

1. Bridge Watchkeeping and Navigation

1. Arrival and Departure

a) Demonstrates a knowledge of securing a vessel for departure.

b) Describes the process of pre-sailing checks including the methods of securing openings such as weather deck hatches, tank lids, ventilators, air and sounding pipes prior to departure.

c) Describes the process of pre-arrival checks and preparations including passenger briefing, readiness of ropes and warps, access equipment, crew briefing. Assessment of wind and/or tide conditions.

2. Bridge Watchkeeping

a) Describes the duties expected of a watch-keeper.

b) Describes the procedures for relief, maintenance, takeover and handover of a watch.

c) Understands the importance of avoiding unnecessary distractions whilst watchkeeping.

d) Recognises the speed at which dangerous situations may develop.

e) Describes routine communication procedures with other members of the watch/crew on matters relating to watchkeeping.

f) Recognises and demonstrates a knowledge of the use and meaning of single letter code flags listed in the `international Code of Signals' (Code flags that are considered essential for the tests are: - A, B, C, D, E, F, J, K, L, M, N, O, U, V, Y and Z).

g) Identifies Distress Signals.

h) Describes the use of phonetic alphabets.

i) Describes routine and emergency communication procedures.

j) Demonstrates knowledge of the use of telephones, hand held radios, other signalling devices and emergency signals.

k) Describes the incident and accident reporting procedures.

l) Demonstrates a working knowledge of the English language in marine terminology.

3. Navigation

a) Demonstrates a knowledge of good navigational practice while underway.

b) Demonstrates a knowledge of the content and application of the International and National Regulations for Preventing Collisions at Sea as appropriate for vessels in inland waterways, harbours and coastal sea waters (as would be applicable to BML).

c) Describes IALA Buoyage System A and demonstrate a knowledge of the direction of buoyage, recognition of marks from shape, colour, top- mark and light.

d) Describes the procedure for taking the correct action for passing a cardinal mark.

e) Demonstrates a knowledge of depth finding methods and equipment.

f) Explains and describes the responsibilities of a lookout.

g) Recognises the relative movement of other vessels.

4. Anchor Watch

a) Demonstrates knowledge of maintaining an anchor watch including checks made for dragging an anchor.

5. Tides and Currents

a) Demonstrates a knowledge of tide tables and tidal stream atlases.

b) Knows the causes of spring and neap tides.

c) Defines height of tide, Mean High Water Springs, Mean Low Water Springs, range of tide, chart datum, height of charted objects, drying heights, spring and neap ranges.

d) Describes the use of tidal diamonds when using charts.

e) Finds the height and time of high water and low water using tide tables.

f) Calculates the height of tide at a given time using tide tables and tidal curves.

g) Calculates the time the tide will reach a given height using tide tables and tidal curves.

h) Calculates the correction of soundings to chart datum.

6. Compass Work

a) (i) Demonstrates a knowledge of Magnetic Compass:
- card graduation in degrees;
- compass bowl and binnacle;
- dangers of magnetic material in the vicinity of the compass;
- standard compass/steering compass.

(ii) Demonstrates a knowledge of Gyro compass and repeaters, compass alarm and off course alarm.

b) Demonstrates the use of azimuth mirror, pelorus etc. for taking bearings.

c) Calculates compass error and deviation using transits.

d) Determines variation and deviation using charts, curves and tables.

e) Converts compass or gyro courses to true courses.

7. Chartwork

a) Demonstrates a knowledge of navigation and routeing charts, sailing directions, chart catalogue, notices to mariners, nautical almanac, tide tables and tidal atlases carried aboard the vessel including distance tables. Demonstrates a knowledge of the use of waterways guides, maps and charts.

b) Describes the procedures for and makes necessary corrections to update charts and publications including ECDIS.

c) Demonstrates a knowledge of the use of navigation drawing instruments, parallel rulers and dividers.

d) Describes natural scale, distance measurement and chart co-ordinates.

e) Explains navigational terms, international nautical mile, position line and position circle.

f) Demonstrates a knowledge of the meaning of chart symbols and abbreviations.

g) Explains and describes the procedures for appraisal, planning, execution and monitoring of a passage plan.

h) Identifies charted objects/shore marks suitable for position fixing.

i) Plots the position of the vessel on a chart using latitude and longitude, or position lines derived from charted objects including the use of bearing, range, cross bearings, transits, running fixes, and the procedures and limitations of navigation by GPS.

j) Explains the effects of set, drift and leeway (drift due to wind) and how to counteract.

k) Calculates dead reckoning (DR) and estimated position (EP).

l) Describes the basic operational features and controls of marine radar and ARPA.

m) Demonstrates a knowledge of the use of radar and ARPA to maintain safety of navigation.

n) Describes reliability, common errors and limitations of radar, ARPA, satellite positioning systems, Echo sounder and electronic log.

o) Demonstrates a knowledge of the use of satellite positioning systems such as GPS.

8. Anchor Work

a) Describes the types of anchor in common use on vessels operating in inland waterways, harbours and coastal sea areas.

b) Describes parts of anchors, spurling and hawse pipes, connection and marking of anchor cables, chain lockers and connections, bow stoppers and other securing devices.

c) Demonstrates a knowledge of connections and markings of anchor cables and chain lockers.

d) Explains the securing of anchors and cables for passage and the importance of ensuring watertight integrity.

e) Explains anchoring terminology and describes lights, shapes and sound signals for vessels at anchor.

f) Demonstrates a knowledge of preparations and procedures for anchoring operations including in an emergency.

g) Describes the safety precautions when anchoring, securing anchors including the safe use of machinery.

2. Meteorology

a) Demonstrates a knowledge of the weather services available to shipping.

b) Explains meteorological terms in sufficient depth to interprets weather conditions.

c) Describes types of cloud, cloud cover and precipitation.

d) Defines visibility including horizontal visibility.

e) Explains use of non-instrumental observations.

f) Recognise and respond to extreme weather forecast and emerging conditions.

g) Describes wind force, Beaufort scale, direction, true and apparent wind.

h) Describes waves, sea and swell state.

i) Identifies on surface charts the main synoptic patterns and describes the associated weather.

3. Ship Manoeuvring

1. Steering Systems & Their Function

a) Demonstrates a knowledge of the components of steering systems and their function including selection of information from instruction manual.

b) Describes the steering wheel or lever, helm indicators, steering motor, rudder, rudder indicators and rate of turn indicators including functioning of the rudder and propeller.

c) Describes emergency steering systems including the change-over procedures.

2. Steering by Compass

a) Demonstrates a knowledge of steering a vessel including helm orders and altering course by helm orders.

b) Demonstrates a knowledge of course keeping, altering course by compass and the procedure for making large alterations including maintaining of course by shore and lead marks.

c) Explains the effect of weather, ship's speed and condition of loading on steering.

3. Ship Manoeuvring

a) Explains the effects of deadweight, draught, trim, speed, rudder angle and propeller/transverse thrust on manoeuvring, turning circles and stopping distances.

b) Explains the effects of single, twin, controllable pitch and fixed propellers on vessel manoeuvring.

c) Describes the effects of wind, current and tidal stream on vessel manoeuvring/handling.

d) Describes the effects of underkeel clearance, squat and shallow water on vessel manoeuvring.

e) Describes the effects of vessel to vessel and vessel / bank interaction.

4. Locks, Docks and Bridges

a) Describe the terminology and mechanical principles of locks.

b) Demonstrates knowledge of entering and leaving a dock or a lock in all stream conditions.

c) Demonstrates a knowledge of the rope techniques pertinent to lock or dock operations.

d) Demonstrates a knowledge of passing through (under) bridges and navigating in close proximity to other structures.

5. Emergency Manoeuvres

a) States the precautions to be taken if vessel is aground and after a collision including minimising of damage.

b) Demonstrates a knowledge of the manoeuvres for turning short round, emergency stop and man overboard.

c) Describes the precautions and procedures required to be carried out when heavy weather is expected including the rigging of safety lines, restriction of access to the weather deck.

d) Demonstrate the knowledge of assessing a place of safety.

e) Demonstrates a knowledge of turning a vessel in rough sea.

f) Demonstrates a knowledge of hazards resulting from pitching, pounding, rolling, racing and broaching to (turning sideways or having stern sea in surf).

g) Describes how and when to make report on the conditions of seaworthiness.

4. <u>Vessel Handling in Extreme Weather</u>

a) Describes the precautions and procedures required to be carried out when heavy weather is expected including the rigging of safety lines, restriction of access to the weather deck and securing of loose items.

b) Demonstrate the knowledge of assessing a place of safety.

c) Demonstrates a knowledge of turning a vessel in adverse weather.

5. <u>Mooring and Unmooring a vessel</u>

a) Demonstrates a knowledge of relevant sections of Merchant Shipping and HSE regulations, M Notices, company regulations and requirements, manufacturers recommendations.

b) Explains the need for personal safety equipment during mooring and safe positions when mooring ropes under strain.

c) Demonstrates a knowledge of the safety precautions and safe working practices to be observed in securing the vessel when mooring/unmooring including mooring terminology.

d) Explains preparation and safe operation of winches, windlass, drum ends and similar machinery in all weather situation.

e) Explains the dangers of rope bights during towing, securing and mooring operations.

f) Identifies head and stern ropes, breast ropes, back springs, shore moorings, mooring bitts, fairleads and Panama roller leads.

g) Explains the characteristics, safe handling and use of ropes including heaving lines in mooring operations.

h) Demonstrates the knowledge of general best practice in getting underway, coming alongside, securing to and letting go from buoys, berth at and leave quay or jetty or another vessel or buoy, with or against wind and/or current.

i) Demonstrates the use of fenders, overboard discharge covers.

j) Explains the need to secure the mooring area on departure.

k) Explains the need to keep moorings clear of thrusters and propellers.

l) Demonstrates a knowledge of adjusting moorings when alongside, warping along a quay.

m) Explains the use of lines to assist vessels or to tie-up to a vessel for cargo operations.

n) Describes routine and emergency communication procedures.

6. Ropework, Safe Access and Lifting Gear

1. Ropework

a) Demonstrates a knowledge of safe use of man-made fibre, wire and combination ropes.

b) Demonstrates the knowledge of inspection and certification of all wires and ropes.

c) Demonstrates a knowledge of correct use of knots, splices, bends, hitches and stoppers.

d) Demonstrate a knowledge of purchases, tackles and riggings including mechanical advantage.

2. Access

a) Demonstrates a knowledge of the requirements to rig, recover and maintain gangways and other safe means of access to a vessel.

b) Describes the methods available to ensure safe movement onboard ship.

c) Describes the effects of tide, wind, waves, swell, changes of draught, trim and passing vessels while alongside.

7. Ship Knowledge

1. Publications and General

a) Demonstrates a knowledge of terms and definitions used in connection with vessel operations and vessel construction.

b) Explains the relationship between law, codes and other forms of guidance.

c) Demonstrates a knowledge of legislation, Codes of Practice and M Notices and Safety Management System.

d) Demonstrates a knowledge of the law, codes, principles and procedures and other forms of guidance relating to:
   - maintaining a safe working environment on board ship;
   - safe movement to, from and around the vessel;
   - reporting of accidents and dangerous occurrences;
   - risk assessment;
   - using chemicals or other hazardous materials, COSHH (Control of Substances Hazardous to Health) Regulations;
   - personal protective clothing and equipment.

e) Appreciates the requirements of records for commercial and legislative process.

f) Describes the recording methods available – written records.

g) Explains the requirement for accuracy, brevity and clarity in record keeping.

2. Ship Construction

a) Demonstrate a knowledge of ship construction features for various ship types sufficient to assist with ensuring watertightness and sea worthiness including the function and structure of tanks.

b) Explains the methods of ensuring watertightness and seaworthiness when closing openings in deck, bulkheads, deck machinery and lifting devices, ventilators, air and sounding pipes including features to aid the shedding of water.

c) Describes the siting and securing of air and sounding pipes, bilge and ballast piping systems from tanks/holds to engine rooms including non-return valves, sea chests and mud boxes.

d) Demonstrate a knowledge of bilge pumping system.

e) Explains the causes of stress in a ship's structure.

f) Describes the cause and regions affected by forces exerted on a ship – loads that create stress and strain in still water and a seaway.

g) Describes the effect of pressure caused by the sea and by liquids in tanks (static and moving), and stresses due to uneven loading on decks, holds and engine spaces.

h) Identifies structures to resist pounding, panting including the parts of structure liable to sustain damage due to heavy weather, vibration, shifting cargo, grounding or collision.

3. Ship Stability

i) Describes the basic principles of ship stability including the principles of floatation.

j) Describes water and weather tightness, watertight integrity and reserve buoyancy, watertight doors, ports, windows, deadlights and doors.

k) Define mass, volume, density and relative density.

l) Define volume, displacement, deadweight, buoyancy, waterline length, breadth, draught, Length overall, Length between perpendicular, freeboard (freeboard deck/deck line to water line) and identifies hydrostatic data.

m) Define Centre of Buoyancy, Centre of Gravity, free surface, transverse metacentre, righting lever, righting moment at small angle of heel.

n) Explain stable, neutral and unstable equilibrium, stiff and tender vessels.

o) Explain the effect on Centre of Gravity (G) on loading, discharging, moving weights, ballasts or bunkers and changes (if any) in stability during voyage.

p) Explain the dangers and effect of free surface at small angle of heel.

4. Maintenance

a) Identifies plans, specifications, materials and equipment and the need to ensure availability.

b) Demonstrate a knowledge of use of various types of paints and correct lubrication of moving parts including scheduling of lubrication for deck machinery and equipment.

c) Prepares surfaces for coating i.e. steel, aluminium and wood.

d) Explains the maintenance of fire-fighting and life-saving equipment.

e) Demonstrates a knowledge of the need for preparation of work area and resources for maintenance.

f) Identifies work area, tools and materials including safe stowage and use of materials.

g) Explains ‘Permit to Work’ procedures.

5. Lifting Gear

a) States the precaution to take when using lifting gear.

b) States the precautions to be taken when fork-lift trucks or similar devices are used.

c) States that all cargo gear should be inspected before the start of operations each day.

d) Identifies lubrication schedules for deck machinery and equipment including correct lubrication of moving parts.

e) Outlines the care and maintenance of lifting gear including derricks, cranes and other gear.

8. Basic Engineering and Vessel's Machinery

1. General Engineering Practice and Procedures

a) Demonstrates a knowledge of relevant safety regulations, machinery operating instructions, conditions, manufacturer's instructions.

b) Plans engineering practices and procedures for small vessel propulsion machinery, auxiliaries and services in compliance with safety regulations including the use of machinery schedules and instructions (to include manufacturer's instructions).

c) Explains system operation and principles involved including the appropriate sequence and timing of activities for machinery and auxiliary operations.

d) Explains preparation of machinery and auxiliaries and knows how to carry out operations according to plan.

e) Describes how to locate common faults including the causes of machinery malfunctions and actions required to be take.

f) Describes how to operate the control systems, possible problems and how to identify and correct minor deviations.

g) Describes emergency shut-down sequence, timing and hazards.

h) Describes how to make adjustments to achieve and maintain safe operation including the use of instruments to monitor conditions.

i) Describes measures to avoid pollution of the marine environment.

2. Pumping and associated Control Systems

a) Demonstrates a knowledge of relevant safety regulations, conditions, manufacturer's instructions and maintenance schedules with respect to pumping and associated control systems.

b) Describes planning for pumping operations.

c) Describes routine pumping operations, bilge, ballast and operational pumping systems, equipment and machinery operations and possible problems that could occur.

d) Describes how to use instruments to monitor conditions.

e) Demonstrates a knowledge of precautions to prevent pollution of the marine environment, anti-pollution procedures and associated equipment.

3. Electrical Equipment

a) Describes the basic principles and operation of electrical machines (to include alternators or generators and control systems).

b) Describes electrical systems, protection arrangements, circuits and circuit breakers, instruments to monitor conditions.

c) Describes the maintenance of electrical supply within given conditions, possible problems and irregularities that could occur.

d) Explains fault detection system operation and isolating procedures including simple fault diagnosis, location of common faults on plant and control systems and actions to prevent damage.

9. Health and Safety

a) Demonstrates a knowledge of the principles of health and safety practice.

b) Demonstrates a knowledge and understanding of regulations and guidance on risk assessment and other general duties under Health and Safety legislation.

c) Demonstrates a knowledge of the safety precautions, regulations, codes of practice and guidelines relating to:

- working at a height or outboard;
- demonstrates knowledge of planned maintenance systems for LSA and FFA;
- entry into and working in enclosed spaces;
- use of powered cleaning devices, hand and powered tools;
- operating lifting plant and the slinging of heavy equipment;
- use and storage of chemical or other hazardous materials;
- protective equipment and clothing;
- cargo access equipment;
- maintenance of batteries;
- noise;
- vibration.

10. Emergency Action

a) States the contingency plans and actions to take in the event of emergencies including imminent collision, collision, grounding, beaching, flooding, man-overboard and abandon ship and fire.

b) Identifies the nature of emergency and takes initial action to conform to the vessel's emergency procedure.

c) Communicates information to the relevant personnel promptly and accurately.

d) Takes appropriate action on recognising an alarm signal in accordance with emergency procedure including the raising of alarm promptly by the most appropriate method available.

e) Explains the methods of making distress and emergency alerts including use of equipment.

f) Describes how to avoid sending false alerts and the remedial action to take if a false alert is sent.

g) Demonstrates a knowledge of basic Search and Rescue arrangements including SARCo plans as applicable to inland waterways and limited distances to sea.

11. <u>Pollution Prevention and Waste Management</u>

a) Describes how MARPOL and other current guidance and legislation provides knowledge of the precautions and procedures to be taken to prevent pollution of the marine environment.

b) Demonstrates a knowledge of policies regarding vessel operations, bunkering, hazardous substances on board, garbage and tank residual disposal, noise and clean air.

Annex 10

Syllabus for Specialist Operations

Contents

1. General Passenger Operations Endorsement

1.1 Passenger Operations

a) Explains the planning and operational procedures for carrying passengers.
b) Describes how to carry out or manage effective pre-voyage procedures including pre-voyage checks, crew briefing, passenger safety announcements.
c) Describes the means of providing safe passenger access.
d) Describes accurate passenger counting and reporting.
e) Identifies the correct locations that passengers should be guided to.
f) Describes the correct procedure for the control of unruly passengers.
g) Describes how to give efficient safety briefings/advice to passengers while underway.
h) Demonstrates knowledge of any operational limitations imposed on the ship, performance restrictions including speed limitations in adverse weather, which are intended to maintain the safety of life, ship and cargo.
i) Demonstrates knowledge of procedures for opening, closing and securing of bow, stern, side doors and ramps and to correctly operate the related systems.

1.2 Emergency Response

a) Describes how to control and manage passengers in emergency situations, including the importance of clear identification of crew members.
b) Explains the passenger care duties to allocate to crew members in an emergency.
c) Demonstrates an effective knowledge of procedures following an emergency including recovery from the water, running aground, collision damage, fire and explosion.
d) Describes how to prepare efficient plans for the safety and/or evacuation of passengers including plans for contacting the appropriate emergency or/and Search and Rescue (SAR) service in the event of an emergency.
e) Demonstrates an outline knowledge of SAR plan for co-ordinating with local emergency/SAR services.
f) Demonstrates an awareness of control plan for life saving appliance fitted on vessels.
g) Demonstrates a knowledge of safety instructions and mandatory information signs that should be located on the vessel, and how to maintain them in good order including instructions related to:
    - Emergency exits;

- Gangway;
- Fire and evacuation plans and routes.

1.3 First Aid and Fire Prevention

a) Demonstrates a knowledge of First Aid equipment carried on board and action required pertaining to the care of passengers.
b) Demonstrates an awareness of fire prevention on passenger vessels including:
    - Fire fighting equipment fitted on vessel;
    - Designated `No Smoking' areas.

1.4 Regulations

a) Demonstrates an outline knowledge of Domestic Safety Management Code requirements.
b) Explains the importance of carrying principal documents including the Passenger Ship Certificate.
c) Explains the importance and requirements of carrying other statutory certificates.

2. Large Passenger Vessel Endorsement

2.1 Passenger and Crew Management

a) Demonstrates a knowledge of crew pre-voyage briefing and passenger safety announcements.
b) Explains passenger management and control techniques including procedures in emergency situations.
c) States the importance of clear identification of crew members.
d) Describes the procedures for control of unruly passengers in large numbers.
e) Describes how to deal with extreme weather conditions.

2.2 Human Element

a) Demonstrates a knowledge of the control of passengers and other personnel in emergency situations including:
    - General reaction pattern of passengers;
    - Appreciation of panic resulting from separating families.
b) Demonstrates a knowledge of stress and fear.
c) Demonstrates a knowledge of the ability to lead and direct others in emergency situations.

2.3 Emergency Response

a) Demonstrates a knowledge of awareness of life saving appliances and control plans including knowledge of:
    - emergency instructions;
    - emergency exits;
    - restriction on the use of elevators;
    - assist passengers to embarkation stations;
    - control of passengers in corridors and staircases and passageways;
    - maintaining escape routes clear of obstructions;
    - methods available for evacuation of disabled persons and persons needing special assistance;
    - search of accommodation spaces.
b) Describes the mustering procedures including:

- muster list and passenger assisting team;
- the importance of keeping order;
- the use of, where appropriate, passenger lists for evacuation counts;
- that the passengers are suitably clothed and have donned their lifejackets correctly.

c) Demonstrates a knowledge of the contents of first aid box and other first aid equipment.

2.4 Communication

a) Describes the elements for effective communication.
b) Demonstrates a knowledge of:
   - the use of public address system in an emergency;
   - communication in a crisis situation.
c) Describes how to give clear and reassuring orders.

2.5 Vessel management

a) Demonstrates a knowledge of berthing and un-berthing of large passenger vessel including:
   - specific manoeuvring skills;
   - steering, anchor handling and engine controls on large vessels.
b) Describes the procedures for man overboard and recovery with larger vessels.
c) Demonstrates a knowledge of bunkering procedures, distribution of fuel in tanks, weight distribution and storage capacity including pollution control measures during bunkering.
d) Demonstrates an outline knowledge of:
   - engine capacity and type of engine;
   - KW power/bhp, reduction gearboxes;
   - power take-off uses
   - generators- type, KVA, power supply;
   - familiarity with other machinery appliances;
   - monitoring equipment;
   - pumping system and pipelines.

2.6 Regulations and Certificates

a) Demonstrates an effective knowledge of all routine and emergency procedures under the Domestic Safety Management Code.
b) Explains the importance and legal meaning of principal documents, including the Passenger Ship Certificate.
c) Explains the importance and requirements of carrying other statutory certificates.
d) Explains the draught marks and their application.

3. Oil Cargo Endorsement

Candidates will be tested from the perspective of oil tankers and barges operating on inland waterways.

3.1 Ability to safely perform and monitor all cargo operations

a) Knowledge of oil tanker design, systems and equipment, including general arrangement and construction:
   - pumping arrangement and equipment;

- tank arrangement, pipeline system and tank venting arrangement;
- gauging systems and alarms;
- cargo heating systems;
- tank cleaning, gas freeing and inerting systems;
- ballast system;
- cargo area venting and accommodation ventilation;
- slop arrangements;
- vapour recovery systems;
- cargo-related electrical and electronic control system;
- environmental protection equipment;
- tank coating;
- tank temperature and pressure control systems;
- fire-fighting systems.

b) Proficiency in tanker safety culture and implementation of safety-management system.
c) Knowledge and understanding of monitoring and safety systems, including the emergency shutdown.

3.2 Loading, unloading, care and handling of cargo

a) Ability to perform cargo measurements and calculations.
b) Knowledge of the effect of bulk liquid cargoes on trim, stability and structural integrity.
c) Knowledge and understanding of oil cargo related operations, including:
    - loading and unloading plans;
    - ballasting and deballasting;
    - tank cleaning operations;
    - inerting;
    - gas-freeing;
    - ship-to-ship transfers.
d) Development and application of cargo related operation plans, procedures and checklists.
e) Ability to calibrate and use monitoring and gas detection systems, instruments and equipment.
f) Ability to manage and supervise personnel with cargo-related responsibilities.

3.3 Familiarity with physical and chemical properties of oil cargoes

a) Knowledge and understanding of the physical and chemical properties of oil cargoes.
b) Understanding the information contained in a Material Safety Data Sheet (MSDS).

3.4 Take precautions to prevent hazards

a) Knowledge and understanding of the hazards and control measures associated with oil tanker cargo operations, including:
    - toxicity;
    - flammability and explosion;
    - health hazards;
    - inert gas composition;
    - electrostatic hazards.
b) Knowledge and understanding of dangers of non-compliance with relevant rules/regulations.

3.5 Apply occupational health and safety precautions

a) Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to oil tankers:
   - precautions to be taken when entering enclosed spaces, including correct use of different types of breathing apparatus;
   - precautions to be taken before and during repair and maintenance work;
   - precautions for hot and cold work;
   - precautions for electrical safety;
   - use of appropriate Personal Protective Equipment (PPE).

3.6 Respond to emergencies

a) Knowledge and understanding of oil tanker emergency procedures, including:
   - ship emergency response plans;
   - cargo operations emergency shutdown;
   - actions to be taken in the event of failure of systems or services essential to cargo;
   - fire-fighting on oil tankers;
   - enclosed space rescue;
   - use of a Material Safety Data Sheet (MSDS).

b) Actions to be taken following collision, grounding, or spillage.

c) Knowledge of medical first aid procedures on board oil tankers.

3.7 Take precautions to prevent pollution of the environment

a) Understanding of procedures to prevent pollution of the atmosphere and the environment.

3.8 Monitor and control compliance with legislative requirements

a) Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL), as amended, and other relevant IMO instruments, industry guidelines and port regulations as commonly applied.

4. Chemical Cargo Endorsement

Candidates will be tested from the perspective of chemical tankers and barges operating on inland waterways.

4.1 Ability to safely perform and monitor all cargo operations

a) Knowledge of chemical tanker designs, systems, and equipment, including:
   - general arrangement and construction;
   - pumping arrangement and equipment;
   - tank construction and arrangement;
   - pipeline and drainage systems;
   - tank and cargo pipeline pressure and temperature control systems and alarms;
   - gauging control systems and alarms;
   - gas-detecting systems;
   - cargo heating and cooling systems;
   - tank cleaning systems;
   - cargo tank environmental control systems;
   - ballast systems;
   - cargo area venting and accommodation ventilation;
   - vapour return/recovery systems;

- fire-fighting systems;
- tank, pipeline and fittings material and coatings;
- slop management.

b) Knowledge of pump theory and characteristics, including types of cargo pumps and their safe operation.
c) Proficiency in tanker safety culture and implementation of safety management system.
d) Knowledge and understanding of monitoring and safety systems, including the emergency shutdown system.

4.2 Loading, unloading, care and handling of cargo

a) Ability to perform cargo measurements and calculations.
b) Knowledge of the effect of bulk liquid cargoes on trim and stability and structural integrity.
c) Knowledge and understanding of chemical cargo related operations, including:
- loading and unloading plans;
- ballasting and deballasting;
- tank cleaning operations;
- tank atmosphere control;
- inerting;
- gas-freeing;
- ship-to-ship transfers;
- inhibition and stabilization requirements;
- heating and cooling requirements and consequences to adjacent cargoes;
- cargo compatibility and segregation;
- high-viscosity cargoes;
- cargo residue operations;
- operational tank entry.

d) Development and application of cargo related operation plans, procedures and checklists.
e) Ability to calibrate and use monitoring and gas-detection systems, instruments and equipment.
f) Ability to manage and supervise personnel with cargo-related responsibilities.

4.3 Familiarity with physical and chemical properties of chemical cargoes

a) Knowledge and understanding of the chemical and the physical properties of noxious liquid substances, including:
- chemical cargoes categories (corrosive, toxic, flammable, explosive);
- chemical groups and industrial usage;
- reactivity of cargoes.

b) Understanding the information contained in a Material Safety Data Sheet (MSDS).

4.4 Take precautions to prevent hazards

a) Knowledge and understanding of the hazards and control measures associated with chemical tanker cargo operations, including:
- flammability and explosion;
- toxicity;
- health hazards;
- inert gas composition;
- electrostatic hazards;

- reactivity;
- corrosivity;
- low-boiling-point cargoes;
- high-density cargoes;
- solidifying cargoes;
- polymerizing cargoes.

b) Knowledge and understanding of dangers of non-compliance with relevant rules/regulations.

4.5 Apply occupational health and safety precautions

a) Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to chemical tankers:
   - precautions to be taken when entering enclosed spaces, including correct use of different types of breathing apparatus;
   - precautions to be taken before and during repair and maintenance work;
   - precautions for hot and cold work;
   - precautions for electrical safety;
   - use of appropriate Personal Protective Equipment (PPE).

4.6 Respond to emergencies

a) Knowledge and understanding of chemical tanker emergency procedures, including:
   - ship emergency response plans;
   - cargo operations emergency shutdown;
   - actions to be taken in the event of failure of systems or services essential to cargo;
   - firefighting on chemical tankers;
   - enclosed space rescue;
   - cargo reactivity;
   - jettisoning cargo;
   - use of a Material Safety Data Sheet (MSDS).

b) Actions to be taken following collision, grounding, or spillage.

c) Knowledge of medical first aid procedures on board chemical tankers, with reference to the Medical First Aid Guide for Use in Accidents involving Dangerous Goods (MFAG).

4.7 Take precautions to prevent pollution of the environment

a) Understanding of procedures to prevent pollution of the atmosphere and the environment.

4.8 Monitor and control compliance with legislative requirements

a) Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL) and other relevant IMO instruments, industry guidelines and port regulations as commonly applied.

b) Proficiency in the use of the IBC Code and related documents.

5. Liquefied Gas Cargo Endorsement

Candidates will be tested from the perspective of gas carriers and barges operating on inland waterways.

5.1 Ability to safely perform and monitor all cargo operations

a) Knowledge of liquefied gas tanker design, systems, and equipment, including:
   - types of liquefied gas tankers and cargo tanks construction;
   - general arrangement and construction;
   - cargo containment systems, including materials of construction and insulation;
   - cargo-handling equipment and instrumentation, including:
     - cargo pumps and pumping arrangements
     - cargo pipelines and valves
     - expansion devices
     - flame screens
     - temperature monitoring systems
     - cargo tank level gauging systems
     - tank pressure monitoring and control systems
   - cargo temperature maintenance system;
   - tank atmosphere control systems (inert gas, nitrogen), including storage; generation and distribution systems;
   - cofferdam heating systems;
   - gas-detecting systems;
   - ballast system;
   - boil-off systems;
   - reliquefaction systems;
   - cargo Emergency Shut Down system (ESD);
   - custody transfer system.

b) Knowledge of pump theory and characteristics, including types of cargo pumps and their safe operation.

5.2 <u>Loading, unloading, care and handling of cargo</u>

a) Knowledge of the effect of bulk liquid cargoes on trim and stability and structural integrity.

b) Proficiency in tanker safety culture and implementation of safety management requirements.

c) Proficiency to apply safe preparations, procedures and checklists for all cargo operations, including:
   - post docking and loading:
     - tank inspection
     - inerting (oxygen reduction, dewpoint reduction)
     - gassing-up
     - cooling down
     - loading
     - deballasting
     - sampling, including closed-loop sampling
   - en-route:
     - cooling down
     - pressure maintenance
     - boil-off
     - inhibiting
   - unloading:
     - unloading
     - ballasting
     - stripping and cleaning systems

    - systems to make the tank liquid-free
  - pre docking preparation:
    - warm-up
    - inerting
    - gas-freeing
  - ship-to-ship transfer.

d) Proficiency to perform cargo measurements and calculations, including:
  - liquid phase;
  - gas phase;
  - On Board Quantity (OBQ);
  - Remain On Board (ROB);
  - boil-off cargo calculations.

e) Proficiency to manage and supervise personnel with cargo-related responsibilities.

5.3 Familiarity with physical and chemical properties of liquefied gas cargoes

a) Knowledge and understanding of basic chemistry and physics and the relevant definitions related to the safe carriage of liquefied gases in bulk in ships, including:
  - the chemical structure of gases;
  - the properties and characteristics of liquefied gases (including CO2) and their vapours, including:
    - simple gas laws
    - states of matter
    - liquid and vapour densities
    - diffusion and mixing of gases
    - compression of gases
    - reliquefaction and refrigeration of gases
    - critical temperature of gases and pressure
    - flashpoint, upper and lower explosive limits, auto-ignition temperature
    - compatibility, reactivity and positive segregation of gases
    - polymerization
    - saturated vapour pressure/reference temperature
    - dewpoint and bubble point
    - lubrication of compressors
    - hydrate formation
  - the properties of single liquids;
  - the nature and properties of solutions;
  - thermodynamic units;
  - basic thermodynamic laws and diagrams
  - properties of materials;
  - effect of low temperature – brittle fracture.

b) Understanding the information contained in a Material Safety Data Sheet (MSDS).

5.4 Take precautions to prevent hazards

a) Knowledge and understanding of the hazards and control measures associated with liquefied gas tanker cargo operations, including:
  - flammability;
  - explosion;
  - toxicity;
  - reactivity;

- corrosivity;
- health hazards;
- inert gas composition;
- electrostatic hazards;
- polymerizing cargoes.

b) Proficiency to calibrate and use monitoring and gas-detection systems, instruments and equipment.

c) Knowledge and understanding of dangers of non-compliance with relevant rules/regulations.

5.5 Apply occupational health and safety precautions

a) Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to liquefied gas tankers, including:
   - precautions to be taken when entering enclosed spaces (such as compressor rooms), including the correct use of different types of breathing apparatus;
   - precautions to be taken before and during repair and maintenance work, including work affecting pumping, piping, electrical and control systems;
   - precautions for hot and cold work;
   - precautions for electrical safety;
   - use of appropriate Personal Protective Equipment (PPE);
   - precautions for cold burn and frostbite;
   - proper use of personal toxicity monitoring equipment.

5.6 Respond to emergencies

a) Knowledge and understanding of liquefied gas tanker emergency procedures, including:
   - ship emergency response plans;
   - cargo operations emergency shutdown procedure;
   - emergency cargo valve operations;
   - actions to be taken in the event of failure of systems or services essential to cargo operations;
   - fire-fighting on liquefied gas tankers;
   - jettisoning of cargo;
   - enclosed space rescue.

b) Actions to be taken following collision, grounding or spillage and envelopment of the ship in toxic or flammable vapour.

c) Knowledge of medical first aid procedures and antidotes on board liquefied gas tankers, with reference to the Medical First Aid Guide for Use in Accidents involving Dangerous Goods (MFAG).

5.7 Take precautions to prevent pollution of the environment

a) Understanding of procedures to prevent pollution of the environment.

5.8 Monitor and control compliance with legislative requirements

b) Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL) and other relevant IMO instruments, industry guidelines and port regulations as commonly applied.

c) Proficient in the use of the OBC and IGC Codes and related documents.

6. Cargo Operations Endorsement

6.1 General Cargoes

a) Demonstrates a knowledge of safe procedures to be adopted for opening and closing cargo holds such as wooden, pontoon and Mcgregor type hatch covers.
b) Describes the operation of access equipment for hatches, hatch covers, rampways, side/bow/stern doors and ramps.
c) Demonstrates a knowledge of ventilation of cargo holds.
d) Explains the principles and safe working practices for the proper loading, and discharging of dry and bulk cargoes including powdery cargo.
e) Describes the approval, maintenance and safe use of cargo handling equipment.
f) Demonstrates a knowledge of rigging of cargo gear, proper and appropriate use of slings and other types of lifting equipment.
g) Explains the procedures for the loading, stowage and securing of dry cargo.
h) Demonstrates a knowledge of the effects on stability during/after loading and discharging of dry, bulk and liquid cargo.
i) Demonstrates an awareness of free surface effect on stability at all stages of loading and discharging.
j) Identifies and describes cargo care on passage for a given cargo.

6.2 Inspection and Preparation of Holds

a) Outlines the reasons for inspection of holds including items to be inspected.
b) Demonstrates a knowledge of:
    - Cleaning holds before loading;
    - Cleaning after the discharge of cargo;
    - Use of dunnage including types and sizes.
c) States that bilges, strum boxes or drain wells should be clean and suctions in working order.

6.3 Separation of cargoes

a) Demonstrates a knowledge for the need of separation/segregation of different cargoes.

6.4 Securing cargoes

a) Explains the need for a solid stow and securing of cargoes.
b) Describes methods of blocking, lashing, shoring and tomming cargo.
c) Describes the method of securing heavy loads, vehicles and trailers in accordance with securing arrangement manual.

6.5 Deck Cargo

a) Outlines cargoes commonly carried on deck.
b) Explains why efficient securing of deck cargo is essential for the safety of the ship as well as the cargo.
c) Describes the reason for stowage to leave access to essential equipment and spaces and for unrestricted views for safe navigation.
d) Explains that the weight of deck cargo should not exceed the permissible load.
e) Describes how the effects of a concentrated load can be spread over a wider area and of the method of stowage and securing of containers on deck.

6.6 Packaged dangerous goods

a) States the safe stowing arrangements for hazardous cargo.

b) Demonstrates an awareness of the 9 (UN) classes of dangerous goods as defined in the International Maritime Dangerous Goods (IMDG) Code and other sources.
c) Demonstrates an awareness of the labels, marks and signs used to designate cargoes within those classes as indicated in the IMDG Code and other sources including cargo separation, marking and documentations.
d) Applies procedures for checking, loading carriage and discharge of dangerous and hazardous cargo in packaged form.

7. Ro-Ro operations

7.1 Stability

a) Demonstrates knowledge and application of stability and other information contained in the vessel's stability book.
b) Demonstrates knowledge and application of the Tonnes per Centimetre (TPC) immersion and to ascertain the effect of loading a heavy vehicle on the vessel's draught.
c) Have knowledge of any trim restrictions applicable to the vessel.
d) Demonstrate awareness of the effect of flooding and damaged stability applicable to the vessel.
e) Demonstrates knowledge of common loading conditions applicable to the vessel.
f) Demonstrates awareness of point and axle weight loading as it applies to the vessel on vehicle decks and ramps.

7.2 Opening & Closing of Ramps and Hull Openings

a) Be able to apply vessel procedures for opening and closing vehicle ramps, including checks to ensure these are secure for the voyage.
b) Demonstrates ability to check on watertight seals and securing devices.
c) Demonstrates knowledge of procedures for closing and securing other hull openings as applicable.
d) Demonstrates knowledge of visual and audible alarms relating to vehicle deck operations.
e) Demonstrates knowledge and recording of planned maintenance relating to the above opening and closing devices.

7.3 Vehicle Deck Operations

a) Demonstrates knowledge of the Company and Vessel's Safety Management System procedures relating to Vehicle Deck Operations.
b) Demonstrates awareness of the requirements of the Merchant Navy Code of Safe Working Practices in relation to vehicle deck operations.
c) Demonstrate awareness of the MCA Ro-Ro ships Stowage and Securing of vehicles Code of Practice.
d) Demonstrate awareness of the requirements of any risk assessments carried out under the Safety Management System.
e) Before loading ensure vehicles presented for shipment are suitable for carriage on the vessel with regard to roadworthiness, no fuel leaks, not overloaded, declared weight within acceptable limits, adequate securing points and any load secure on the vehicle.
f) Ensures vehicles carrying dangerous goods are properly placarded and are acceptable for shipment.
g) Demonstrate awareness of any procedures to follow if livestock vehicles are carried.

h) Demonstrate knowledge of procedures to follow when vehicles and passengers embark your vessel using the vehicle ramp.
i) Demonstrate awareness of what personal protective equipment must be worn by crew engaged in vehicle deck operations.
j) Ensure crew member s engaged in vehicle deck operations are able to give clear directions and instructions to vehicles and passengers embarking and disembarking.

7.4 Carriage of Dangerous Goods

a) Demonstrate an awareness of the types of Dangerous Goods commonly carried on your vessel.
b) Demonstrates knowledge of any requirements of a Document of Compliance for the Carriage of Dangerous Goods issued for the vessel (if applicable.)
c) Demonstrates knowledge of the IMDG Code in relation to the Dangerous Goods commonly carried on the vessel.
d) Demonstrates knowledge of company procedures for when carrying dangerous goods and undertaking any company training requirement.
e) Demonstrates awareness of procedure to follow in the event that dangerous goods not commonly carried are presented for shipment and who to contact in your organisation for advice.
f) Demonstrates awareness of what classes of dangerous goods are not permitted to be carried on Passenger Vessels.
g) Demonstrates knowledge of emergency procedures to follow should any emergency arise involving Dangerous Goods and where to find the relevant information.
h) Demonstrates awareness of the need to maintain adequate spacing between vehicles on the vehicle deck to allow passenger access.

7.5 Vehicle Securing Arrangements

a) Demonstrates awareness of the requirements of any Cargo Securing Manual provided for the vessel.
b) Demonstrates awareness of any company procedures relating to the securing of vehicles.
c) Demonstrates knowledge of, and how to correctly apply vehicle securing devices provided for your vessel and their limitations.
d) Demonstrates knowledge of what constitutes a securing point on a vehicle presented for shipment.
e) Demonstrates ability to inspect securing devices and points provided on the vessel and procedure to follow if any defects found.
f) Demonstrates awareness of any planned maintenance requirements for securing devices used on your vessel and what records are kept.
g) Demonstrates knowledge of the “Rule of Thumb” method for determining the securing requirements for heavy vehicles.

7.6 Ro-Ro Deck Atmosphere

a) Demonstrates awareness of any company procedures for the ventilation of any enclosed ro-ro cargo spaces:
    - during loading;
    - whilst on passage;
    - in an emergency.

7.7 General

a) Demonstrates awareness of any safety signage and public announcements necessary for safe Ro-ro operations.
b) Demonstrates awareness of visual and audible alarms in use during vehicle deck operations.
c) Demonstrates awareness of any other safety measures required by statute or Company procedures.

8. Fast Craft Endorsement

8.1 Shipboard knowledge

a) Demonstrates a knowledge of on-board propulsion systems including;
   - communication and navigational equipment;
   - steering, electrical, hydraulic and pneumatic systems;
   - bilge and fire systems;
   - failure mode of control, steering and propulsion systems;
   - proper response to system failures.
b) Explains handling characteristics of the craft and the limiting operational conditions.
c) Describes the procedures for bridge communication and navigation including the methods of control and communication with passengers in an emergency.
d) Demonstrates a knowledge of cargo and vehicle stowage and securing systems.
e) Demonstrates an outline knowledge of loading and stability data.
f) Demonstrates a knowledge of buoyancy, stability, sub-division, downflooding point and intact stability information.
g) Demonstrates an awareness of the impact and damage stability and survivability of the craft in damaged condition.

8.2 Life saving, firefighting and damage control

a) Demonstrates an ability to locate and use the craft's life-saving appliances, survival craft equipment and escapes in the craft.
b) Demonstrates an awareness of the procedures for passenger evacuation including the location and use of items listed in vessel's training manual.
c) Demonstrates a knowledge of the location and use of fire protection and extinguishing appliances and systems in the event of fire on board.
d) Demonstrates a knowledge of the location and use of damage control appliances and systems including the operation of watertight doors and bilge pumps.

8.3 Regulations

a) Demonstrates an outline knowledge of the High Speed Craft Code and amendments including operational requirements.

9. Dredging Operations

a) Describes the importance of the need for the planning of the operation on a vessel engaged in dredging operations.
b) Describes how to correctly establish the area to be dredged, the material likely to be removed including its quantity, and identify and assess any related potential hazards.
c) Describes the need for briefing of crew and other personnel on a vessel engaged in dredging operation.

d) Explains the importance of maintaining a look out and radio watch for other individuals and vessels within the vicinity of the dredging operation and take the necessary action to maximise safe working operations.
e) Describes the importance of the use of appropriate equipment on a vessel engaged in dredging operations.
f) Describes the types and procedure for dredging including ploughing, jetting, grab, cutter suction or trailer.
g) Describes the procedure for dealing with suspicious objects in spoil on a vessel engaged in dredging operations.
h) Describes the importance of and the procedure for the disposal of spoil on a vessel engaged in dredging operations.
i) Confirms the destination of the waste materials, that this is adequate and appropriate for the safe and correct disposal of the materials, and that all necessary permissions have been obtained.
j) Demonstrates knowledge of their organisation's and local navigation authorities' requirements for dealing with reports of hazards and obstructions within navigable channels.
k) Describes the function and purpose of VTS information and requirements on a vessel engaged in dredging operations.
l) Explains importance and impact of Department for Environment and Rural Affairs' (DEFRA) dredging licence, United Kingdom Hydrographic Office's (UKHO) Hydrographic Standards, and other regulations upon dredging operations.

10. Towing and Pushing Endorsement

PREPARATION FOR TOWING / PUSHING

10.1 Gathering Information prior to towing/pushing

a) Demonstrates a knowledge of:
- type of vessel to be towed/pushed;
- dimensions of vessel to be towed/pushed;
- type and quantity of cargo on board;
- towing/pushing points – bitts, Smit brackets, lugs;
- berth in departure port;
- pilotage requirement;
- agent's details;
- towage assistance requirements;
- consideration of bollard pull;
- strength and suitability of towing gear including SWL, breaking strain and test certificate.

10.2 Information to be prepared

a) Demonstrates a knowledge of towage/pushing arrangement plan.
b) Explains the passage planning.
c) Explains the method of preparing departure information.
d) Demonstrates a knowledge of the awareness of:
- turning circles;
- wind and tide considerations;
- stopping techniques;
- bank effect;

- operation in confined areas, basins and locks;
- girting;
- interaction of other vessels.

10.3 Boat Handling

a) Describes the operation of anchoring with a tow.
b) Describes boat handling operations with a vessel alongside.
c) Describes the method of working with a tug – with special regard to communication.

10.4 Checking of Documents

a) Demonstrates a knowledge of the requirement of:
   - carrying statutory certificates;
   - towage Approval Certificate;
   - insurance Certificate;
   - skipper's responsibilities with special reference to the tow.
b) Explains pre-departure discussions with crew on methods of leaving port with pilots and streaming of the tow.

10.5 Securing and letting go of tow

a) Describes the preparations for towing another craft or vessel.
b) Demonstrates a knowledge of:
   - inspecting equipment prior to towage/pushing a craft/barge;
   - securing for voyage;
   - using emergency towlines;
   - ensuring watertight integrity.

10.6 Towing/Pushing operations

a) Describe the streaming of adequate wire/rope for various conditions.
b) Describes the securing and letting go of tow with respect to:
   - connecting and disconnecting during passage /underway;
   - ranging and caring of towline during the voyage;
   - methods of passing lines and suitable securing points on tugs and tows;
   - presentation and securing of tug to various crafts including barges and lighters.

10.7 Manoeuvring and managing tug and tow

a) Demonstrates a knowledge of operating a vessel with a tow.
b) Describes the monitoring of weather forecast.
c) Demonstrates a knowledge of keeping a log for the voyage.
d) Demonstrates an understanding of navigation with regard to:
   - wind and tidal effects;
   - giving way;
   - traffic lanes requirements;
   - use of appropriate towing/pushing lights and shapes.
e) Describes the method of checking wire/rope for chafe.
f) Describes a knowledge of hazard of tow line touching sea bottom.

10.8 Inspection of Tow on arrival at departure port

a) Demonstrates a knowledge of checking the following with tow Surveyor:
   - seaworthiness of the vessel;

- trim;
- slack tanks;
- fuel and Lubricating oil on board;
- securing status of cargo;
- securing status of equipment – onboard and outboard;
- propellers - rudder/s;
- openings such as vents, watertight doors, hatch/tank covers, windows/ports, deadlights, engine room sea water intakes/outlets;
- noting of existing damage – photograph;
- dredger – hopper doors;
- areas around lifting points;
- securing of all connecting shackles, pinned nuts spot welded.

b) Describes bridles and shackles hung over the tow, clear of all obstructions.
c) Describes the placement of a gobline when required.
d) Describes the method of rigging towing diamond.
e) Demonstrates a knowledge of checking:
   - towing lights being fitted and operational;
   - sighting of Load Line certificate;
   - weather forecast for appropriate areas;
   - anchoring arrangements on tow.

10.9 Hazard identification and safety issues

a) Demonstrates an awareness of `snatching' and conditions where this would be most likely to occur.
b) Describes the method of reducing 'snatching'.
c) Explains emergency tow rigging outside of handrails, ships fixtures and fittings.
d) Demonstrates an awareness with respect to:
   - crew safety;
   - vessel safety;
   - safety of the vessel/barge/craft in tow.

Annex 11

Syllabus for areas requiring a Local Knowledge Endorsement

The local knowledge syllabus may include the following as appropriate to the area(s) concerned:

- a thorough knowledge of local regulations and byelaws (this is essential for all areas);
- knowledge of navigation authority publications;
- local signals and traffic regulations;
- local marks, including buoyage, lights, leading lights and marks;
- local dangers to navigation - depths over banks, obstructions, currents and abnormal tidal streams etc.;
- local safe havens and landing places in differing weather conditions;
- a knowledge of the times and heights of tides;
- safe courses in and out of local harbours;
- locations of, and means of communication with the nearest Coastguard centre and other emergency services;
- local language terminology (including radio communications where appropriate);
- knowledge of local VTS and traffic control;
- knowledge of local traffic density and patterns;
- types of traffic to be encountered;
- any other item of local knowledge which an examiner may deem to be necessary (e.g. current notices to mariners on temporary works); and
- fixed items and air draft hazards (e.g. bridges).

Annex 12

Specific knowledge requirements for local knowledge for areas excluding Port of London

Bristol Port

(Area: The River Avon from Ashton Swing Bridge to the mouth of the Avon and King Road from Portishead Point to the port limits to the North and West.)

Designated Local Knowledge Criteria	Particular requirements
Difficult/complex tides and streams	River Avon and King Road, Hydrodynamic and Survey features.

Caernarfon and Menai Strait

(Area: From the Southern Limit specified in the Menai Strait Pilotage District Pilotage Directions, that is an imaginary line joining positions 53°09.6'N 004°25.7'W (Malltraeth Bay); 53°05.0'N 004°32.15'W (Caernafon Bay) and 53°00.55'N 004°23.58'W (afon Hen, Clynnog) to a line drawn between Bangor Pier and Garth-y-Don.)

Designated Local Knowledge Criteria	Particular requirements
Difficult/complex tides and streams	Knowledge of tidal streams, their directions and rates, particularly for the Swellies. Knowledge of the variation in range and times of tides throughout the area, and use of tide tables. An understanding of when it is safe to make a passage through the Swellies, having due regard to the available depth of water, the tidal stream rate and type of vessel. Awareness that Slack Water does not occur at High and Low Water throughout most of the area. Awareness of depths of water throughout the area. Awareness of the effect of wind against tide conditions throughout the area.
Particular physical hazards (and the technical difficulty of negotiating them)	Familiarity with, and ability to traverse/negotiate the Caernarfon Bar. An understanding of the effect of strong onshore winds between South and Northwest on the Caernarfon Bar, when this location is at its most hazardous. Familiarity with and ability to traverse/negotiate the Swellies.
If no suitable charts are available for the area	Awareness that the Caernarfon Bar channel is constantly changing, particularly during winter months, and where to obtain the latest positions for the Bar buoys.

Dee Conservancy
(Area: from an imaginary straight line connecting Point of Ayr (National Grid reference point SJ 12268519) and Hilbre Point (National Grid reference point SJ 20298843) to the Weir at Chester (Tidal Waters Limit).

Designated Local Knowledge Criteria	Particular requirements
Particular physical hazards (and the technical difficulty of negotiating them)	There are frequent changes in the position of the navigable channel in the Estuary and adjacent banks. Consequently navigation buoys marking the channel are moved as required. It is considered dangerous for vessels to ground in the navigable channel on an out-going tide as the sand may be washed away leaving the vessel liable to keel over. (Referred to in Admiralty Sailing Directions NP37).
If no suitable charts are available for the area	The Dee estuary and river upstream of the Port of Mostyn is not charted. Safe navigation of the estuary and river requires knowledge of the location and purpose of all floating and fixed aids to navigation and bridge clearance heights, up to date details of which are available from the conservancy, harbour and local lighthouse authority (Natural Resources Wales) and competent harbour authority (Mostyn Docks Ltd).

Dover Harbour
(Area: The harbour and the sea within a distance of one mile from the seaward limits of the harbour).

Designated Local Knowledge Criteria	Particular requirements
High traffic density: type and patterns	Dover is a busy ferry port with over 130 ferry arrivals and departures per day, from the Eastern entrance alone. Fast craft will also be frequently encountered using the Western entrance. In summer, Dover is a popular base and destination for yachtsmen and pleasure craft, which use both harbour entrances for entry and exit. All commercial and leisure craft movements within one mile of the Port of Dover and inside the harbour, are controlled by Dover Port Control on VHF working Channel 74.
Difficult/complex tides and streams	Complex and strong tidal streams run within tidal flows both off the port and around Dover Harbour (Admiralty Chart No.1698 refers). A working knowledge of inside the harbour is therefore desirable. Particular caution is necessary at any time when manoeuvring both within and immediately outside the harbour as a result of strong and varying currents during the period from 2 and three-quarter hours before High Water, until High water.

Fowey Harbour
(Area: The upper estuary, north of Upper Carne Point.)

Designated Local Knowledge Criteria	Particular requirements
Particular physical hazards (and the technical difficulty of negotiating them)	Lack of lighted marks or buoyage north of Upper Carn point.

If no suitable charts are available for the area	Knowledge of drying areas north of Wisemans Reach.

Gloucester Harbour
(Area: The Severn estuary from the harbour limits at Goldcliff to the weirs at Maisemore, Lanthony (Gloucester) on the tidal River Severn, and to Bigsweir Bridge on the tidal River Wye.)

Designated Local Knowledge Criteria	**Particular requirements**
Difficult/complex tides and streams	Knowledge of various reaches of the River Severn; their names, courses and distances. Knowledge of range and duration of Neap and Spring tides. Knowledge of rate and set of tidal streams, particularly during Springs and Neaps.
Particular physical hazards (and the technical difficulty of negotiating them)	Awareness of rocks, shoals and other dangers, and depth of water over them.

Port of Liverpool
(Area: The River Mersey from a straight line drawn between the Perch Rock Lighthouse and Gladstone River Entrance West Bullnose, south to a straight line drawn between the East Bullnose of Eastham 50' Lock and the West Bullnose of Stalbridge (Garston) Lock).

Designated Local Knowledge Criteria	**Particular requirements**
Difficult/complex tides and streams	The River Mersey has tidal streams that can run up to about 7 or 8 knots on a large Spring tide, ranges of 10.5 metres are experienced at certain times of the year. The River splits south of Bromborough Buoy into two channels, one leading to Garston (an ABP Port) the other to Eastham, the entrance to the Manchester Ship Canal, the longest linear port in the world and also the QEII Oil Dock. The stream does not follow the path of the River but crosses between the two shores on 3 or 4 occasions in the navigable sector. These crossings vary between flood and ebb and whether Springs or Neaps. Entrance to the dock system for Liverpool and Birkenhead is via locks around which the tidal stream can vary tremendously at different states of tide. The stream can be across, into or down from the lock and run up to 5 knots at times. The River in the Garston Channel again does not necessarily follow the line of the channel. The Eastham Channel has its own problems with shifting sandbanks in a narrow shallow channel.

Padstow Harbour
(Area: The waters within a line joining Stepper Point, Gulland Rock and Pentire Point.)

<u>Qualifying Service Time Requirement:</u>
6 voyages outward from the harbour and **6** voyages inward to the harbour under the supervision of a person authorised by the Padstow Harbour Authority.

Designated Local Knowledge Criteria	Particular requirements
Particular physical hazards (and the technical difficulty of negotiating them)	Familiarity with, and ability to traverse/negotiate, the “Doom Bar” at the entrance of the River Camel, particularly in strong Northerly or Westerly winds when this feature is at its most hazardous.

Portsmouth Harbour
(Area: The waters between No. 4 Bar Buoy and a line drawn from No. 98 Pile to Whale Island.)

Qualifying Service Time Requirement:
6 months experience in the above area, including at least **60** days service.

Designated Local Knowledge Criteria	Particular requirements
High traffic density: type and patterns	Frequent ferry/ high speed ferry and hovercraft services using main channel and Swashway. Large Cross Channel Ferries constrained to main channel and manoeuvring in harbour. Royal Navy movements. Commercial traffic constrained to channel and manoeuvring in harbour. Relatively large commercial traffic to northern parts of harbour. Large numbers of leisure craft within whole area.

Isles of Scilly
(Area: The waters within a line drawn from Bishop Rock Lighthouse to Scilly Rock, Round Island, White Island, Hanjague and around the South East of St Mary’s).

Qualifying Service Time Requirement:
6 months experience in the above area, including at least **60** days service.

Designated Local Knowledge Criteria	Particular requirements
Difficult/complex tides and streams	Knowledge of the general direction of tides, streams and overfalls.
Particular physical hazards (and the technical difficulty of negotiating them)	Awareness of the rocks, ledges and sand bars and the depth of water over them.

Teignmouth
(Area: All waters east of a line joining Ness Point to Den Lighthouse).

Designated Local Knowledge Criteria	Particular requirements
Difficult/complex tides and streams	Strong nature of tidal stream in areas of the harbour.

Particular physical hazards (and the technical difficulty of negotiating them)	Outer sand bars constantly changing. Approach buoys moved at short noticed as required.
If no suitable charts are available for the area	Due to constantly changing buoys no charts are 100% correct.

Annex 13

Specific knowledge requirements for the Port of London
(Area: The River Thames from Putney Bridge to Margaretness)

Qualifying Service Time requirement
Before being examined for the tidal Thames local knowledge endorsement, the candidate must have completed the following additional qualifying service: At least **6 months** experience within the above area, including at least **60 days** service undertaken in varying conditions, including trips in different directions and trips during the hours of darkness.

Level of Knowledge Key: 1 = Detailed, 2 = Working, 3 = Aware

General Rules and Knowledge			
Subject	**Detail**	**Level of Knowledge**	**Reference**
PLA Regulations/Guidance	PLA Thames Byelaws	2	BL
	General Directions for Navigation in the Port of London	2	GD
	Permanent Notice to Mariners	2	PNtoM
	Current Notice to Mariners	2	NtoM
	Dangerous Substance in Bulk Byelaws	2	BL
	Code of Practice for the Safe Mooring of Ships	2	CofP
Other Local Authority Regulations	Port Health etc.	3	
VTS Procedures	VTS Stations/ VHF Frequencies / Routine Broadcasts / Reporting Points (Waypoints)	1	GD/ PNtoM / PLA Tide Tables / Charts
River Environment			
Tides	Find HW & LW for given position	1	Tide Tables
	Calculate Under Keel and Air Draft clearance for a given time / position	1	Tide Tables
	Tidal Surges and Effect of Land Water	3	PLA Tide Tables / Local Knowledge
Emergency Response			
Search and Rescue	Coastguard and TIRRs/RNLI stations and equipment / “Mayday” & “Pan Pan” / Search and Rescue plans	1	PNtoM

Port Emergencies	Master's responsibilities in all categories.	2	PNtoM
Security	Passenger security, Anti terrorist precautions and action in event of passenger disturbances	2	Domestic Safety Management Code / Met Police / TRANSEC (DFT)
Margaretness to Putney			
Subject	**Detail**	**Level of Knowledge**	**Reference**
Geography	Names and Locations of reaches, lights and points	1	Chart
	Names and Locations of piers, causeways and landing places	1	Chart
	Names, working arches, depths and arch heights of bridges.	1	Chart, BL App. IV
	Names and Locations of locks dock, barriers, creeks, cuts and inlets.	1	Chart
	Names and Locations of designated anchorages.	2	Chart / PLA Tide Tables
	Names and Locations of mooring buoys and barge roads.	2	Chart
	Local marks – buoyage, daymarks, leading lights, Tide Gauges.	2	Chart
Dangers to Navigation	Shoals	1	Chart
	Effect of the weather in each reach	2	Local Knowledge
Traffic Patterns	Traffic "pinch points". Types and timing of traffic expected in the area.	3	Local Knowledge
	The routine timing of the passage of "Reporting Vessels"	3	Local Knowledge
Currents and tidal eddies	Barking, Broadness	1	Local Knowledge
	Tidal sets at bridges, piers and moorings.	1	Local Knowledge
	Effect of barrier gate positions on navigation through the Thames Barrier	1	Local Knowledge
	Effect on height of tide and tidal stream when the Thames Barrier is closed.	2	Local Knowledge

	Effect on height of tide and tidal stream caused by unusually high or low volumes of land water passing over the weir at Teddington.	2	Local Knowledge
Special PLA Regulations	Navigation in Thames Barrier Control Zone	1	DG 16
	Requirement for lookouts	1	GD 17
	Variation to Col Regs Vessels above Cherry Garden Pier	1	BL19 PNtoM 6
	Special Signal Lights (“Isophase Lights”)	1	GD 19
	Limitation on vessels towing	2	GD 20
	Sound Signals	1	PNtoM 8
	Passenger Vessel additional markings	2	GD21 GD18
	Bridge Light (main navigation arch, closed arch and reduced headroom signals)	1	BL29 GD19 BL App IV
	Speed limit	2	BL 48, PNtoM 7
	Exclusion Zones	1	PNtoM 27

Annex 14

Risk Assessment Guidance

Masters of small vessel in commercial use transiting not more than once a month (but not to sea) may transit providing the operator completes the risk assessment. While carrying out the Risk Assessment for the proposed transit, the following shall be considered[73]:

Conditions

- River flow
- Locks operation
- Engine/Handling characteristics
- Traffic conditions
- Navigational Marks/Charts
- Weather Conditions

Potential Hazards

- Set and drift experienced by the vessel
- Unfamiliarity with operation of locks, if the vessel has to transit any
- Inadequate handling characteristics for the type of vessel
- Increased traffic encountered while transiting
- Non familiarity with Navigational Marks
- Increased wind speed due to exposed conditions

[73] Risk Assessment carried out shall take into account guidance given in this Notice and shall include conditions specific to the area that the vessel is operating.