

Chapter 18

Operational requirements

PART A - GENERAL

18.1 Craft operational control

18.1.1 The High Speed Craft Safety Certificate, the Permit to Operate High Speed Craft, or certified copies thereof, and copies of the Route Operational Manual, Craft Operating Manual, and a copy of such elements of the Maintenance Manual as the Administration may require, should be carried on board.

18.1.2 The craft should not be intentionally operated outside the worst intended conditions and limitations specified in the Permit to Operate High Speed Craft, in the High Speed Craft Safety Certificate, or in documents referred to therein*.

Permit to Operate should show the operational limitations which specify the maximum significant wave height (and wind force if required), within which the craft may operate. Other limitations may also be imposed.

** The Merchant Shipping (Master's discretion) Regulations 1997 - The owner, charterer or manager of a craft shall not prevent or restrict the master from taking or executing any decision which, in the master's professional judgement, is necessary for the safety of passengers, the craft, its crew and the environment.*

Whilst the MCA can accept a voyage being completed at a reduced speed if worse weather than that predicted or permitted is encountered during the passage, a voyage cannot begin in those conditions.

18.1.3 The Administration should issue a Permit to Operate High Speed Craft when it is satisfied that the operator has made adequate provision from the point of view of safety generally, including the following matters specifically, and should revoke the Permits to Operate if such provisions are not maintained to its satisfaction;

- .1 the suitability of the craft for the service intended having regard to the safety limitations and information contained in the Route Operational Manual;
- .2 the suitability of the operating conditions in the Route Operational Manual;
- .3 the arrangements for obtaining weather information on the basis of which the commencement of a voyage may be authorised;
- .4 provision in the area of operation of a base port fitted with facilities in accordance with 18.1.4;
- .5 the designation of the person responsible for decisions to cancel or delay a particular voyage, e.g. in the light of the weather information available;

- .6 Sufficient crew complement required for operating the craft, deploying and manning survival craft, the supervision of passengers, vehicles and cargo in both normal and emergency conditions as defined in the Permit to Operate. The crew complement should be such that two officers are on duty in the operating compartment when the craft is underway;
- .7 crew qualifications and training, including competence in relation to the particular type of craft and service intended and their instructions in regard to safe operational procedures;
- .8 restrictions with regard to working hours, rostering of crews and any other arrangements to prevent fatigue including adequate rest periods;
- .9 the training of crew in craft operational and emergency procedures;
- .10 the maintenance of crew competence in regard to operation and emergency procedures;
- .11 safety arrangements at terminals and compliance with any existing safety arrangements as appropriate;
- .12 traffic control arrangements and compliance with any existing traffic control, as appropriate;
- .13 restrictions and/or provisions relating to position fixing, to operation by night or in restricted visibility, including the use of radar and/or other electronic aids to navigation, as appropriate;
- .14 additional equipment which may be required, due to the specific characteristics of the service intended, for example, night operation;
- .15 communication arrangements between craft, coast radio stations, base ports radio stations, emergency services and other ships, including radio frequencies to be used and watch to be kept;
- .16 the keeping of records to enable the Administration to verify:
 - .16.1 that the craft is operated within the specified parameters;
 - .16.2 the observance of emergency and safety drills/procedures;
 - .16.3 the hours worked by the operating crew;
 - .16.4 the number of passengers on board;
 - .16.5 compliance with any law to which the craft is subject;
 - .16.6 craft operations; and

- .16.7 maintenance of the craft and its equipment in accordance with approved schedules;
- .17 arrangements to ensure that equipment is maintained in compliance with the Administration's requirements, and to ensure co-ordination of information as to the serviceability of the craft and equipment between the operating and maintenance elements of the operator's organisation;
- .18 the existence and use of adequate instructions regarding;
 - .18.1 loading of the craft so that weight and centre of gravity limitations can be effectively observed and cargo is, when necessary, adequately secured;
 - .18.2 the provision of adequate fuel reserves;
 - .18.3 action in the event of reasonable foreseeable emergencies; and
- .19 provision of contingency plans by operators for foreseeable incidents including all land-based activities for each scenario. The plans should provide operating crews with information regarding SAR authorities and local administrations and organisations which may complement the tasks undertaken by crews with the equipment available to them.

Refer to the IMO Search and Rescue Manual IMOSAR - A439(XI) and use of the Radar Transponders for Search and Rescue Purposes - Resolution A.430(13)

18.1.4 The Administration should determine the maximum allowable distance from a base port or place of refuge after assessing the provisions made under 18.1.3.

For issuing a Permit to Operate, please refer to Annex 2.

18.2 Craft documentation

The Administration should ensure that the craft is provided with adequate information and guidance in the form of technical manual(s) to enable the craft to be operated and maintained safely. The technical manual(s) should consist of a Route Operational Manual, Craft Operating Manual, Training Manual, Maintenance Manual and Servicing Schedule. Arrangements should be made for such information to be updated as necessary.

The Lead Surveyor should assess the adequacy of the information and guidance in all the above manuals before issuing the Safety Certificate or the Permit. This is not to say that MCA would approve and stamp the manuals in the same way as 'plan approvals'; instead we would issue the relevant document (Safety Certificate, Permit to Operate etc.) to reflect out acceptance of the appropriate manuals.

18.2.1 Craft operating manual

The craft operating manual should contain at least the following information:

- .1 leading particulars of the craft;
- .2 description of the craft and its equipment;
- .3 procedures for checking the integrity of buoyancy compartments;
- .4 details arising from compliance with the requirements of chapter 2 likely to be of direct practical use to the crew in an emergency;
- .5 damage control procedures;
- .6 description and operation of machinery systems;
- .7 description and operation of auxiliary systems;
- .8 description and operation of remote control and warning systems;
- .9 description and operation of electrical equipment;
- .10 loading procedures and limitations including maximum operational weight, centre of gravity position and distribution of load;

To avoid unnecessary duplication the cargo securing manual for high speed craft should form part of the high speed craft operating manual and shall comply with the Merchant Shipping (Carriage of Cargo) Regulation 1997. The operating manual contents page should be marked and stamped;

“Pages x to y of this manual constitute the craft’s Cargo Securing Manual as required by SOLAS regulation VI/5.6.”, or, if the craft is to carry dangerous goods, then the sentence should end “SOLAS regulations VI/5.6 and VII/6.6”.

For approval of the cargo securing manual, please refer to “Instructions to Surveyors on the Carriage of Cargoes, Volume 1 - The carriage of packaged cargoes and cargo units (including containers and vehicles)” includes a section for high speed craft and it deals with all matters relating to cargo, including securing.

For port State control purpose it is proposed that there are no objections to the cargo securing manual being incorporated in the operating manual or standing alone.

All the appropriate information relevant to the cargo and its stowage and securing to be prepared in advance by the craft operators according to the guidance in MSN 1708 (M).

The following cargo should be secured before departure :

- 1. truck, trailers, caravan and any other road vehicle which is more than 3.5t;*
- 2. any vehicle rests at three point;*
- 3. any vehicle with a high centre of gravity; and,*

4. cars which are loaded athwartship or on a ramp.

- .11 description and operation of fire detection and fire-extinguishing equipment;
- .12 drawings indicating the structural fire protection arrangements;
- .13 description and operation of radio equipment and navigational aids;
- .14 information regarding the handling of the craft as determined in accordance with chapter 17;
- .15 maximum permissible towing speeds and towing loads where applicable;
- .16 procedure for dry-docking or lifting, including limitations;
- .17 in particular, the manual should provide information, in clearly defined chapters approved specifically by the Administration relating to:
 - .17.1 indication of emergency situations or malfunctions jeopardising safety, required actions to be taken and any consequential restrictions on operation of the craft or its machinery;
 - .17.2 evacuation procedures;
 - .17.3 operating limitations including worst intended conditions;
 - .17.4 limiting values of all machinery parameters requiring compliance for safe operation.

In regard to information on machinery or system failures, data should take into account the results of any FMEA reports developed during the craft design.

18.2.2 Route operational manual

The route operational manual should include at least the following information:

- .1 evacuation procedures;
- .2 operating limitations including the worst intended conditions such as sea height, sea and air temperatures, and wind conditions;
- .3 procedures for operation of the craft within the limitations of .2;
- .4 the elements of applicable contingency plans for primary and secondary rescue assistance in the case of foreseeable incidents; including land-based arrangements and activities for each incident;
- .5 arrangements for obtaining weather information;

- .6 identification of the "base port(s)";
- .7 identification of the person responsible for decisions to cancel or delay voyages;
- .8 identification of crew complement, functions and qualifications;
- .9 restrictions on working hours of crew;
- .10 safety arrangements at terminals;
- .11 traffic control arrangements and limitations, as appropriate;
- .12 specific route conditions or requirements relating to position fixing, operation by night and in restricted visibility, including the use of radar or other electronic aids to navigation; and
- .13 communication arrangements between craft, coast radio stations, base ports, emergency services and other vessels, including radio frequencies to be used and watch kept.

18.2.3 Training manual

All requests for MCA approval of Training Manual/programmes required by this Chapter should be forwarded to HQ.

The training manual, which may comprise several volumes, should contain instructions and information, in easily understood terms illustrated wherever possible, on evacuation, fire and damage control appliances and systems and on the best methods of survival. Any part of such information may be provided in the form of audio-visual aids in lieu of the manual. Where appropriate the contents of the training manual may be included in the craft operating manual. The following should be explained in detail:

- .1 donning lifejackets and immersion suits, as appropriate;
- .2 muster at the assigned stations;
- .3 boarding, launching, and clearing the survival craft and rescue boats;
- .4 method of launching from within the survival craft;
- .5 release from launching appliances;
- .6 methods and use of devices for protection in launching areas, where appropriate;

- .7 illumination in launching areas;
- .8 use of all survival equipment;
- .9 use of all detection equipment;
- .10 with the assistance of illustrations, the use of radio life-saving appliances;
- .11 use of drogues;
- .12 use of engines and accessories;
- .13 recovery of survival craft and rescue boats including stowage and securing;
- .14 hazards of exposure and the need for warm clothing;
- .15 best use of the survival craft facilities in order to survive;
- .16 methods of retrieval, including the use of helicopter rescue gear (slings, baskets, stretchers), breeches-buoy and shore life-saving apparatus and craft's line-throwing apparatus;
- .17 all other functions contained in the muster list and emergency instructions;
and
- .18 instructions for emergency repair of the life-saving appliances;
- .19 instructions in the use of fire protection and fire-extinguishing appliances and systems;
- .20 guidelines for use of fireman's outfit in a fire, if fitted;
- .21 use of alarms and communications associated with fire safety;
- .22 methods for surveying damage;
- .23 use of damage control appliances and systems including operation of watertight doors and bilge pumps; and
- .24 for passenger craft, control of and communication with passengers in an emergency.

18.2.4 Maintenance and servicing manual

The craft maintenance and servicing manual should contain as a minimum;

- .1 detailed, illustrated description of all craft structure, machinery installations and all installed equipment and systems required for safe operation of the craft;
- .2 specification and quantities of all replenishable fluids, and of structural materials which may be required for repairs;
- .3 operational limitations of machinery in terms of values of parameters, vibration and consumption of replenished fluids;
- .4 limitations of wear of structure or machinery components, including lives of components requiring calendar or operating time replacement;
- .5 detailed description of procedures, including any safety precautions to be taken or special equipment required, to remove and install main and auxiliary machinery, transmissions, propulsion and lift devices, and flexible structure components;
- .6 test procedures to be followed subsequent to replacement of machinery or system components, or for malfunction diagnosis;
- .7 procedure for lifting or dry-docking the craft, including any weight or attitude limitations;
- .8 procedure for weighing the craft and establishing the LCG position of longitudinal centre of gravity (LCG);
- .9 where craft may be dismantled for transportation, instructions should be provided for dismantling, transport, re-assembly;
- .10 a Servicing Schedule, included in the maintenance manual, or published separately, detailing the routine servicing and maintenance operations required to maintain the operational safety of the craft and its machinery and systems.

18.3 Training and qualifications

18.3.1 The level of competence and the training considered necessary in respect of the master and each crew member should be laid down and demonstrated in the light of the following guidelines to the satisfaction of the Administration in respect of the particular type and model of craft concerned and the service intended. More than one crew member should be trained to perform all essential operational tasks in both normal and emergency situations.

18.3.2 The Administration should specify an appropriate period of operational training for the master and each member of the crew and, if necessary, the periods at which appropriate re-training should be carried out.

Master and all officer having an operational role should hold a Route and Craft specific Type Rating Certificate issued on behalf of the MCA, and all other crew members should complete type rating training before being employed on a craft - Refer to MSN 1696(M) and MGN 26(M).

18.3.3 The Administration should issue a type rating certificate to the master and all officers having an operational role following an appropriate period of operational/simulator training and on the conclusion of an examination including practical test commensurate with the operational tasks on board the particular type and model of craft concerned and the route followed. The type rating training should cover at least the following items:

- .1 knowledge of all on-board propulsion and control systems, including communication and navigational equipment, steering, electrical, hydraulic, pneumatic and bilge and fire pumping;
- .2 the failure mode of the control, steering and propulsion systems and proper response to such failures;
- .3 handling characteristics of the craft and the limiting operational conditions;
- .4 bridge communication and navigation procedures,
- .5 intact and damage stability and survivability of the craft in damage condition;
- .6 location and use of the craft's life saving appliances, including survival craft equipment;
- .7 location and use of escapes in the craft and the evacuation of passengers;
- .8 location and use of fire protection and fire-extinguishing appliances and systems in the event of fire on board;
- .9 location and use of damage control appliances and systems including operation of watertight doors and bilge pumps;
- .10 cargo and vehicle stowage securement systems;
- .11 methods for control of and communication with passengers in an emergency; and
- .12 location and use of all other items listed in the training manual.

18.3.4 The type rating certificate for a particular type and model of craft should only be valid for service on the route to be followed when it is so endorsed by the Administration following the completion of a practical test over that route.

18.3.5 A type rating certificate should be re-validated every two years and the Administration should lay down the procedures for re-validation.

18.3.6 All crew members should receive instructions and training, as specified in 18.3.3.6 to .12.

18.3.7 The Administration should specify standards of physical fitness and frequency of medical examinations having regard to the route and craft concerned.

18.3.8 The Administration of the country in which the craft is to operate if other than the flag state, should be satisfied with the training, experience and qualifications of the master and each crew member. A valid type rating certificate appropriately endorsed and held by a master or crew member, in conjunction with the current and valid licence or certificate issued by a flag state which is signatory to the International Convention on Standards of Training, Certification and Watchkeeping (STCW) in force for those who are required to hold such a licence or certificate, should be acceptable as evidence of satisfactory training, experience and qualification to the Administration of the country in which the craft is to operate.

18.4 Manning of survival craft and supervision

18.4.1 There should be a sufficient number of trained persons on board for mustering and assisting untrained persons.

18.4.2 There should be a sufficient number of crew members, who may be deck officers or certificated persons, on board for operating the survival craft, rescue boats and launching arrangements required for abandonment by the total number of persons on board.

18.4.3 A deck officer or certificated person should be placed in charge of each survival craft to be used. However, the Administration, having due regard to the nature of the voyage, the number of persons on board and the characteristics of the craft, may permit a deck officer, certificated person or persons practised in the handling and operation of liferafts to be placed in charge of each liferaft or group of liferafts.

18.4.4 The person in charge of survival craft should have a list of the survival craft crew and should see that the crew under command are acquainted with their duties.

18.4.5 Every rescue boat and motorised survival craft should have a person assigned who is capable of operating the engine and carrying out minor adjustments.

18.4.6 The master should ensure the equitable distribution of persons referred to in 18.4.1 to 18.4.3 among the craft's survival craft.

18.5 Emergency instructions and drills

18.5.1 On or before departure, passengers should be instructed in the use of lifejackets and the action to be taken in an emergency. The attention of the passengers should be drawn to the emergency instructions required by 8.4.1 and 8.4.3.

18.5.2 Emergency fire and evacuation drills for the crew should be held on board the craft at intervals not exceeding one week for passenger craft and one month for cargo craft.

18.5.3 Each member of each crew should participate in at least one evacuation, fire and damage control drill per month.

18.5.4 On board drills should as far as practicable be conducted to simulate an actual emergency. Such simulations should include instruction and operation of the craft's evacuation, fire and damage control appliances and systems.

18.5.5 On board instruction and operation of the craft's evacuation, fire and damage control appliances and systems should include appropriate cross training of crew members.

18.5.6 Emergency instructions including a general diagram of the craft showing the location of all exits, routes of evacuation, emergency equipment, life-saving equipment and appliances and illustration of lifejacket donning should be available to each passenger and crew member. It should be placed near each passenger and crew seat.

18.5.7 Records

The date when musters are held, details of abandon craft drills and fire drills, drills of other life-saving appliances and on-board training should be recorded in such log-book as may be prescribed by the Administration. If a full muster, drill or training session is not held at the appointed time, an entry should be made in the log-book stating the circumstances and the extent of the muster, drill or training session held. A copy of such information should be forwarded to the operator's management.

18.5.8 Evacuation drills

18.5.8.1 Evacuation drill scenarios should vary each week so that different emergency conditions are simulated;

18.5.8.2 Each evacuation craft drill should include:

- .1 summoning of crew to muster stations with the alarm required by 8.2.2.2 and ensuring that they are made aware of the order to abandon craft specified in the muster list;
- .2 reporting to stations and preparing for the duties described in the muster list;
- .3 checking that crew are suitably dressed;
- .4 checking that lifejackets are correctly donned;

- .5 operation of davits if any used for launching liferafts;
- .6 donning of immersion suits or thermal protective clothing by appropriate crew members;
- .7 testing of emergency lighting for mustering and abandonment; and
- .8 giving instructions in the use of the craft's life-saving appliances and in survival at sea.

18.5.8.3 Rescue boat drill

Two trained boat crew member per rescue boat on board the craft at all times.

- .1 As far as is reasonable and practicable, rescue boats should be launched each month as part of the evacuation drill with their assigned crew aboard and manoeuvred in the water. In all cases this requirement should be complied with at least once every three months.
- .2 If rescue boat launching drills are carried out with the craft making headway, such drills should, because of the dangers involved, be practised in sheltered waters only and under the supervision of an officer experienced in such drills.

18.5.8.4 Individual instructions may cover different parts of the craft's life-saving system, but all the craft's life-saving equipment and appliances should be covered within any period of one month on passenger craft and two months on cargo craft. Each member of the crew should be given instructions which should include but not necessarily be limited to:

- .1 operation and use of the craft's inflatable liferafts;
- .2 problems of hypothermia, first-aid treatment of hypothermia and other appropriate first-aid procedures; and
- .3 special instructions necessary for use of the craft's life-saving appliances in severe weather and severe sea conditions.

18.5.8.5 On-board training in the use of davit-launched liferafts should take place at intervals of not more than four months on every craft fitted with such appliances. Whenever practicable this should include the inflation and lowering of a liferaft. This liferaft may be a special liferaft intended for training purposes only, which is not part of the craft's life-saving equipment; such a special liferaft should be conspicuously marked.

18.5.9 Fire drills

18.5.9.1 Fire drill scenarios should vary each week so that emergency conditions are simulated for different vessel compartments;

18.5.9.2 Each fire drill should include:

- .1 summoning of crew to fire stations;
- .2 reporting to stations and preparing for the duties described in the muster list;
- .3 donning of fireman's outfits;
- .4 operation of fire doors and fire dampers;
- .5 operation of fire pumps and fire fighting equipment;
- .6 operation of communication equipment, emergency signals and general alarm;
- .7 operation of fire detection system; and
- .8 instruction in the use of the craft's fire fighting equipment, sprinkler and drencher systems, if fitted.

18.5.10 Damage control drills

18.5.10.1 Damage control drill scenarios should vary each week so that emergency conditions are simulated for different damage conditions;

18.5.10.2 Each damage control drill should include:

- .1 summoning of crew to damage control stations;
- .2 reporting to stations and preparing for the duties described in the muster list;
- .3 operation of watertight doors and other watertight closures;
- .4 operation of bilge pumps and testing of bilge alarms and automatic bilge pump starting systems; and
- .5 instruction in damage survey, use of the craft's damage control systems and passenger control in the event of an emergency.

PART B - REQUIREMENTS FOR PASSENGER CRAFT

18.6 Type rating training

18.6.1 For all crew members, the type rating training should cover the control and evacuation of passengers additionally to 18.3.6.

18.6.2 When the craft carry cargoes, the craft should comply with the requirements of Part C of this chapter in addition to this Part.

18.7 Emergency Instructions and drills

18.7.1 Emergency instructions including a general diagram of the craft showing the location of all exits, routes of evacuation, emergency equipment, life-saving equipment and appliances and illustration of life-jacket donning should be available to each passenger and placed near each passenger's seat.

18.7.2 Attention of passengers should be drawn to the provisions of the emergency instructions on boarding.

PART C _ REQUIREMENTS FOR CARGO CRAFT

18.8 Type rating training

For all crew members, the type rating training should cover knowledge of cargo and vehicles storage area securement systems.

18.9 Emergency instructions and drills

Emergency instructions including a general diagram of the craft showing the location of all exits, routes of evacuation, emergency equipment life-saving equipment, and appliances and illustration of life-jacket donning should be available to each crew member.