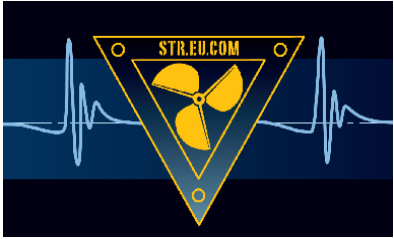
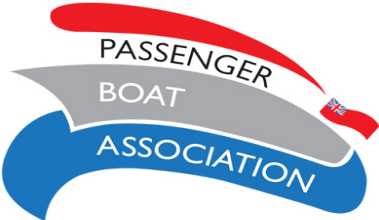


Small Passenger Craft High Speed Experience Rides Guidance



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Safety Guidance Code:

This Safety Guidance Code was prepared by:
Passenger Boat Association
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Mecal Ltd
British Marine Federation

Foreword

The UK commercial passenger vessel industry is legislated by both the Maritime and Coastguard Agency and port/navigation local authorities. Over recent years there has been a significant increase in the number of fast 'Experience' rides for the general fare paying public. Regrettably some accidents and incidents have occurred. Such activities are generally undertaken by sports boats or Rigid Inflatable Boats (RIBs). These activities are, by nature, aimed at providing an exhilarating ride at relatively high speeds without in anyway intending to endanger passengers, crew or third parties.

The key aim of this guidance is to promote and encourage passenger safety, general safe navigation and professional interaction between small high speed craft and all other waterway users, be it leisure or commercial, operating in port, harbour or adjacent amenity beaches.

This document therefore provides good management practice guidance to operators and crews.

Roger Flitter BEM, Passenger Boat Association Secretary and Technical Advisor

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1. Applicability

The 'Small Passenger Craft High Speed Experience Rides Guidance' has been specifically produced for the purpose of providing additional management guidance for the operators of small high speed craft engaged in the provision of exhilarating fast experience rides for the fare paying general public.

This document should be read in conjunction with the Royal Yachting Association (RYA) Document 'Guidance for Passenger Safety on Small Commercial High Speed Craft' which addresses the practical boat handling aspects of this type of operation.

It does not supercede or replace the statutory requirements contained in the Maritime and Coastguard Agency (MCA) Small Commercial Vessel Codes of Practice which are aimed at a range of small commercial vessel operations. As such, this document is for guidance only.

Occasionally vessels are provided for exhilarating fast experience rides under 'bareboat charter' arrangements whereby the vessel and associated equipment are leased or hired to a third party without the owner's crew. This approach is not recommended for high speed experience rides. The vessel should always be manned by those who are experienced in handling that vessel when undertaking such activities.

2. Target Audience

Both documents referred to above are for the use of operators, boat crews and any formal authorities or organisations with responsibilities for this type of operation.

It also recognises that port and harbour authorities have responsibilities under the Port Marine Safety Code with regard to the management of marine operations in their area of jurisdiction. Accordingly, where small high speed passenger craft operate in port areas, it must be acknowledged that local port and harbour regulations take precedence. As such, high speed operations must be conducted within the scope of a robust Safety Management System founded on formal risk assessment.

3. Aims and Objectives

1. Recommend and promote common safe working practices for the industry;
2. To provide an overview of the legislation requirements;
3. To address areas where current guidance and legislation fails to fully capture the specific features of small passenger craft high speed operations; and
4. To promote a positive image of the industry to the general public and third parties who may be undertaking other water related activities in close proximity.

4. Legislation and Procedure Overview

A general overview of the legislation and procedures can be found at Annex 'B'.

5. Structural Considerations

When selecting a suitable vessel the hull geometry should be considered. For a monohull, 'V' shaped hulls are generally considered to be better in waves and rougher conditions. A deep-V hull slices through waves, whereas a flatter 'V' will compromise the ability to slice through waves, increasing the risk of slamming and potential discomfort and injury.

Seating arrangements should allow passengers to effectively brace themselves against repeated shock loadings and violent movements of the boat. Bench seats, particularly without lateral support, should be avoided on vessels operating in any sea state beyond calm. Jockey seats are generally acceptable with effective foam cushioning, as are wrap-around stand-in bolsters. If the boat operations are planned to operate in, or actively seek out rough water, the use of suspension seats is recommended along with an appropriate level of lateral support.

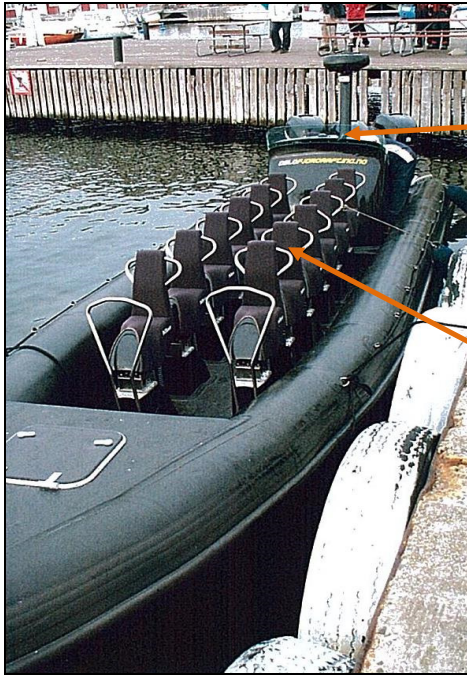
Locating passenger seats at the front of the boat should be avoided as this area receives the largest shock loads. Seats should also be located away from areas which do not allow the occupants to have their feet flat on the deck, e.g. away from sloping bulwarks.

Handholds - all seats should have hand-holds located in front of the passenger allowing them to hold on with both hands, these should be roughly at chest height and shoulder width apart. Consideration should be given to the potential loss of firm hand grip during cold conditions.

The boat design should minimise the amount of structure that passengers could fall onto or impact with in the event of a slam incident, thus reducing the risk of injury.

An example of a fast passenger boat designed to operate in sea conditions which are likely to encounter repeated impacts is shown below in Figure 5.1a.

Further information on the ergonomic design consideration can be found within the High Speed Craft Human Factors Engineering Design Guide which can be downloaded at no charge from www.highspeedcraft.org/hf-guide.php



Secure Conning Position With Good All Round Visibility

Well Padded Secure Seating with Independent Grab Rails

Figure 5.1a – Some structural considerations.

Robust Hand Rails



Boarding Platform Same Height As Jetty

Fig 5.1b - Some further structural considerations.

6. Managing Phases of Passage

6.1 Introduction

The management of passage phases is split between Management and Operational considerations. They are jointly addressed in two documents as follows:

- Management: 'Small Passenger Craft High Speed Experience Rides Guidance' (This Document); and
- Operations: 'RYA Guidance for Passenger Safety on Small Commercial High Speed Craft'

The following suggestions, based upon all aspects of carrying passengers from initial booking to disembarking have been gleaned from experience and should, as a minimum, be evaluated in respect of high speed passenger operations.

6.2 Suitability of Potential Passengers

Not all passengers are suitable to engage in fast craft experiences. Very young children, elderly persons, people with reduced mobility and, in particular, pregnant ladies, post menopausal women, particularly those with a family history of osteoporosis, people with back or spine conditions and people with long term medical problems (particularly those who take steroids regularly) are examples of unsuitable passengers who will be exposed to increased risk.

The frail or elderly and those who cannot effectively brace themselves should also be discouraged from boarding. Passengers of many of the above descriptions have sustained injuries in the past. Refusal of passage for the above reasons should be handled with sensitivity.

Masters and crew may not be qualified to make suitable judgement and medical advice may be necessary in order to determine terms and conditions required before passengers are deemed suitable to book and undertake the voyage.

There are three simple ways of managing this situation:

1. Assess and decide on the criteria relevant to each type of operation undertaken by the Company;
2. Include any relevant criteria and limitations regarding the suitability of passengers in the Booking Terms and Conditions and repeat the same on website and/or marketing material; and
3. Consider the introduction of an Acceptance Form where passengers accept the risks associated with high speed rides and co-incidentally certify themselves and any children in their care, free of such conditions.

6.3 Manning and Qualification Requirements

6.3.1 The manning requirements for small commercial vessels are dependent upon the area of operation which is determined by the categorisation of the vessel on the Small Commercial Vessel (SCV) Certificate. There are seven areas, of which only three would apply to the type of operation covered by this guidance:

- Area Category 6 – to sea, 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.
- Area Category 5 – to sea, within 20 miles from a nominated departure point named in the certificate in favourable weather and daylight.
- Area Category 4 – up to 20 miles from a safe haven, in favourable weather and daylight.

6.3.2 RYA qualifications appropriate for each Area Category can be found in the MCA's Codes of Practice.

6.3.3 In all cases RYA certificates are required to be commercially endorsed before they are valid for use on board a commercial craft subject to the MCA Codes of Practice. Further information on gaining a commercial endorsement can be found in Annex B.

6.3.4 In addition to the qualification requirements set out in the MCA Codes of Practice, operators should also satisfy themselves that the person in charge of the vessel is, in addition to any qualifications, competent and has recent and relevant experience of the type and size of vessel.

6.3.5 The operator should ensure that the skipper and, where necessary, the crew of the vessel can deal confidently with passengers. This can be achieved by in house training and familiarity with the overall operation.

6.3.6 In some cases, vessels will operate in higher risk areas e.g. high density of traffic or natural hazards, or may also have higher risk passengers on board. In these instances it is recommended that an additional risk assessment be carried out. The operator should ensure that there are adequately trained persons on board with relevant experience to cope in the case of an emergency.

6.4 Considerations Once Afloat

The RYA Document:

Passenger Safety on Small Commercial High Speed Craft

Should be read in conjunction with this document and contains the following related operational topics:

Crew Passenger Ratio

Area of Operation

Weather Limitations

Passenger Safety Briefing

Passenger Boarding and Disembarkation

En-Route Safety

6.5 Hazard Perception

Hazards (or Risks) can be identified and mitigated by applying simple planning based on the benefit of experience. Many hazards can be recognised and addressed by reviewing the operator's intended business plan and intended scope of operation throughout the year. These may be considered as 'foreseeable' and can be identified through a simple review meeting undertaken by all the key management and staff.

Hazards may also arise spontaneously and without warning. Typically this could occur during any of the trips being undertaken in the company's operating area. Identification of hazards within an operating area is essential to the safety of a vessel. However identification alone will not necessarily remove the danger and it often rests with the skipper to make a decision, based upon prevailing conditions at the time. What can be perceived as an unacceptable risk to one person may be considered safe by another. With this in mind operators should review carefully all actual and potential hazards and ensure that robust procedures are in place and that all skippers and crew work within the operating parameters. These may be considered as 'spontaneous' and will need quick assessment and mitigation on the part of the skipper and crew whilst the vessel is underway.

The key product of recognising and mitigating hazards is the development of robust and resilient Safety Operating Procedures.

An example of how these hazards might be recorded and managed is included at Annex 'A'.

7. Crew Training

7.1 Introduction

It is essential that there is a comprehensive training programme in place for the Skippers and Crews of Small High Speed Craft. This should cover all aspects of the operation.

7.2 Scope of Training

The recommended scope of training includes at least the following:

- All Aspects of Boat Handling, particularly at high speeds in a variety of wind and sea conditions;
- Passenger Care & Management;
- Emergency Procedures including Man Over Board;
- Operating and Navigation Rules including navigating at speed;
- Communications; and
- Familiarisation with vessel and area(s) of operation.

7.3 Frequency of Training

Skipper and crew training should be undertaken before the carriage of passengers is authorised by the Company. A Training Programme should be in place to ensure that all skippers and crew undertake refresher training in all aspects of the operation at least every 12 months. Additionally, regular exercises should be conducted to test and improve all Emergency Procedures during a 12 month period.

7.4 Training Records

It is incumbent upon the Company to create and maintain a record of all training undertaken together with a schedule stating when refresher training is due.

8. Voluntary Auditing of Operation

8.1 Introduction

Unlike Class III to VI passenger vessels there is no mandatory Safety Management System (SMS) on many of these vessels, and as a result they are not audited by the MCA or other legislative authority for small high speed operations.

In the general interests of safety and the industry image, it is recommended that operators implement a SMS and arrange and undertake their own audits of their SMS. This may be done in house or preferably facilitated independently.

8.2 General Approach to Auditing

Auditing a SMS need not be an onerous task. A simple meeting between operators, crew and support staff at the end or beginning of the season to review:

- Previous 12 months
 - Operational Procedures
 - Operational performance
 - Faults and failures
 - Engineering Plan
 - Administration Procedures

- Next 12 Months
 - Procedure improvements and or changes
 - Operations Plan
 - Engineering Plan
 - Administration Procedures

- Risks – Review of incidents, accidents and near misses and Mitigation Plans

- Any Other Business

Annex 'A' – Hazard Perception & Mitigation

Introduction

In support of the guidance given elsewhere in this document, the importance of Hazard Assessment in High Speed Experience Ride operations is a major contributor towards ensuring that vessels are suitably and adequately equipped for the intended trip or that trips are limited to within the capabilities of the vessel and crew.

Furthermore, in the light of unpredictable sea and weather conditions, passenger safety in respect of adequate security and safety is paramount. Properly thought out seating, hand holds and passenger restraint need to be fully considered as part of the operator's 'foreseeable' risk assessment if serious injury to passengers is to be avoided.

Managing Hazards

Hazards should be categorised with the acronym ALARP in mind. This stands for 'As Low As Reasonably Practical' and implies that hazards should be managed to the lowest practical level. A simple group or team approach is all that is necessary. Start by looking at all aspects of the operation and commencing with the statement:

'There is a risk that

This creates risk number 1. The next stage is to quantify the risk by allocating a number 1 to 3 (or some other preferred numeric scale) to each the following considerations:

1. What is the likelihood of the risk occurring (Likelihood)?
2. What would be the immediate scale of impact should the risk occur (Severity)?
3. What would be consequential impact should the risk occur (Following)?

Multiply the three together and this rates the risk and facilitates judgement in comparison to all the other risks. Next, decide how the risk can be mitigated, record it and, assuming it is possible, implement the mitigation. Not all risks can be mitigated and some may be out of your control. Write it in a simple table and move onto Risk number 2 and so on. Whilst many risks may be identified it is probably only possible to manage a small number at any one time.

Ser No	Description of Risk	Severity	Likelihood	Following	Risk Rating	Mitigation Plan	Complete?
1	The crew may find themselves operating in unexpected weather and river conditions leading to a risk of injury and/or damage to the vessel.	2	2	3	12	A procedure covering the eventuality of adverse weather and river conditions will be included in the Operations Manual. This will be supported by a Training Session to be repeated each year. Each voyage will be risk assessed.	

Figure 1 - Example of an Entry in a Risk Register

Annex 'B' – Legislation and Procedure Overview

Introduction

There is a distinction in the legislation regarding all commercial vessels under 24 metres and carrying up to 12 passengers and those of 24 metres and over, and carrying more than 12 passengers. It should be noted that the type of trip described in this guidance may be carried out by either category of vessel; however, the emphasis tends to be towards 12 passenger Speedboats and RIBs. It is mandatory for vessels carrying more than 12 passengers to comply with an approved Safety Management System (SMS) and this is regularly audited by qualified MCA Surveyors. Currently, for 12 passenger craft, adherence to a SMS is optional although recommended.

The following procedures and legislation address the general safety needs of a variety of vessels operating in UK Categorised waters¹ and to sea:

- Small Commercial Vessels used for Sport or Pleasure, Workboats and Pilot Boats – Alternative Construction Standards (Marine Guidance Note 280).

Published by the MCA, this alternative construction standard to the existing 'yellow'² and 'red'³ Codes encapsulates guidance concerning the design, build and operation of a range of small commercial and recreational sea-going craft, that will often also be used on UK Category C and D Waters.

- Inland Waters Small Passenger Boat Code (IWSPBC).

Published by the Association of Inland Navigation Authorities (AINA) and the MCA, this optional document reflects the spirit of the 'red' Code, but is reduced in scope and content in order to appropriately provide guidance regarding the needs of small passenger carrying craft operating on inland waters. This Code was developed with the intention that Local Authorities and Navigation Authorities could adopt it as their standards for licensing vessels operating on the waterways they have jurisdiction over.

- Domestic Safety Management (DSM) Code.

For passenger carrying vessels of MCA Class III, IV, V, VI and VI(A), and EC Class A, B, C and D, it is mandatory for the operation of the vessel(s) to be documented under the MCA Domestic Safety Management (DSM) Code or in some cases the International Safety Management (ISM) Code regime. Such a system is audited on a regular basis by MCA Surveyors.

¹ MSN 1776 (M) – Categorisation of Waters.

² The Safety of Small Commercial Motor Vessels – A Code of Practice.

³ The Code of Practice for the Safety of Small Vessels in Commercial Use for Sport or Pleasure Operating from a Nominated Departure Point (NDP).

Competency Requirements for Masters of Vessels.

The following are the competency requirements for masters/skippers of vessels:

(a) Where the vessel is operating solely on UK categorised waters and is licensed by Local Authorities and Inland Navigation Authorities, it should be manned in accordance with the requirements of the licensing authority.

(b) Where the vessel is a Small Commercial Vessel, certified under the MCA's Codes of Practice, a minimum of a commercially endorsed RYA/DfT Powerboat Level 2 certificate is required. The Codes of Practice should be consulted to verify that the vessel is manned correctly.

To commercially endorse an RYA certificate, the holder needs to provide the following to the RYA:

- Application Form;
- RYA certificate;
- Personal Survival Techniques (STCW 95) or Basic Sea Survival; and
- Medical Fitness Certificate (ENG 1) or Medical Report Form and Certificate (ML 5).

(c) Where the vessel is travelling at speeds less than 20 knots and certified to carry more than 12 passengers, a Boat Master's Licence is required. Details concerning this can be found in SI 2006/3223⁴ and MSN 1808 (M)⁵.

(d) Where the vessel is a fast craft travelling at greater than 20 knots and certified to carry more than 12 passengers, a Boat Master's Licence with a Fast Craft Endorsement is required. Details concerning this can be found in SI 2006/3223⁴ and MSN 1808 (M)⁵.

Local Knowledge Endorsement

A number of areas in the UK have been designated 'local knowledge' areas where additional specific local knowledge is necessary in order to operate inland waterways freight and passenger vessels, irrespective of size and capacity, safely. Two such examples are the tidal River Thames and Falmouth Harbour. The training and associated knowledge is known as a Local Knowledge Endorsement (LKE).

A list of the designated LKE areas can be found in MCA document MGN 334 (M), as amended⁶.

⁴ The Merchant Shipping (Inland Waterway and Limited Coastal Operations) (Boatmasters' Qualifications and Hours of Work) Regulations 2006

⁵ The Merchant Shipping (Inland Waterways and Limited Coastal Operations) (Boatmasters' Qualifications and Hours of Work) Regulations 2006 – Structure and Requirements

⁶ New National Boatmaster's Licence – Local Information and Local Knowledge

Fast Craft Endorsement

The Fast Craft Endorsement is described in SI 2006/3223⁴ and applies to vessels exceeding 20 knots that carry more than 12 passengers.

Local Byelaws and General Directions.

Many harbours and navigations are subject to local byelaws and in larger ports General Directions for Navigation. They are too numerous to list here. However, an understanding of and compliance with the relevant local byelaws is essential for authorised and safe navigation. It is incumbent upon vessel operators to engage with their local authorities in order to comply with relevant byelaws and other regulations.