

## **Guidelines for drawing up safety instructions**

### **Purpose**

The shipowner shall develop safety instructions for safe navigation by the vessel(s) that the shipowner uses for the navigational activities. The purpose hereof is that the shipowner:

- 1) identifies himself as the one who has the overall responsibility for the navigational activities,
- 2) establishes the navigational activities concerned,
- 3) identifies the risks associated with the navigational activities,
- 4) take technical and operational measures that effectively counter the risks,
- 5) ensures that the vessel(s) is suitable and fitted with the necessary equipment,
- 6) ensures that the crew is sufficient and competent,
- 7) describes the operational measures to be observed by the crew and the passengers,
- 8) ensures that it is possible to save everyone in case of an accident,
- 9) ensures the calling of assistance in case of an accident,
- 10) ensures that information about the number of persons on board is known and kept ashore and is easily accessible in case of a rescue operation,
- 11) ensures that safety instructions are always given to new persons on board before initiating the voyage,
- 12) ensures the collection of experience with a view to improving safety on an ongoing basis.

### **Who draws up the safety instructions?**

It is the shipowner's responsibility that the safety instructions are drawn up by persons with maritime competences covering the specific navigational activities.

### **Form**

The safety instructions should be brief and easy to read to all users, i.e. the master, the crew and the passengers.

### **Contents**

The safety instructions shall contain the following:

#### **1) Identification of the shipowner and his legally responsible person**

"The shipowner" is the person or the body that has ownership of the navigational activities. Consequently, the shipowner is responsible for the choice of navigational activities as well as for how they are planned and carried out. The shipowner may be the owner of the vessel, but does not need to be so. The voyages may very well be carried out in hired or borrowed vessels. What is decisive is whether the owner has ownership of the activities.

In the safety instructions, the shipowner's name and address shall be given.

#### **2) Navigational activities**

The navigational activities concerned shall briefly be stated as well as where and when they are permitted to take place.

### Examples:

- *Canoeing during the period from [date 1] to [date 2] with school classes on the Mølleåen as well as Furesø, Bagsværd Sø and Lyngby Sø.*
- *Canoeing along the coast in Mariager Fjord with school classes during the period from [date 1] to [date 2].*
- *Speedboat voyages with continuation school students following the water sports line in the Storstrømmen between the Storstrømsbroen and the Farøbroerne in favourable conditions of weather and temperature (water temperatures min. X° C, air temperatures min. Y° C as well as max. wind speed Z m/s). Recreational navigation, water ski as well as training with a view to acquiring a certificate of proficiency.*
- *Event and teambuilding voyages during the period from [date 1] to [date 2] with a 42' sailboat from Grenå along the east coast of Jutland as well as voyages to Anholt in the following conditions of weather and temperature: [water and air temperature, wind speed, wave height, etc.].*
- *Recreational navigation in the Sound with 30' motorboat, [date 1] to [date 2], and in the following conditions of weather and temperature: [water and air temperature, wind speed, wave height, etc.].*
- *Dinghy voyages in the waters immediately off Havnekøbing, all year round at max. wind speed X m/s.*
- *Transportation of servicemen, etc. from Havnekøbing to wind turbine installations offshore, all year round, however only in the following conditions of weather and temperature: [water and air temperature, wind speed, wave height, etc.].*
- *Recreational navigation with max six passengers in the Godthåbsfjorden between Nuuk and Nordlandet in a 37' motorboat, [date 1] to [date 2], only in favourable weather conditions.*
- *Occasional passenger transportation by a 12-metre fishing vessel from a harbour village to Qaqortoq, max. four passengers, in favourable weather conditions.*

### **3) Identification of risks**

The safety risks related to navigation vary considerably depending on the navigational activities and the circumstances.

It shall be the responsibility of the shipowner that the specific navigational activities are carefully examined in the specific circumstances with a view to identifying any considerable risks before the start of the navigational activities. All considerable risks identified shall be listed in the safety instructions. If/when additional considerable risks are identified on an ongoing basis, they shall be added to the list as soon as they are identified.

Examples of considerable risks in connection with various navigational activities are listed in table 1.

When carrying children and young persons, the following risks shall be especially considered:

- *Do those on board know how to swim?*
- *Have the parents/guardians consented to the voyage?*

When navigating fast-going vessels, the following risks shall be especially considered:

- *Collision/grounding (increased risks as a consequence of high speed).*
- *Protection of those on board against the effect of acceleration and braking forces.*
- *Prevention of back injuries and the like in connection with heavy effects during navigation in waves.*
- *Presence of personal protective aids for preventing falls over board or injury as a consequence of falls or blows.*
- *Prevention against being exposed to hypothermia as a consequence of the effects of the wind and sea.*

When navigating Greenland waters, the following risks shall be especially considered:

- *Reduced geographical coverage by using means of communication such as mobile telephones, VHF/MF and other means of communication and emergency signalling.*

- *Reduced possibility of assistance reaching the place of the accident.*
- *Quickly changing weather conditions.*
- *Special risk of hypothermia as a consequence of low water and air temperatures.*
- *Special risks associated with voyages in icy waters.*

#### **4) Measures to counter risks**

For each of the considerable risks identified, the shipowner shall ensure that measures are taken that will counter the risk effectively. They may be technical measures (the vessel's construction and equipment) and/or operational measures (restrictions in use, etc.).

Examples of considerable risks in connection with a number of navigational activities and measures to counter these are shown in table 1.

The examples merely illustrate the systematics behind the drawing up of the safety instructions. The risks and measures have not been described exhaustively for the navigational activities chosen. In all the examples, there will in reality be far more considerable risks than those shown. It is the shipowner's responsibility that all the considerable risks are identified in connection with the specific activities and to decide on what measures are necessary to counter them. All risks and measures should be described exhaustively so that the shipowner's considerations are reflected in the safety instructions.

**Table 1: Examples of risks and measures in connection with various navigational activities**

Navigational activity	Risks	Measures
Canoeing during the period from [date 1] to [date 2] with school classes on the Mølleåen as well as Furesø, Bagsværd Sø and Lyngby Sø.	Hypothermia during voyages. Falling over board. Capsizing (especially when crossing large lakes). Risk of drifting away from the shore (in case of currents, offshore wind). Etc.	Warm clothing/cancellation – establishing criteria for this. Use of life-jacket. Establish requirements for the properties of the life-jackets. Navigational procedures for crossing lakes (for example by following the shore with onshore wind rather than crossing the lake). Etc.
Speedboat voyages with continuation school students in the Storstrømmen between the Storstrømsbroen and the Farøbroerne during the period from [date 1] to [date 2] in the following conditions of weather and temperature (water temperatures min. X° C, air temperature min. Y° C as well as max. wind speed Z m/s). Recreational navigation, water ski as well as training with a view to acquiring a certificate of proficiency.	Falling over board. Flooding (wind, head sea). Capsizing (especially in waves). Engine fire. Collision and grounding (high speed). Risks of water skiing. Etc.	Use of life-jacket. Establish requirements for the properties of the life-jackets. Reduced speed, changing the course, cancelling the voyage. Cancelling the voyage at expected wave heights > xx m and wind speed > xx m/s. Fixed fire-extinguishing system for engines. Establishing procedures for navigation at high speed. Procedures for navigation in connection with water skiing. Etc.
Event and teambuilding voyages during the period from [date 1] to [date 2] with a 42' sailboat from Grenå along the east coast of Jutland as well as voyages to Anholt in the following conditions of weather and temperature: (water temperature min. X° C, air temperature min. Y° C and max. wind speed Z m/s).	Capsizing (navigation in heavy weather, spinnaker navigation). Collision (especially at trafficked channels). Grounding (especially in connection with navigation during the night). Fire (engine room, pantry). Water ingress through seawater intakes. Rescue in case of loss. Etc.	Weather criteria, incl. in connection with the use of spinnakers. Navigational planning, especially vigilance. Navigation during the night only in open waters, special vigilance. Fixed fire-extinguishing system in engine rooms, portable extinguisher and fire blanket in pantry. Maintenance of sea valves. Liferaft, calling assistance (radio installation, VHF-DSC). Etc.
Dinghy voyages in the waters off Havnekøbing, all year round.	Flooding, capsizing (especially in connection with navigation in heavy weather). Hypothermia in cold air (especially during the winter). Hypothermia in cold water (especially during the winter). Etc.	Training in capsizing and righting. Ensuring immediate assistance from an accompanying boat. Insulating clothing. Dry suit/wet suit. Etc.
Passenger transportation from Havnekøbing to wind turbine installations offshore.	Call offshore. Transfer of persons offshore. Offshore navigation in heavy weather. Engine room fire. Rescue in case of loss. Hypothermia in cold water (especially during the winter). Etc.	Requirements for the vessel's manoeuvrability, weather criteria, procedures for calls. Weather criteria, procedure for transfer of persons, thermal protection. Requirements for the vessel's seaworthiness. Weather criteria. Fixed fire-extinguishing system. Liferafts, assistance from ashore. Thermal protection. Etc.
Recreational navigation with max six passengers in the Godthåbsfjorden between Nuuk and Nordlandet in a 37'	Engine fire. Engine stop.	Installation of fixed fire-extinguishing system in engine room. Anchoring, assistance from ashore.

<p>motorboat, [date 1] to [date 2], and in the following conditions of weather and temperature (water temperature min. X° C, air temperature Y° C as well as max. wind speed Z m/s).</p>	<p>Grounding. Collision. Fast change of weather with strong wind and sea. Rescue in case of loss. Cold. Etc.</p>	<p>Navigational planning, special vigilance. Special vigilance. Navigational planning, possibility of seeking shelter. Liferaft, calling assistance (radio installations, VHF-DSC). Thermal protection, immersion suits. Etc.</p>
<p>Occasional passenger transportation by a 12-metre fishing vessel from a harbour village to Havneby, max. four passengers, in the following conditions of weather and temperature (water temperature min. X° C, air temperature Y° C as well as max. wind speed Z m/s).</p>	<p>In principle, as in the above example. In addition, the following can be mentioned: Impaired possibility of calling assistance when navigating areas with lacking radio coverage (VHF/medium wave). Risks associated with passengers on fishing vessels (gear, room, etc.)</p>	<p>Measures as mentioned above. Examine the possibility that iridium telephony may function in combination with other measures as an alternative to VHF-DSC. Measures limiting the passengers' access to areas with fishing gear as well as the securing of room for all the passengers on board in accommodation spaces.</p>

## **5) Description of the vessel and equipment**

The shipowner shall ensure that the vessels are suitable for the specific navigational activities and that they are fitted with the necessary equipment for countering the considerable risks.

The vessel, its technical specifications and the equipment that shall be available on board shall be listed. It shall be clearly stated according to which standards the vessel is built and for which use it is intended according to the construction standard or the manufacturer's instructions.

Example:

Recreational craft, CE-marked according to the recreational craft directive, intended for navigation in sea area B: Offshore vessels: Constructed for offshore navigation, max. wind speed 8, significant wave height max. 4 metres, max six persons on board.

[The technical specifications of the boat and the list of equipment are annexed.]

It is the responsibility of the shipowner that the vessel and the equipment are at any time maintained and that it is described how this is ensured. This may for example be through the use of checklists of equipment, periodic inspection of the vessel and equipment or control before voyages.

In addition, it is the responsibility of the shipowner that requirements are stipulated for the passengers/students' behaviour, obligations and competences. For example, it may be a requirement that the students know how to swim, that they have previous competences before taking part in kayaking activities.

## **6) The crew and its competences**

On the basis of the navigational activities, the considerable risks, the measures chosen and the type of vessel, the shipowner shall be obliged to ensure that the vessel's crew is sufficient in number and competent to navigate the vessel safely.

The requirements for the crew competences will vary in accordance with the specific navigational activities and vessels. Other things being equal, the requirements will increase the larger the vessels and the greater the risks.

For vessels with scantlings of or above 20, minimum requirements are stipulated in the regulation.

For vessels with scantlings below 20, the shipowner shall be obliged to ensure that the necessary competences and the necessary crew are available and that this is documented in the safety instructions.

Example:

Canoeing with continuation school students on lakes and rivers during the summer.

The vessels are small and easy to operate and the risks are limited. The shipowner assesses that there shall be at least one teacher per X children and that all the teachers shall have experience with canoeing. At least one teacher shall have passed a relevant course in canoeing and safety. In order to counter the risks associated with capsizing and falls over board, all the teachers shall be able to swim X metres and be capable of rescuing one unconscious person X metres, provide first aid, operate communication equipment, etc.

If it shall also be possible to carry out canoeing voyages along coasts, the risks are increased. The shipowner shall take account of this, which can for example involve increasing the requirements for the teachers' competences.

Example:

Dinghy voyages with pupils – one-man dinghies, teachers in accompanying boats.

The shipowner shall be responsible for ensuring that the teachers are competent for navigating accompanying boats. In this connection, the courses offered by the Danish Sailing Association, licenses for speedboats or certificates of proficiency may be relevant training.

Furthermore, the shipowner of such vessels should consider whether there is a need for other competences. For example, knowledge of navigation in connection with water skiing, navigation with fast-going vessels, navigation in icy waters or other characteristics of the navigational activity carried out.

#### **7) Operational measures to be observed by the crew and passengers**

If the shipowner has identified any risks that are countered by operational restrictions, they shall be stated in the safety instructions. They may, for example, have the form of geographical restrictions to the use, the time of the year and the time of day during which the voyages can take place as well as any restrictions to the number of persons on board.

#### **8) Measures ensuring that everyone can be rescued in case of an accident**

The shipowner shall be responsible for ensuring that account is taken of the safety in case of the worst possible accident, i.e. in cases where those on board have to desert the vessel due to loss, capsizing, fire or the like.

It shall be ensured that measures have been taken to rescue everyone on board even if the vessel is lost. This may be countered in a number of ways:

- Possibility of being rescued by means of a liferaft and thermal protection.
- Possibility of being rescued by means of an accompanying boat (navigation in pairs).
- A stand-by emergency preparedness may be established ashore that may come to the rescue.
- Etc.

The list is not exhaustive, and it shall be stressed that there is freedom in the choice of method. What is decisive is that the shipowner has ensured beforehand that all the worst possible scenarios have been considered and that measures have been established to effectively ensure in these cases that everyone is rescued and kept alive until assistance gets there.

The shipowner shall ensure that these situations are described together with effective measures.

#### **9) Measures ensuring that it is always possible to call for assistance in case of accidents**

In case of an accident, it is decisive that it is possible to call for assistance and that it can be spread out as fast as possible. Depending on the area, the traffic density, the weather conditions and the distance to the shore, it should be considered what means would be effective for calling assistance. Examples hereof may be by means of radio equipment, mobile or iridium telephony, previous information about the available assistance in the area or navigation in pairs. Furthermore, indirect means should be available, such as distress signal rockets, fog horns or other means of signalling.

#### **10) Measures ensuring that information about the number of persons on board is known and kept ashore and is easily accessible in case of a rescue operation**

Before the voyage, it should be ensured that persons who do not take part in the voyage as such are informed about the planned duration of the voyage, the number of persons on board as well as the planned route. Furthermore, fixed agreements about the times of contact should be available and about alarming if persons ashore realize that the voyage deviates from what has been agreed without any report about any changes having been made.

**11) Measures ensuring that safety instructions are always given to new persons on board before the start of the voyage**

Special account should be taken of the fact that there may be persons on board who cannot be presupposed to have any previous navigational or maritime safety related experience. Consequently, it is of the utmost importance that all persons are, before the voyage is initiated, informed about, for example, the use of life-saving appliances, how the planned voyage is expected to be, and what should be done in an emergency.

**12) Measures describing how it is ensured that a follow-up is made on unintended incidents or accidents**

It is essential to the shipowner's work with safety that a follow-up is continuously made on unintended incidents, accidents and other conditions related to safety on board. Consequently, the shipowner shall in the safety instructions indicate how a follow-up is made on these conditions.