

# **MARINE DEPARTMENT NOTICE NO.2 OF 2001**

## **Safety of Navigation**

### **Notice to Owners, Masters and Crew Members of All Vessels**

Recently two collision cases involving high speed craft and smaller vessels occurred in Hong Kong harbour where the view of the approaching vessels was obscured by anchored vessels or other intervening obstructions. If the advice given in Sections 2 and 5 of the pamphlet "Safety of Navigation of Small Craft" issued by the Marine Department had been followed, these accidents would have been avoided. A copy of the pamphlet is reproduced at Annex 1 for easy reference.

2. The causes of collision were attributed to the failure of the vessels to maintain proper look-out and safe speed appropriate to the prevailing circumstances and conditions; and failure to obtain early warning of risk of collision and to take appropriate action to avoid the collision.

3. Seafarers are reminded to follow the advice on principles of safe navigation given in very simple terms in the "Safety of Navigation of Small Craft" at Annex 1 in order to prevent accidents which had continued to occur from failure to follow this advice. The advice given in [Annex 1](#) is applicable to all ships of whatever size.

**S.Y. TSUI**  
**Director of Marine**

Marine Department  
Government of the HKSAR  
Date: 10 January 2001  
Action File Ref.: MAI/S 902/215-2000

*Our Mission is to Promote Excellence in Marine Services*

SAFETY OF NAVIGATION ON SMALL CRAFT

A Guide for Owners, Coxswains and Crew Members of  
Locally Licensed Vessels

Note : All references to 'Rules' in this Guide, unless otherwise specified, relate to Rules of the International Regulations for Preventing Collisions at Sea 1972, as amended by IMO Resolutions A. 464 (XII) and A.626(XV).

Owners and coxswains of all licensed vessels are urged, for their own safety, to observe the following safe navigational practices.

1. Proper Look-out (Rule 5)

- 1.1 Casualty investigations carried out by the Marine Department reveal that this most fundamental requirement for safe navigation is ignored very frequently on small craft, often resulting in very serious consequences.
- 1.2 Proper look-out is not just a matter of looking where you are going, though even this simple precaution is ignored all too frequently. Proper look-out involves the use of sight and hearing, as well as all available means appropriate in the prevailing circumstances and conditions, so as to make a full appraisal of the situation and of the risk of collision from any direction. Amongst other things it involves anticipating alterations of course by other vessels which may be rounding a navigational mark. Look-out duties also include observing changes in weather conditions which may necessitate additional precautions or changes in the passage plan.
- 1.3 Generally the duties of the look-out and helmsman are separate. These duties can however be safely carried out by a properly trained and experienced coxswain by himself in small boats in clear weather conditions provided an unobstructed all round view is available from the steering position and provided all controls (particularly main engine) are conveniently located. He should however consider posting an additional look-out in the following circumstances, especially in the hours of darkness :

/...

- (i) restricted visibility;
- (ii) severe weather conditions;
- (iii) when transiting unfamiliar waters where navigational hazards may be encountered; and
- (iv) heavy traffic situations.

1.4 Whenever a look-out is posted, he or she should be given clear instructions as to what type of reports are required. In restricted visibility the look-out should perhaps be asked to report each and every target (that is, vessel or object) as soon as it is sighted or heard. In clear visibility however, particularly in heavy traffic situations, such wide ranging reports may be self defeating. In such circumstances reports on specific types of targets (e.g. a particular navigational mark) and/or all targets from a specific direction from which the coxswain's own view may be restricted (e.g. astern), may be of better value. Specific guidelines cannot be given to cover each and every situation. The coxswain should decide as to how best to utilize the look-out man in any given situation.

## 2. Safe Speed (Rule 6)

2.1 Many accidents result from failure to reduce speed in sufficient time when approaching traffic or in restricted visibility. When a close quarters situation is likely to develop or for any reason you are in doubt about the situation, the most prudent action may be to reduce your speed to bare minimum or even take all way off. This would give you the time to assess the situation carefully before taking appropriate action.

2.2 Special care is needed when approaching some point where crossing traffic cannot be seen at long range. Examples are : intersection of fairways or channels where large vessels or other structures block a clear view, approaching any large obstruction (e.g. a large ship), entering or leaving typhoon shelters where the breakwater obstructs vision, etc. One needs to exercise extreme caution when approaching such areas. Precautions that can be taken are :

- (i) to reduce speed;
- (ii) to maintain a vigilant look-out; and
- (iii) the sounding of a prolonged blast to warn unseen vessels of your approach.

/...

2.2.1 Remember that radar is not much better than the naked eye at looking beyond obstructions. If something (other than darkness or fog) blocks the view visually, then (with very few exceptions), it will also block the 'view' for radar.

2.3 In any event you must always proceed at a safe speed appropriate to the circumstances. Further, there are legal restrictions on maximum speed in certain parts of the Hong Kong waters which are applicable to all or specific types of craft. It is your duty to be aware of these restrictions and comply with them. Remember, non-compliance, besides being unsafe, can also result in prosecution.

### 3. Restricted Visibility (Rules 19 and 35)

3.1 Quite obviously much greater caution is needed in restricted visibility. Generally you should proceed at a reduced speed so that your vessel can be stopped quickly should the need arise such as the hearing of a fog signal forward of the beam, the sudden emergence of a vessel on collision course or on finding the vessel close to some navigational hazard. Proper signals must be sounded at appropriate intervals and the look-out should be even more vigilant.

3.2 A properly maintained radar is a very useful navigational aid and should be used but only by properly trained persons. Casualty investigations indicate that many untrained persons use radar for finding their way from one place to another and this tends to give them false confidence. They may not understand the techniques involved in using radar for collision avoidance involving moving vessels. Many collisions have resulted from untrained persons proceeding at excessive speed, relying solely on their very limited ability in the use of radar for collision avoidance.

3.3 It is not possible to learn collision avoidance on radar by yourself. Expert guidance is essential. Even then, considerable practice in clear visibility is needed before one can gain proper expertise in the use of radar for collision avoidance in restricted visibility.

3.4 Following is a list of some of the frequently encountered mistakes (sometimes even by properly trained persons) in the use of radar for collision avoidance and/or navigation :

- (i) Improper setting up - e.g. bad tuning, incorrect heading marker alignment, wrong choice of range scale, and failure to ensure that the trace is properly centred;
- (ii) Lack of appreciation that echoes may be obscured by sea or rain clutter, especially when controls are not properly adjusted;

/...

- (iii) Failure to realize that radar cannot detect targets behind obstructions. (Sometimes own mast or similar structure may cause shadow sectors on the display);
- (iv) Mistaking the apparent (relative) motion of a target, as shown by its afterglow 'tail' on the radar screen, as its true course;
- (v) Lack of appreciation that a single observation of range and bearing of an echo gives no indication of its course and speed (true or relative). An assessment can only be made by a succession of observations at known time intervals. Considerable practice is needed for making accurate assessments; and
- (vi) Failure to realize that any estimation of another ship's course and speed is only valid up to the time of the last observation. Alterations of course and/or speed by the other vessel take time before they become apparent even to a trained radar observer.

3.4.1 It is emphasized that the above list is not comprehensive. There is simply no substitute for proper training under expert guidance coupled with clear weather practice.

4. Collision Avoidance when Vessels are in Sight of One Another  
(Rules 11, 12, 13, 14, 15 and 18)

- 4.1 Provided another vessel has been sighted in good time (for which a proper look-out is absolutely essential), the first requirement for collision avoidance is to ascertain if a risk of collision exists. On large vessels such risk is normally determined by taking a series of compass or radar bearings. If the bearing does not change appreciably, the risk is deemed to exist. The risk may exist even when the bearing changes appreciably if the approaching vessel at close range is a large ship or a long tow.
- 4.2 On small vessels the use of compass bearings for determining risk of collision, particularly in heavy traffic situations, is not practicable. However judging the relative bearing against some fixed structure on your own vessel is a practical alternative, provided you are steering a straight course. The problem of ascertaining the risk of collision becomes difficult when one or both vessels change course or speed - perhaps for collision avoidance with some other vessel or for navigational reasons. Generally a vigilant look-out and long range assessment of potentially difficult situations are the best defence. In doubtful cases the most prudent action would be to slow down or even stop and then navigate with caution.

/...

4.3 Whenever risk of collision exists, you need to decide whose duty it is to keep clear. Rules need to be consulted for details but generally :

(i) all power driven vessels (not engaged in fishing) must keep clear of :

- (a) vessels not under command;
- (b) vessels restricted in ability to manoeuvre;
- (c) vessels engaged in fishing; and
- (d) sailing vessels;

(ii) vessels engaged in fishing, when underway, must keep out of the way of :

- (a) vessels not under command; and
- (b) vessels restricted in ability to manoeuvre;

(iii) vessels engaged in fishing, vessels of less than 20 metres in length and sailing vessels must not impede the safe passage of larger power-driven vessels following a traffic lane;

(iv) regardless of what is stated in paras. (i), (ii) and (iii) above, an overtaking vessel must keep out of the way of the vessel being overtaken;

(Note : If you are in doubt whether you are an overtaking vessel or a crossing vessel, you must assume that you are an overtaking vessel, and keep out of the way.)

(v) when two power driven vessels are crossing and are at collision risk, the vessel which has the other on her own starboard side must keep out of the way, and must, as far as practicable, avoid crossing ahead of the other vessel;

(Note : This in effect limits your avoiding action to slowing down or altering course to starboard, or a combination of both - but generally you must avoid altering course to port when avoiding collision with another power driven vessel in a crossing situation.)

(vi) when two power driven vessels are meeting end-on, or nearly end-on, so as to involve risk of collision, each should alter course to starboard so as to pass port to port (i.e. red to red).

/...

[Note : Difficulties may arise in practice when both vessels are likely to pass clear starboard to starboard (i.e. at night green light to green light) but at close range. Generally, unless the passing distance is safe beyond doubt, it is preferable to make a wide alteration to starboard and pass port to port (red light to red light). If you face such a situation you are advised to make up your mind whilst the other vessel is at some distance and make a wide alteration one way or the other in good time, so that the other vessel is not left in doubt as to your intentions.]

- 4.3.1 Advice on how to recognise different types of vessels is given in the booklet 'Safety Afloat' published by the Marine Department. The booklet also contains advice on many other safety related subjects.

4.4 Action by the Give-way Vessel (Rules 16 and 34(a))

- 4.4.1 If it is your duty to keep clear of the other vessel, you must, so far as practicable, take positive and substantial action in good time, indicating such action with the appropriate whistle signal, so that the other vessel is not left in doubt as to your intentions.
- 4.4.2 Many accidents result from vessels involved not being sure of the other's intentions; therefore when it is your duty to keep clear, it is very important that you take early and substantial action. Never attempt to pass the other vessel at close range, because that vessel may not be certain of your intentions and may act in such a way as to complicate the situation. Such confusion leads to many accidents every year - sometimes with tragic consequences. Sometimes it may be desirable to make a wide alteration initially, to clearly indicate your intentions, and then, if necessary for navigational or other reason, slowly come back to the appropriate course.
- 4.4.3 The problem of collision avoidance becomes very difficult in heavy traffic situations because avoiding action with one vessel may lead to difficulties with another. Generally you need to anticipate in advance and take positive action in good time, always indicating every alteration with the appropriate sound signal. Quick reactions are needed in such situations. If in doubt, the best remedy may be to slow down or even take all way off, and then proceed with caution. A few minutes delay so caused may save you from a much longer delay, inconvenience, expenses and injury which resulted from a collision.

/...

4.5 Action by Stand-on Vessel (Rules 17 and 34 (d))

- 4.5.1 Primary duty of the stand-on vessel is to maintain its course and speed. This duty does not preclude alterations of course and/or speed for navigational reasons not misleading to the give-way vessel. Under these circumstances, however, it is best to indicate your intentions by making appropriate sound signals.
- 4.5.2 The stand-on vessel must continue to watch the give-way vessel carefully to ascertain if the latter is taking correct avoiding action in accordance with the Rules. If in doubt about the intentions of the other vessels, you must immediately sound at least five short and rapid blasts to indicate your doubt.
- 4.5.3 If in spite of having sounded five or more short and rapid blasts you find that the other vessel is still not taking proper avoiding action, and is coming uncomfortably close (close quarters situation), you must take immediate positive action to avoid collision. Under these circumstances, as far as practicable, you should avoid altering course to port for a vessel on your port side.
- 4.5.4 It is recognised that it may be difficult for the stand-on vessel to decide precisely when to act to avert collision. This decision becomes even more difficult in heavy traffic situations. In practice however a common sense approach and long range planning are usually quite effective. Generally you should act in such a manner as not to cause any difficulties for others. In difficult situations, as mentioned in para. 4.4.3, the best remedy usually is to slow down or take all way off, and then proceed with caution. You must always remember to indicate your actions by making appropriate sound signals.

5. Dangers of Passing close to Large Ships

- 5.1 It is always very tempting to pass close to a ship to reduce passage time, but this is a dangerous practice and frequently results in accidents involving small craft. You should always be careful of blind areas caused by large ships, both moored and underway. A wide berth when passing a ship will let you see any craft approaching from the other side in good time. If it is unavoidable to pass an anchored ship or similar obstruction at close range, precautions mentioned in para. 2.2 should be observed. i.e. reduced speed, vigilant look-out and a prolonged blast on the whistle.

5.2 Passing close to a moving ship exposes you to the following additional very serious risks :

- (i) Danger of being swamped by the bow waves caused by the large vessel; and
- (ii) Danger of developing an uncontrollable shear resulting from hydrodynamic forces. The uncontrollable shear frequently results in the smaller vessel being run over by the larger vessel.

5.3 You should remember that large vessels cannot manoeuvre as easily as small craft. Their avoiding action may be further restricted by the available sea room and/or water depth. You should therefore, for your own safety, leave them as much room as practicable.

6. Navigation in Narrow Channels (Rules 9 and 34 (e))

6.1 The Rules should be consulted for details but generally :

- (a) A vessel proceeding along a fairway or narrow channel should keep as much to the starboard side of the fairway or channel as is safe and practicable.
- (b) Smaller vessels should not impede the safe passage of large vessels which can safely navigate only within the channel or fairway.
- (c) Vessels engaged in fishing should keep out of the way of other vessels using a channel or fairway.
- (d) You should not cross a channel or fairway if your crossing will impede the safe passage of a vessel which can safely navigate only within the channel or fairway.
- (e) When approaching a bend, or an area where other vessels may be obscured by an intervening obstruction (e.g. when approaching a typhoon shelter), you should navigate with extreme caution, and also sound one prolonged blast. (Also see para. 2.2).
- (f) You must never anchor in a narrow channel or fairway except in an emergency. If you are forced to anchor for any reason, you must display an appropriate anchor signal as prescribed in Rule 30 (A black ball by day and a white light visible all around by night, in the fore part of the vessel).

6.2 As mentioned in para. 5.3, large vessels are not as easily manoeuvrable as small craft. This handicap for the large vessels becomes even more serious in narrow channels and fairways, and hence it is even more important for small craft near channels and fairways to keep safe distance from large vessels. Accidents resulting in loss of life have occurred in Hong Kong waters in the past from failure to observe this basic precaution.

7. The Dangers of Passing close to Ferry Piers

7.1 Passing close to ferry piers is dangerous because the coxswain of a departing ferry, especially one being manoeuvred stern first, may not see an approaching craft in sufficient time to take avoiding action. In any case, as a matter of courtesy and common sense, you should leave enough room for a departing vessel to manoeuvre. Generally you should pass piers at a distance of at least 100 metres.

7.2 Coxswains of ferries leaving a pier stern first are reminded that sounding of three short blasts on the the whistle before going astern does not absolve them from the duty to post a look-out aft to ensure that it is safe to leave the berth. As clarified in MD Notice No. 200 of 1988, vessels leaving pier are not required by Rules to sound three short blasts on the the whistle. Such a signal is required by the Rules to be given only when going astern as 'authorized or required' by the Rules, to indicate the manoeuvre to a vessel in sight. Going astern for unberthing purposes is considered to be an operational manoeuvre for normal navigational purposes, and not one 'authorized or required' by the Rules. The proper precaution to be observed under these circumstances is to post a look-out aft to warn the Coxswain of any hazard.

7.3 You should never anchor or lie in a position which obstructs the approaches to any pier. Regulation 41(2)(d) of the Shipping and Port Control Regulations specifies that "No vessel shall anchor or lie - in a position which gives a foul berth to any other vessel made fast to a mooring, pier or dock premises;". Regulation 4(3) provides for a fine of \$10,000 and imprisonment for 6 months for the master who commits such an offence.

8. Hazards of Towing Small Vessels

8.1 Many accidents have occurred due to vessels hitting the towline between a towing vessel and her tow, some resulting in loss of life. Mostly such accidents occur during daylight hours possibly because there is no requirement in the Rules for a day signal to indicate towing operation when the length of the tow is smaller than 200 metres. Such accidents can be minimised by observing the following precautions :

/...

- (a) The tow line should be kept as short as practicable.
- (b) The towing vessel can make the signal 'U' (.. —) in morse code, by light or sound, to warn any vessels attempting to cross close astern;
- (c) At night attention to the tow can be drawn by directing a beam of a searchlight in the direction of the tow; and
- (d) All concerned should keep a sharp look-out.

8.2 Remember that you do not have any special right of way as a towing vessel, unless the towing operation severely restricts your ability to deviate from your course and you are displaying appropriate signals in accordance with Rule 27. (This Rule prescribes lights and shapes for vessels not under command or restricted in their ability to manoeuvre.)

9. Other Special Hazards on Very Small Vessels

- 9.1 Lives are lost every year due to small fishing or pleasure vessels venturing out in exposed waters and being caught unaware by sudden onset of bad weather or similar occurrence. Small craft handled by inexperienced sailors can capsize or be swamped when exposed even to moderate sized waves, caused by the weather or a passing large or high speed vessel.
- 9.2 Generally inexperienced sailors should never venture far away from sheltered waters. Someone ashore should know about your approximate destination, who should inform police if you do not return by a predetermined time. In any case you must carry a radio with you and listen to weather forecasts, before venturing out, and throughout the time you are away in exposed waters. This is especially important during the summer season when sudden changes in the weather may be experienced in Hong Kong. At the first sign of worsening weather, the person in charge should take appropriate action, e.g. in some cases every one on board should wear a lifejacket, and the vessel should seek shelter. Even an experienced sailor needs to remain very alert weatherwise, especially when navigating from sheltered waters behind headlands to the more open sea. Needless to say, boating and excess liquor should never be mixed and you should never venture out in a boat which is not seaworthy in every respect and properly equipped.
- 9.3 Some of the other routine precautions, which tend to be overlooked in small craft, are listed below :

/...

- (i) You should not allow large waves to strike you on the beam. You should be on the look-out for them and be sure to turn your bow into the waves;
- (ii) Small craft travelling at high speed often create large waves in their wake. It is imprudent to pass another small craft at close range so that it is hit by a large wave, breaking wash or forcing her to take violent avoiding action. Coxswains are reminded that they can be held legally responsible in a narrow channel for any damage to other craft or injury to persons caused by their wash;
- (iii) No one should stand up or move around rapidly in very small boats, such boats have limited stability and can easily capsize. Each boat however is different and you should know the capabilities of your craft;
- (iv) Keep a safe distance from swimmers in the water when you are underway; and
- (v) Do not leave the tiller or helm unattended, or in the charge of any unqualified person without proper supervision.

Marine Department  
Hong Kong

Date : December 1989