

Maritime Rules

Part 22: Collision Prevention

MNZ Consolidation

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Part objective

Part 22 gives effect to the Convention on the International Regulations for Preventing Collisions at Sea, 1972, to which New Zealand is party. The Part provides the steering and sailing rules (rules of the road) for ships, as well as standards for the installation, performance and use of lights for collision avoidance and the sound and light signals used for communication of safety information.

The rules of Part 22 apply to—

- New Zealand ships, including pleasure craft, wherever they are
- foreign ships, including pleasure craft, in New Zealand waters
- ships of the Defence Force and foreign defence forces in New Zealand waters
- seaplanes when manoeuvring on the surface of New Zealand waters
- craft in inland waters, such as lakes and rivers

The authority for making Part 22 is found in sections 36(g) and 36(u) of the Maritime Transport Act 1994.

Maritime Rules are subject to the Regulations (Disallowance) Act 1989. Under that Act the rules are required to be tabled in the House of Representatives. The House of Representatives may, by resolution, disallow any rules. The Regulations Review Committee is the select committee responsible for considering rules under this Act.

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www.maritimenz.govt.nz

History of Part 22

Part 22 first came into force on 1 February 1998 and now incorporates the following amendments:

Amendment	Effective date
Amendment 1	20 March 2003
Amendment 2	27 May 2004
Amendment 3	21 September 2006
Amendment 4	30 July 2009
Amendment 5	1 April 2011

Summary of amendments

Amendment 1

Maritime Rules Part 91 Amendment 22.3(4), 22.18(1)(d), 22.30(3)

Amendment 2

Maritime Rules Amendments Part 20-90 PO, 22.2, 22.3(2)(b)(i), 22.21, 22.22(4), 22.22(5), 22.23(2)(b), 22.35(c)-(e), Appendix 1: Clauses 2(6), 5(2), 10(1)(b), 13

Amendment 3

Part 22 Amendment Rules 22.2(1), 22.8(1), 22.18(6) & (7), 22.23(4), 22.31, 22.33(1), 22.35(g), Appendix 1: Clause 13
Appendix 3: Subclause (1)
Appendix 3: Clause 2(2)(b)

Amendment 4

Maritime (Various Amendments) Rules Part 21-80 22.23(3)(b)

Amendment 5

Maritime Rules Various Amendments 2011 PO, Extent of Consultation, 22.9(2), 22.23(3)

All signed rules can be found on our website:

<http://www.maritimenz.govt.nz/Rules/List-of-all-rules/Part22-maritime-rule.asp>

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General

22.1 Entry into force

Part 22 comes into force on the 1st day of February 1998.

22.2 Definitions

(1) In this Part—

Act means the Maritime Transport Act 1994:

aircraft has the same meaning as in the Civil Aviation Act 1990:

all practicable steps, in relation to achieving any result in any circumstances, means all steps to achieve the result that are reasonably practicable to take in the circumstances, having regard to—

- (a) the nature and severity of the harm that may be suffered if the result is not achieved; and
- (b) the current state of knowledge about the likelihood that harm of that nature and severity will be suffered if the end result is not achieved; and
- (c) the current state of knowledge about harm of that nature; and
- (d) the current state of knowledge about the means available to achieve the result, and about the likely efficacy of those means; and
- (e) the availability and cost of each of the means referred to in paragraph (d) of this definition:

breadth means greatest breadth of a vessel:

crew means the persons employed or engaged in any capacity on board a ship (except a master, a pilot, or a person temporarily employed on the ship while it is in port):

Director means the person who is for the time being the Director of Maritime Safety under section 439 of the Maritime Transport Act 1994:

distress means that a vessel or a person is in grave and imminent danger and requires immediate assistance:

dracone means a large flexible cylindrical container, towed by a vessel, used for transporting liquids:

enclosed water limits means—

- (a) the enclosed water limits set out in Appendix 1 of Part 20; and
- (b) all New Zealand inland waters:

foreign ship means any ship that is not a New Zealand ship:

high speed vessel means a ship in respect of which a High Speed Craft Safety Certificate has been issued in compliance with the *International Code of Safety for High Speed Craft* adopted by Resolution MSC 36(63) of the International Maritime Organization's Maritime Safety Committee dated June 1994, as amended by that committee from time to time:

length, in relation to a vessel, means the vessel's overall length:

master means any person (except a pilot) having command or charge of any ship:

mile means a standard nautical mile of 1852 metres:

near the surface of the water, in relation to a WIG craft, means in close proximity to the water such that the craft might come into contact with, or impede the navigation, of other vessels:

New Zealand Defence Force has the same meaning as the term “Defence Force” in section 2(1) of the Defence Force Act 1990:

New Zealand ship means a ship that is registered under the Ship Registration Act 1992; and includes a ship that is not registered under that Act but is required or entitled to be registered under that Act:

New Zealand waters means—

- (a) the territorial sea of New Zealand; and
- (b) the internal waters of New Zealand; and
- (c) all rivers and other inland waters of New Zealand:

on the surface of the water in respect of a seaplane that is taking off from, or alighting on the water, means the seaplane is in contact with the water surface:

owner—

- (a) in relation to a ship registered in New Zealand under the Ship Registration Act 1992, means the registered owner of the ship:
- (b) in relation to a ship registered in any place outside New Zealand, means the registered owner of the ship:
- (c) in relation to a fishing ship, other than one to which paragraph (a) or paragraph (b) of this definition applies, means the person registered as the owner under section 57 of the Fisheries Act 1983 or section 103 of the Fisheries Act 1996:
- (d) in relation to a ship to which paragraph (a) or paragraph (b) or paragraph (c) of this definition applies, where, by virtue of any charter or demise or for any other reason, the registered owner is not responsible for the management of the ship, includes the charterer or other person who is for the time being so responsible:
- (e) in relation to an unregistered ship or a registered ship that does not have a registered owner, means the person who is for the time being responsible for the management of the ship:

Part means a grouping of rules made under the Maritime Transport Act 1994:

power-driven vessel means any vessel propelled by machinery:

restricted visibility means any condition in which visibility is restricted by fog, mist, falling snow, heavy rainstorms, sandstorms, or other similar causes:

rules includes maritime rules and marine protection rules:

sailing vessel means any vessel under sail; as long as propelling machinery, if fitted, is not being used:

seaplane includes a flying boat and any other aircraft designed to manoeuvre on the water:

ship means every description of a boat or craft used in navigation, whether or not it has any means of propulsion; and includes—

- (a) a barge, lighter, or other like vessel:
- (b) a hovercraft or other thing deriving full or partial support in the atmosphere from the reaction of air against the surface of the water over which it operates:
- (c) a submarine or other submersible:

territorial sea of New Zealand or **territorial sea** means the territorial sea of New Zealand as defined by section 3 of the Territorial Sea and Exclusive Economic Zone Act 1977:

traffic separation scheme means a scheme published by the International Maritime Organization that separates traffic navigating in one direction in an area from traffic navigating in the opposite or approximately opposite direction in that area:

trawling means the dragging through the water of a dredge net or other apparatus used as a fishing appliance:

underway means that a vessel is not at anchor, or made fast to the shore, or aground:

vessel means—

- (a) a ship;
- (b) a WIG craft while it is on or near the surface of the water; or
- (c) a seaplane while it is on the surface of the water:

vessel constrained by its draught means a power-driven vessel severely restricted in ability to deviate from the course it is following due to its draught in relation to the available depth and width of water:

vessel engaged in fishing means any vessel fishing with nets, lines, trawls, or other fishing apparatus which restrict manoeuvrability but does not include a vessel fishing with trolling lines or other fishing apparatus which do not restrict the vessel's manoeuvrability:

vessel not under command means a vessel which through some exceptional circumstances is unable to manoeuvre as required by this Part and is therefore unable to keep out of the way of another vessel:

vessel restricted in its ability to manoeuvre means a vessel which from the nature of its work is restricted in its ability to manoeuvre as required by this Part and is therefore unable to keep out of the way of another vessel and includes but is not limited to—

- (a) a vessel engaged in laying, servicing or picking up a navigation mark, submarine cable or pipeline;
- (b) a vessel engaged in dredging, surveying or underwater operations;
- (c) a vessel engaged in replenishment or transferring persons, provisions or cargo while underway;
- (d) a vessel engaged in the launching and recovery of aircraft;
- (e) a vessel engaged in mine clearance operations;
- (f) a vessel engaged in a towing operation that severely restricts the towing vessel and its tow in their ability to deviate from their course:

warship—

- (a) means a ship belonging to the armed forces of a State and bearing the external marks distinguishing the nationality of ships of that State, being a ship—
 - (i) under the command of an officer duly commissioned by the Government of that State whose name appears in the appropriate service list or its equivalent; and
 - (ii) crewed by crew subject to regular armed forces discipline; and
- (b) includes a ship requisitioned under section 10 of the Defence Act 1990; but
- (c) does not include any ship operated by the New Zealand Defence Force that operated, for the time being, for a commercial purpose.

wing-in-ground craft or **WIG craft** means a multimodal craft that, in its main operational mode, flies—

- (a) in close proximity to, and without contact with, the water surface;
- (b) by using surface-effect action above the water; and
- (c) supported in the air primarily by an aerodynamic lift generated on the wing(s) or the hull of the ship or their parts:

- (2) For the purposes of this Part, vessels are in sight of one another only if one can be observed visually from the other.

22.3 Application

- (1) Subject to rule 22.3(2), Part 22 applies to—
 - (a) New Zealand ships; and
 - (b) All vessels in New Zealand waters; and
 - (c) All warships while in New Zealand waters.

- (2) A ship—
 - (a) the keel of which was laid or which was at a corresponding stage of construction before the 15th day of July 1977 (being the date of entry into force of the Collision Regulations Order 1976); and
 - (b) which complies with the requirements of the International Regulations for Preventing Collisions at Sea, 1960,

is exempted from the requirements:
 - (i) of clauses 2(1)(a) and (b), (2), (3), (4), (5), (8), (9) and (11), 3(1) and (3), and 4(1) and (2) of Appendix 1 in relation to the repositioning of lights as a result of conversion from Imperial to metric units and rounding off of measurement figures; and
 - (ii) of Appendix 1.3(1) in relation to the repositioning of masthead lights on vessels less than 150 metres in length; and
 - (iii) to reposition all-round lights resulting from the prescription of Appendix 1.9(3).

- (3) Nothing in this Part will interfere with the operation of any special rules made by the New Zealand government or in the case of foreign ships, the Government of its flag state, relating to additional station or signal lights, shapes, or whistle signals for warships and ships proceeding under convoy, or with respect to additional station or signal lights for fishing ships engaged in fishing as a fleet.

Additional station or signal lights, shapes, or whistle signals must, as far as possible, be such that they cannot be mistaken for any light, shape, or signal authorised elsewhere in this Part.

- (4) Nothing in this Part applies to a vessel participating in a race or training or coaching in relation to other vessels participating in such an activity, if the participants have agreed to comply with the International Sailing Federation Rules, prescribed by the International Sailing Federation.

Section 1 – Steering and Sailing

Subsection 1 – Conduct of vessels in any condition of visibility

22.4 Application of subsection 1

Rules in this subsection apply in any condition of visibility.

22.5 Look-out

Every vessel must at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions, so as to make a full appraisal of the situation and the risk of collision.

22.6 Safe speed

Every vessel must at all times proceed at a safe speed so that proper and effective action to avoid a collision can be taken and the vessel can be stopped within a distance appropriate to the prevailing circumstances and conditions.

In determining a safe speed, the following factors must be among those taken into account—

- (1) For all vessels—
 - (a) the state of visibility:

- (b) the traffic density, including concentrations of fishing vessels or any other vessels:
 - (c) the manoeuvrability of the vessel, with special reference to stopping distance and turning ability in the prevailing conditions:
 - (d) at night, the presence of background light such as from shore lights or from the back scatter of the vessel's own lights:
 - (e) the state of wind, sea, and current, and the proximity of navigational hazards:
 - (f) the draught in relation to the available depth of water.
- (2) Additionally, for vessels with operational radar—
- (a) the characteristics, efficiency, and limitations of the radar equipment:
 - (b) any constraints imposed by the radar range scale in use:
 - (c) the effect on radar detection of the sea state, weather, and other sources of interference:
 - (d) the possibility that small vessels, ice, and other floating objects may not be detected by radar at an adequate range:
 - (e) the number, location, and movement of vessels detected by radar:
 - (f) the more exact assessment of the visibility that may be possible when radar is used to determine the range of vessels or other objects in the vicinity.

22.7 Risk of collision

- (1) Every vessel must use all available means appropriate to the prevailing circumstances and conditions to determine if the risk of collision exists. If there is any doubt, such risk must be considered to exist.
- (2) Proper use must be made of radar equipment, if fitted and operational, including long-range scanning to obtain early warning of the risk of collision and radar plotting or equivalent systematic observation of detected objects.
- (3) Assumptions must not be made on the basis of scanty information, especially scanty radar information.
- (4) In determining if the risk of collision exists, the following considerations must be among those taken into account—
 - (a) Such risk must be considered to exist if the compass bearing of an approaching vessel does not appreciably change; and
 - (b) Such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

22.8 Action to avoid collision

- (1) Any action to avoid collision must be taken in accordance with the requirements of this Section and, if the circumstances allow, be positive, made in ample time and with due regard to the observance of good seafaring practice.
- (2) Any alteration of course or speed or both to avoid collision must, if the circumstances of the case allow, be large enough to be readily apparent to another vessel observing visually or by radar. A succession of small alterations of course or speed or both should be avoided.
- (3) If there is sufficient sea-room, alteration of course alone may be the most effective action to avoid a close-quarters situation provided that—
 - (a) It is made in good time; and
 - (b) it is substantial; and
 - (c) it does not result in another close-quarters situation.

- (4) Action taken to avoid collision with another vessel must be such as to result in passing at a safe distance. The effectiveness of the action must be carefully checked until the other vessel is finally past and clear.
- (5) If necessary, to avoid collision or to allow more time to assess the situation, a vessel must slacken its speed or take all way off by stopping or reversing its means of propulsion.
- (6)
 - (a) A vessel that, by any rules in this Part, is obliged not to impede the passage or safe passage of another vessel must, when required, take early action to allow sufficient sea-room for the safe passage of the other vessel.
 - (b) A vessel that is required not to impede the passage or safe passage of another vessel is not relieved of this obligation if approaching the other vessel so as to involve risk of collision. It must, when taking action, have full regard to the action which may be required of itself and the other vessel by this section of Part 22.
 - (c) A vessel the passage of which is not to be impeded remains fully obliged to comply with this section of Part 22 when the two vessels are approaching one another so as to involve risk of collision.

22.9 Narrow channels

- (1) A vessel proceeding along the course of a narrow channel or fairway must keep as near to the outer limit of the channel or fairway which lies on its starboard side as is safe and practicable.
- (2) A vessel of less than 20 metres in length or a sailing vessel must not impede the passage of a vessel which can safely navigate only within a narrow channel or fairway.
- (3) A vessel engaged in fishing must not impede the passage of any other vessel navigating within a narrow channel or fairway.
- (4) A vessel must not cross a narrow channel or fairway if such crossing impedes the passage of a vessel which can safely navigate only within that channel or fairway. If the vessels are in sight of one another, the latter vessel may use the following sound signal as prescribed in rule 22.34(4) if in doubt as to the intention of the crossing vessel—

At least five short and rapid blasts on the whistle. This may be supplemented by a light signal of at least five short and rapid flashes.

- (5) If vessels are in sight of each other in a narrow channel or fairway, when overtaking can take place only if the vessel to be overtaken has to take action to permit safe passing, the following provisions apply—
 - (a) the vessel intending to overtake must signal its intention by sounding one of the following sound signals prescribed in rule 22.34(3)(a) —
 - (i) two prolonged blasts followed by one short blast, to mean “I intend to overtake you on your starboard side”; or
 - (ii) two prolonged blasts followed by two short blasts, to mean “I intend to overtake you on your port side.”; and
 - (b) the vessel to be overtaken must, if in agreement, sound the following signal as prescribed in rule 22.34(3)(b) and take steps to permit safe passing:
four blasts consisting of one prolonged, one short, one prolonged, one short; and
 - (c) if the vessel to be overtaken has any doubt, it may sound the following sound signal as prescribed in rule 22.34(4):

At least five short and rapid blasts on the whistle. This may be supplemented by a light signal of at least five short and rapid flashes.

This rule does not relieve the overtaking vessel of its obligation under rule 22.13 for overtaking vessels.

- (6) A vessel nearing a bend or an area of a narrow channel or fairway where other vessels may be obscured by an intervening obstruction must navigate with particular alertness and caution, and must sound the following sound signal prescribed in rule 22.34(5):

one prolonged blast.

Such a signal must be answered with a prolonged blast by any approaching vessel that may be within hearing around the bend or behind the intervening obstruction.

- (7) Any vessel must, if the circumstances of the case allow, avoid anchoring in a narrow channel.

22.10 Traffic separation schemes

- (1) This rule applies to traffic separation schemes adopted by the International Maritime Organization but does not relieve any vessel of its obligations under any other rule in this Part.
- (2) A vessel using a traffic separation scheme must—
- (a) proceed in the appropriate traffic lane in the general direction of traffic flow for that lane; and
 - (b) so far as practicable keep clear of a traffic separation line or separation zone; and
 - (c) normally join or leave a traffic lane at the termination of the lane; and
 - (d) when joining or leaving a traffic lane from either side, do so at as small an angle to the general direction of traffic as practicable.
- (3) So far as practicable, a vessel must avoid crossing traffic lanes. If obliged to do so it must cross on a heading as close as practicable to right angles to the general direction of traffic flow.
- (4) Subject to rule 22.10(5), a vessel must not use an inshore traffic zone when it can safely use the appropriate traffic lane within the adjacent traffic separation scheme.
- (5) A vessel may use the inshore traffic zone if it is—
- (a) less than 20 metres in length; or
 - (b) a sailing vessel; or
 - (c) engaged in fishing; or
 - (d) *en route* to or from a port, offshore installation or structure, pilot station or any other place situated within the inshore traffic zone; or
 - (e) avoiding immediate danger.
- (6) Subject to rule 22.10(7), a vessel that is not crossing, joining, or leaving a lane must not normally enter a separation zone or cross a separation line.
- (7) A vessel may cross a separation line or enter a separation zone—
- (a) in cases of emergency to avoid immediate danger; or
 - (b) to engage in fishing within the separation zone.
- (8) A vessel navigating in areas near the terminations of traffic separation schemes must do so with particular caution.
- (9) A vessel must as far as practicable avoid anchoring in a traffic separation scheme or in areas near its terminations.
- (10) A vessel not using a traffic separation scheme must avoid it by as wide a margin as practicable.
- (11) A vessel engaged in fishing must not impede the passage of any vessel following a traffic lane.

- (12) A vessel of less than 20 metres in length or a sailing vessel must not impede the safe passage of a power-driven vessel following a traffic lane.
- (13) The following vessels are exempted from carrying out the requirements of this rule to the extent necessary to carry out their operations—
 - (a) a vessel restricted in its ability to manoeuvre, when engaged in an operation for the maintenance of navigational safety in a traffic separation scheme; and
 - (b) a vessel restricted in its ability to manoeuvre, when engaged in an operation for the laying, servicing, or picking up of a submarine cable within a traffic separation scheme.

Subsection 2 – Conduct of vessels in sight of one another

22.11 Application of subsection 2

This subsection applies to vessels in sight of one another.

22.12 Sailing vessels

- (1) For the purpose of rule 22.12 the windward side is defined as—
 - (a) in the case of a square-rigged vessel, the side opposite to that on which the largest fore and aft sail is carried; or
 - (b) in any other case, the side opposite to that on which the mainsail is carried.
- (2) When two sailing vessels are approaching one another so as to involve risk of collision, one must keep out of the way of the other as follows—
 - (a) when each has the wind on a different side, the vessel which has the wind on the port side must keep out of the way of the other;
 - (b) when both have the wind on the same side, the vessel which is to windward must keep out of the way of the vessel which is to leeward;
 - (c) if a vessel with the wind on the port side sees a vessel to windward and cannot determine with certainty whether the other vessel has the wind on the port or starboard side, it must keep out of the way of the other.
- (3) Sailing vessels when operating propelling machinery must obey the rules for a power-driven vessel.

22.13 Overtaking

- (1) Despite anything contained in subsections 1 and 2 of section 1 of this Part, any vessel overtaking any other must keep out of the way of the vessel being overtaken.
- (2) A vessel will be considered to be overtaking when coming up to another vessel from a direction of more than 22.5 degrees abaft its beam, that is, in such a position where at night the sternlight, but neither of the sidelights of the vessel being overtaken, would be visible.
- (3) When a vessel is in any doubt as to whether it is overtaking another, it must assume that it is and act accordingly.
- (4) Any subsequent alteration of bearing between the two vessels—
 - (a) does not make the overtaking vessel a crossing vessel within the meaning of this Part; and
 - (b) does not relieve the overtaking vessel of its duty to keep clear of the overtaken vessel until it is finally past and clear.

22.14 Head-on situation

- (1) When two power-driven vessels are meeting on reciprocal or nearly reciprocal courses so as to involve risk of collision, each must alter its course to starboard so that each passes on the port side of the other.

- (2) Such a situation will be considered to exist when a vessel sees the other ahead or nearly ahead and—
 - (a) by night, the masthead lights of the other vessel are in line or nearly in line and/or both sidelights are visible; or
 - (b) by day, the corresponding aspect of the other vessel is observed.
- (3) When a vessel is in any doubt as to whether such a situation exists, it must assume that it does and act accordingly.

22.15 Crossing situation

When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on its own starboard side must keep out of the way. The vessel required to keep out of the way must, if the circumstances of the case allow, avoid crossing ahead of the other vessel.

22.16 Action by give-way vessel

Every vessel which is directed to keep out of the way of another vessel must, so far as possible, take early and substantial action to keep well clear.

22.17 Action by stand-on vessel

- (1) If one of two vessels is to keep out of the way, the other must keep its course and speed.
- (2) As soon as it becomes apparent to the stand-on vessel that the vessel required to give way is not taking appropriate action in compliance with this Part—
 - (a) it may take action to avoid collision by its manoeuvre alone; and
 - (b) if it is a power-driven vessel in a crossing situation, if the circumstances of the case allow, it must not alter course to port for a vessel on its own port side.
- (3) When, from any cause, the stand-on vessel finds itself so close that collision cannot be avoided by the action of the give-way vessel alone, it must take whatever action will best avoid collision.
- (4) This rule does not relieve the give-way vessel of its obligation to keep out of the way.

22.18 Responsibilities between vessels

Except where rules 22.9 (narrow channels), 22.10 (traffic separation schemes), and 22.13 (overtaking) require otherwise, the following rules apply—

- (1) a power-driven vessel underway must keep out of the way of—
 - (a) a vessel not under command;
 - (b) a vessel restricted in its ability to manoeuvre;
 - (c) a vessel engaged in fishing;
 - (d) a sailing vessel or a vessel under oars; and
- (2) a sailing vessel underway must keep out of the way of—
 - (a) a vessel not under command;
 - (b) a vessel restricted in its ability to manoeuvre;
 - (c) a vessel engaged in fishing; and
- (3) a vessel engaged in fishing when underway must, so far as possible, keep out of the way of—
 - (a) a vessel not under command;
 - (b) a vessel restricted in its ability to manoeuvre; and
- (4) (a) any vessel other than a vessel not under command or a vessel restricted in its ability to

manoeuvre must, if the circumstances of the case allow, avoid impeding the safe passage of a vessel constrained by its draught exhibiting either or both of the following signals as prescribed in rule 22.28:

- (i) three all-round red lights in a vertical line;
 - (ii) a black cylinder; and
- (b) a vessel constrained by its draught must navigate with particular caution and have full regard to that special condition.
- (5) A seaplane on the water must, in general, keep well clear of all vessels and avoid impeding their navigation. However, if the risk of collision exists, the seaplane must comply with the rules of this section.
- (6) A WIG craft when taking off, landing or in flight near the surface of the water, must keep well clear, and avoid impeding the navigation, of all other vessels.
- (7) A WIG craft operating on the surface of the water, must comply with the provisions of this Section for a power-driven vessel.

Subsection 3 – Conduct of vessels in restricted visibility

22.19 Conduct of vessels in restricted visibility

- (1) This subsection applies to vessels not in sight of one another when navigating in or near an area of restricted visibility.
- (2) Every vessel must proceed at a safe speed adapted to the prevailing circumstances and conditions of restricted visibility.
- (3) A power-driven vessel must have its engines ready for immediate manoeuvre.
- (4) Every vessel must have due regard to the prevailing circumstances and conditions of restricted visibility when complying with subsection 1 of this section.
- (5) (a) A vessel which detects by radar alone the presence of another vessel must determine whether a close-quarters situation is developing and must determine if risk of collision exists. If so, it must take avoiding action in ample time.
(b) if such action consists of an alteration of course, the following must, as far as possible, be avoided:
 - (i) an alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken; and
 - (ii) an alteration of course towards a vessel abeam or abaft the beam.
- (6) Except where it has been determined that there is no risk of collision, every vessel that—
 - (a) hears the fog signal of another vessel apparently forward of its beam; or
 - (b) cannot avoid a close-quarters situation with another vessel forward of its beam, must—
 - (c) reduce its speed to the minimum at which it can be kept on its course; and
 - (d) if necessary, take all way off; and
 - (e) in any event navigate with extreme caution until the danger of collision is over.

Section 2 - Lights and shapes

22.20 Application of section 2

- (1) This section is to be complied with in all weathers.
- (2) Lights required by this section are to be exhibited from sunset to sunrise. During this time the only other lights which may be exhibited are those lights which—

- (a) cannot be mistaken for lights specified in this Part; and
 - (b) do not impair the visibility or distinctive character of lights specified in the rule; and
 - (c) do not interfere with the keeping of a proper look-out.
- (3) The lights specified must, if carried, also be exhibited during the day in restricted visibility. They may also be exhibited in all other circumstances where it is considered necessary.
- (4) The rules concerning shapes must be complied with by day.
- (5) The lights and shapes specified in this rule must comply with the provisions of Appendix 1 of this Part.

22.21 Definitions relating to Section 2

In this section—

all-round light means a light showing an unbroken arc over the horizon of 360 degrees:

flashing light means a light flashing at regular intervals at a frequency of 120 flashes or more per minute:

masthead light means a white light placed over the fore and aft centreline of the vessel showing an unbroken light over an arc of the horizon of 225 degrees and fixed to show the light from right ahead to 22.5 degrees (2 points) abaft the beam on both sides of the vessel:

sidelights means a green light on the starboard side and a red light on the port side each showing an unbroken light over an arc of the horizon of 112.5 degrees and fixed to show the light from right ahead to 22.5 degrees (2 points) abaft the beam on its respective side.

In a vessel of less than 20 metres in length the sidelights may be combined in one lantern carried on the fore and aft centreline of the vessel:

sternlight means a white light placed as close as practicable to the stern showing an unbroken light over an arc of the horizon of 135 degrees and so fixed to show the light from right aft for 67.5 degrees (6 points) on both sides of the vessel:

towing light means a yellow light having the same characteristics as the sternlight.

22.22 Visibility of lights

Lights must have an intensity as specified in Appendix 1 of this Part. They must be visible at the following minimum ranges.

- (1) In vessels of 50 metres or more in length—
- a masthead light, 6 miles:
 - a sidelight, 3 miles:
 - a sternlight, 3 miles:
 - a towing light, 3 miles:
 - a white, red, green or yellow all-round light, 3 miles.
- (2) In vessels of 20 metres or more in length but less than 50 metres in length—
- a masthead light, 5 miles:
 - a sidelight, 2 miles:
 - a sternlight, 2 miles:
 - a towing light, 2 miles:
 - a white, red, green, or yellow all-round light, 2 miles.
- (3) In vessels of 12 metres or more in length but less than 20 metres in length—
- a masthead light, 3 miles:

- a sidelight, 2 miles:
- a sternlight, 2 miles:
- a towing light, 2 miles:
- a white, red, green or yellow all-round light, 2 miles

- (4) In vessels of less than 12 metres in length—
 - a masthead light, 2 miles:
 - a sidelight, 1 mile:
 - a sternlight, 2 miles:
 - a towing light, 2 miles:
 - a white, red, green or yellow all-round light, 2 miles.
- (5) In inconspicuous, partly submerged vessels, or objects being towed—
 - a white all-round light, 3 miles.
- (6) The signal light prescribed under rule 22.34 for signalling a manoeuvre—
 - a white all-round light, 5 miles.

22.23 Power-driven vessels underway

- (1) Subject to 22.23(3), a power-driven vessel underway must exhibit—
 - (a) a masthead light forward; and
 - (b) a second masthead light abaft of and higher than the forward one,
 - EXCEPT that a vessel of less than 50 metres in length is not obliged to exhibit such light but may do so; and
 - (c) sidelights; and
 - (d) a sternlight.
- (2) In addition to the lights prescribed in rule 22.23(1), an all-round flashing yellow light must be exhibited by—
 - (a) air cushion vessels operating in the non-displacement mode; and
 - (b) high speed vessels whilst operating within enclosed water limits at or above a speed of 25 knots.
- (3) Instead of exhibiting the lights prescribed in subrule (1), a power-driven vessel—
 - (a) of less than 12 metres in length may exhibit an all-round white light and sidelights; and
 - (b) of less than 7 metres in length, whose maximum speed does not exceed 7 knots, may exhibit an all-round light and must, if practicable, exhibit sidelights.
- (4) In addition to the lights prescribed in rule 22.23(1), a WIG craft must and may only exhibit a high-intensity all-round flashing red light when—
 - (a) taking off;
 - (b) landing; or
 - (c) in flight near the surface of the water.

22.24 Towing and pushing

- (1) When towing, a power-driven vessel must exhibit—
- (a) instead of either of the masthead lights prescribed in rule 22.23(1)(a) and (b), two masthead lights in a vertical line,
- EXCEPT that when the length of tow exceeds 200 metres measured from the stern of the towing vessel to the after end of the tow, 3 such lights in a vertical line must be carried; and
- (b) sidelights; and
 - (c) a sternlight; and
 - (d) a towing light in a vertical line above the sternlight; and
 - (e) when the length of tow exceeds 200 metres, a black diamond shape where it can best be seen; and
 - (f) if the towing operation is such that it severely restricts the towing vessel and its tow in their ability to deviate from their course, in addition—
 - (i) three all-round lights in a vertical line where they can best be seen the highest and lowest being red and the middle one white; and
 - (ii) three black shapes in a vertical line where they can best be seen the highest and lowest being balls and the middle one a diamond. (rule 22.27(3)).
- (2) When a pushing vessel and a vessel being pushed ahead are rigidly connected in a composite unit, they will be regarded as a power-driven vessel and must exhibit the lights prescribed in rule 22.23 for such vessels.
- (3) A power-driven vessel when pushing ahead or towing alongside, other than a composite unit must exhibit—
- (a) instead of either of the masthead lights prescribed in rule 22.23(1)(a) and (b), two masthead lights in a vertical line; and
 - (b) sidelights; and
 - (c) a sternlight; and
 - (d) if the towing operation is such that it severely restricts the towing vessel and its tow in their ability to deviate from their course, in addition—
 - (i) three all-round lights in a vertical line where they can best be seen the highest and lowest being red and the middle one white;
 - (ii) three black shapes in a vertical line where they can best be seen the highest and lowest being balls and the middle one a diamond (rule 22.27(3)).
- (4) A vessel or object being towed, other than an inconspicuous, partly submerged vessel or object, or combination of such vessels or objects, must exhibit—
- (a) sidelights; and
 - (b) a sternlight; and
 - (c) when the length of tow exceeds 200 metres, a black diamond shape where it can best be seen.

Where from any sufficient cause it is impracticable for a vessel or object being towed to exhibit the lights or shapes prescribed, all possible measures must be taken to light the tow or at least to indicate its presence.

- (5) Any number of vessels being towed alongside or pushed in a group must be lighted as one vessel and—
- (a) a vessel being pushed ahead, not being part of a composite unit, must exhibit sidelights at the forward end; and
 - (b) a vessel being towed alongside must exhibit a sternlight and, at the forward end, sidelights.

- (6) An inconspicuous, partly submerged vessel or object, or combination of such vessels or objects being towed, must exhibit—
 - (a) if it is less than 25 metres in breadth—
 - (i) one all-round white light at or near the forward end except in the case of dracones, which need not exhibit a light at or near the forward end; and
 - (ii) one all-round white light at or near the after end; and
 - (b) if it is 25 metres or more in breadth, 2 additional all-round white lights at or near the extremities of its breadth; and
 - (c) if the length of towed object exceeds 100 metres, additional all-round white lights so that the distance between lights does not exceed 100 metres; and
 - (d) a black diamond at or near the aftermost extremity of the last vessel or object being towed, and if the length of tow exceeds 200 metres, an additional black diamond shape where it can best be seen, and located as far forward as practicable.
- (7) If it is impracticable for a vessel or object being towed to exhibit the lights or shapes prescribed, all possible measures must be taken to light the tow or at least indicate its presence.
- (8) Where from any sufficient cause it is impracticable for a vessel not normally engaged in towing operations to display the lights for a towing or pushing ahead or towing alongside vessel (rule 22.24(1) or 22.24(3)), that vessel is not required to exhibit those lights when engaged in towing another vessel in distress or otherwise in need of assistance.

All possible measures must be taken to indicate the relationship between the towing vessel and the tow as authorised in rule 22.36 “Signals to attract attention”, in particular by illuminating the tow line.

22.25 Sailing vessels underway and vessels under oars

- (1) A sailing vessel underway must exhibit:
 - (a) sidelights; and
 - (b) a sternlight.

A sailing vessel of less than 20 metres in length may combine the sidelights and sternlight into 1 tricoloured lantern carried at or near the top of the mast where it can best be seen.

- (2) In addition to the lights required in rule 22.25(1), a sailing vessel underway may exhibit at or near the top of the mast, where they can best be seen, two all-round lights in a vertical line. The upper must be red and the lower green,

BUT these lights must not be exhibited in conjunction with the tricoloured lantern.

- (3) (a) A sailing vessel of less than 7 metres in length must, if practicable, exhibit the sidelights and sternlight as prescribed in rule 22.25(1),

BUT if it does not do so, it must have ready an electric torch or lighted lantern showing a white light which must be exhibited in sufficient time to prevent collision.
- (b) A vessel under oars may exhibit the lights prescribed in this rule for sailing vessels,

BUT if it does not do so, it must have ready an electric torch or lighted lantern showing a white light which must be exhibited in sufficient time to prevent collision.
- (4) A vessel proceeding under sail when also being propelled by machinery must exhibit a black conical shape, apex downwards, forward where it can best be seen. At night it must exhibit the lights for a power-driven vessel prescribed in rule 22.23 instead of those prescribed in rule 22.25.

22.26 Fishing vessels

- (1) A vessel engaged in fishing, whether underway or at anchor, must exhibit only the lights and shapes prescribed in rule 22.26.
- (2) A vessel engaged in trawling must exhibit—
 - (a) (i) two all-round lights in a vertical line, the upper being green and the lower white; or
 - (ii) a black shape consisting of two cones with their apexes together in a vertical line one above the other; and
 - (b) a masthead light abaft of and higher than the all-round green light,

BUT a vessel of less than 50 metres in length is not obliged to exhibit such a light but may choose to do so; and
 - (c) when making way through the water, in addition to the lights prescribed in this paragraph, sidelights and a sternlight.
- (3) A vessel engaged in fishing other than trawling must exhibit—
 - (a) (i) two all-round lights in a vertical line, the upper being red and the lower white; or
 - (ii) a black shape consisting of two cones with their apexes together in a vertical line one above the other; and
 - (b) when there is outlying gear extending more than 150 metres horizontally from the vessel:
 - (i) an all-round white light; or
 - (ii) a cone apex upwards in the direction of the gear; and
 - (c) in addition, when making way through the water, sidelights and a sternlight.
- (4) The additional signals described in Appendix 2 to this rule apply to a vessel engaged in fishing in close proximity to other vessels engaged in fishing.
- (5) When not engaged in fishing, a vessel must not exhibit the lights or shapes prescribed by this rule, but only those prescribed for a vessel of its length.

22.27 Vessels not under command or restricted in their ability to manoeuvre

- (1) A vessel not under command must exhibit—
 - (a) two all-round red lights in a vertical line where they can best be seen; and
 - (b) two black balls or similar shapes in a vertical line where they can best be seen; and
 - (c) when making way through the water, sidelights and a sternlight.
- (2) A vessel restricted in its ability to manoeuvre, other than a vessel engaged in mine clearance operations, must exhibit—
 - (a) three all-round lights in a vertical line where they can best be seen, the highest and lowest being red and the middle one white; and
 - (b) three black shapes in a vertical line where they can best be seen the highest and lowest of these shapes being balls and the middle one a diamond; and
 - (c) when making way through the water, a masthead light or lights, sidelights, and a sternlight; and
 - (d) when at anchor, the light, lights, or shape prescribed in rule 22.30 for vessels at anchor.
- (3) A power-driven vessel engaged in a towing operation which severely restricts the towing vessel and its tow in their ability to deviate from their course must display the lights or shapes prescribed in rules 22.24(1) and 22.27(2)(a) and (b).
- (4) A vessel engaged in dredging or underwater operations, which restrict its ability to manoeuvre, must exhibit the lights and shapes prescribed in rule 22.27(2)(a), (b), and (c).

In addition, when an obstruction exists, it must exhibit—

- (a) two all-round red lights or two black balls in a vertical line to indicate the side on which the obstruction exists; and
 - (b) two all-round green lights or two black diamonds in a vertical line to indicate the side on which the vessel may pass; and
 - (c) when at anchor, the lights or shapes prescribed in this paragraph instead of the lights or shapes prescribed in rule 22.30 for vessels at anchor.
- (5) If the size of a vessel engaged in diving operations makes it impracticable to exhibit all lights and shapes prescribed in rule 22.27(4), the following must be exhibited—
- (a) three all-round lights in a vertical line where they can best be seen the highest and lowest being red and the middle light white; and
 - (b) a rigid replica of the International Code flag “A” of—
 - (i) not less than one metre in height; or
 - (ii) in the case of a New Zealand ship of less than six metres in length operating in New Zealand waters, not less than 0.6 metres in height,

with measures taken to ensure its all-round visibility.

- (6) A vessel engaged in mine clearance operations must display the following lights in addition to the lights prescribed in rule 22.23 or rule 22.30 for a power-driven vessel underway or at anchor—

three all-round green lights or three black balls.

One of these lights or shapes must be exhibited near the foremast head and one at each end of the fore yard. These lights or shapes indicate that it is dangerous for another vessel to approach within 1000 metres of the mine clearance vessel.

- (7) Vessels of less than 12 metres in length, except those involved in diving operations, are not required to exhibit the lights and shapes of rule 22.27.

22.28 Vessels constrained by their draught

A vessel constrained by its draught may, in addition to the lights prescribed for power-driven vessels in rule 22.23, exhibit where they can best be seen, three all-round red lights in a vertical line or a black cylinder.

22.29 Pilot vessels

- (1) A vessel engaged in pilotage duties must exhibit at or near the masthead, two all-round lights in a vertical line, the upper being white and the lower red, and
- (a) when underway, sidelights and a sternlight; and
 - (b) when at anchor the light, lights or shape prescribed in rule 22.30 for vessels at anchor.
- (2) A pilot vessel when not engaged on pilotage duties must exhibit the lights or shapes prescribed for a vessel of its length.

22.30 Anchored vessels and vessels aground

- (1) A vessel at anchor must exhibit where it can best be seen—
- (a) in the fore part, an all-round white light or one black ball; and
 - (b) another all-round white light at or near the stern at a lower level than the light in the fore part;

BUT if the vessel is less than 50 metres in length it may exhibit an all-round white light where it can best be seen instead of the lights referred to in subparagraphs (a) and (b) of this paragraph.

- (2) A vessel of 100 metres or more in length must also use the available working or equivalent lights to illuminate its decks when at anchor. Any other vessel at anchor may do so also.

- (3) A vessel of less than 7 metres in length at anchor, not in or near a narrow channel, fairway, anchorage, or where other vessels normally navigate, is not required to exhibit the shape prescribed for a vessel at anchor.
- (4) A vessel aground must exhibit the white light or lights for a vessel at anchor prescribed in rule 22.30 (1), and in addition, where they can best be seen—
 - (a) two all-round red lights in a vertical line; and
 - (b) three black balls in a vertical line.
- (5) A vessel of less than 12 metres in length, when aground, is not required to exhibit the lights or shapes prescribed in 22.30(4) for a vessel aground.

22.31 Seaplanes and WIG Craft

Except as prescribed in rule 22.23(4), if it is not practicable to exhibit any of the lights or shapes prescribed in this Section, a seaplane or WIG craft may exhibit lights and shapes that are as similar, in characteristics and position, as possible.

Section 3 - Sound and light signals

22.32 Definitions Relating to This Section

In this section—

prolonged blast means a blast of from four to six seconds duration:

short blast means a blast of about one second's duration:

whistle means any sound signalling appliance capable of producing the prescribed blasts and which complies with the specifications in Appendix 3 to this rule.

22.33 Equipment for sound signals

- (1) Every vessel of—
 - (a) 12 metres or more but less than 20 metre in length must be provided with a whistle;
 - (b) 20 metres or more but less than 100 metres in length must be provided with a whistle and a bell; and
 - (c) 100 metres or more in length must be provided with a whistle, a bell and a gong.
- (2) The tone and sound of the gong must not be able to be confused with that of the bell.
- (3) The whistle, bell, and gong must comply with the specifications in Appendix 3 to this rule.
- (4) As long as they can still be sounded manually, the bell or the gong or both may be replaced by other equipment having the same respective sound characteristics.
- (5) A vessel of less than 12 metres in length is not obliged to carry the sound signalling appliances prescribed, but if it does not carry the prescribed sound signalling appliances, it must be provided with some other means of making an efficient sound signal.

22.34 Manoeuvring and warning signals

- (1) When vessels are in sight of one another, a power-driven vessel underway, manoeuvring as authorised or required by this Part, must indicate that manoeuvre by the following signals on its whistle—
 - (a) one short blast to mean "I am altering my course to starboard";
 - (b) two short blasts to mean "I am altering my course to port";
 - (c) three short blast to mean "I am operating astern propulsion".
- (2) Any vessel may supplement the whistle signals prescribed in rule 22.34(1) with the following light signals, repeated as appropriate, whilst the manoeuvre is being carried out—
 - (a) one flash to mean "I am altering my course to starboard":

- (b) two flashes to mean “ I am altering my course to port”:
- (c) three flashes to mean “I am operating astern propulsion”.

The duration of each flash must be about one second, the interval between successive flashes must be about one second, and the interval between successive signals must not be less than 10 seconds.

The light used for this signal must, if fitted, be an all-round white light. It must be visible for a minimum distance of 5 miles and comply with the provisions of Appendix 1.12 of this Part.

- (3) When in sight of one another in a narrow channel or fairway—
 - (a) a vessel intending to overtake another must indicate its intention in compliance with rule 22.9 (narrow channels) by sounding one of the following sound signals on its whistle:
 - two prolonged blasts followed by one short blast to mean “I intend to overtake you on your starboard side”;
 - OR
 - two prolonged blasts followed by two short blasts to mean “I intend to overtake you on your port side”;
 - (b) the vessel about to be overtaken when acting in compliance with rule 22.9 (narrow channels) must indicate its agreement by sounding the following signal on its whistle:
 - one prolonged, one short, one prolonged and one short blast, in that order.
- (4) When vessels in sight of one another are approaching each other and for any reason either fails to understand the intentions or actions of the other, OR is in any doubt whether sufficient action is being taken by the other to avoid collision, the vessel in doubt must immediately indicate such doubt by sounding the following signal on its whistle—
 - at least five short and rapid blasts.

This signal may be supplemented by a light signal of at least 5 short and rapid flashes.
- (5) A vessel nearing a bend or an area of a channel or fairway where other vessels may be obscured by an intervening obstruction must sound one prolonged blast.
 - Such signal must be answered with a prolonged blast by any approaching vessel that may be within hearing around the bend or behind the intervening obstruction.
- (6) If whistles are fitted on a vessel at a distance apart of more than 100 metres, one whistle only must be used for giving manoeuvring and warning signals.

22.35 Sound signals in restricted visibility

In or near an area of restricted visibility, by day and by night, the following signals must be used:

- (a) subject to rule 22.35(b)—
 - (i) a power-driven vessel making way through the water must sound one prolonged blast at intervals of not more than 2 minutes;
 - (ii) a power-driven vessel underway but stopped and making no way through the water must sound two prolonged blasts in succession with 2 seconds between them at intervals of not more than 2 minutes:
- (b) the following vessels—
 - (i) vessels not under command, vessels restricted in their ability to manoeuvre, vessels constrained by their draught, sailing vessels, vessels engaged in fishing, vessels engaged in towing or pushing another vessel; and

- (ii) vessels engaged in fishing at anchor and vessels restricted in their ability to manoeuvre when carrying out work at anchor;

must sound three blasts in succession, namely one prolonged followed by two short blasts, at intervals of not more than 2 minutes:

- (c) if crewed, a vessel towed or, if more than one vessel is towed, the last vessel of the tow, must sound four blasts in succession, namely one prolonged followed by three short blasts. This signal must be made at intervals of not more than 2 minutes, and where practicable, be made immediately after the signal made by the towing vessel.
- (d) when a pushing vessel and a vessel being pushed ahead are rigidly connected in a composite unit, they are to be regarded as a power-driven vessel and sound the appropriate sound signal as described in rule 22.35(a):
- (e) a vessel at anchor must ring a bell rapidly for about 5 seconds at intervals of not more than 1 minute and—
 - (i) if the vessel is 100 metres or more in length, the bell must be sounded in the forepart of the vessel; and
 - (ii) immediately after the ringing of the bell the gong must be sounded rapidly for about five seconds at the after part of the vessel.

A vessel at anchor may additionally sound three blasts in succession, namely one short, one prolonged, and one short blast to give warning of its position:

- (f) a vessel aground must give the bell signal, and (if required) the gong signal, prescribed for a vessel at anchor in rule 22.35(e),

AND in addition must give three separate and distinct strokes on the bell immediately before and after the rapid ringing of the bell.

A vessel aground may also sound an appropriate whistle signal:

- (g) a vessel of—
 - (i) less than 12 metres in length is not obliged to give any of the signals prescribed in this rule;
 - (ii) 12 metres or more in length but less than 20 metres is not obligated to give any of the bell signals prescribed in paragraphs (e) and (f) of this rule,

but if the vessel does not give any such signal, it must make some other efficient sound signal at intervals of not more than 2 minutes.

- (h) When engaged on pilotage duty, a pilot vessel may in addition to the signals prescribed for power-driven vessels (rule 22.35(a)) or vessels at anchor (rule 22.35(e)), sound an identity signal consisting of four short blasts.

22.36 Signals to attract attention

If necessary to attract the attention of another vessel, any vessel may make light or sound signals that cannot be mistaken for any other signal authorised elsewhere in this section. It may direct the beam of its searchlight in the direction of the danger in such a way as to not embarrass any vessel.

Any light to attract the attention of another vessel must be such that it cannot be mistaken for any aid to navigation, and high intensity intermittent or revolving lights, such as strobe lights, must be avoided.

22.37 Distress signals

When a vessel is in distress it must use or exhibit the signals described in Part 23 (Operational procedures and training), Appendix 3.

Section 4

22.38 Vessels of special function

- (1) Whenever the Director determines that a vessel of special construction or purpose cannot fully comply with the provisions of this Part relating to number, position, range, or arc of visibility of lights or shapes, then such a vessel must comply with such other provisions relating to the number, position, range, or arc of visibility of lights or shapes as the Director determines to be the closest possible compliance with this Part for that vessel.
- (2) Whenever the Director determines that a vessel of special construction or purpose cannot fully comply with the provisions of this Part relating to the disposition and characteristics of sound-signalling appliances, then such a vessel must comply with such other provisions relating to the disposition and characteristics of sound-signalling appliances as the Director determines to be the closest possible compliance with this Part for that vessel.

22.39 Observance of Part 22

- (1) Every owner of a vessel to which this Part applies must ensure that the vessel is provided with all such lights, shapes, and means of making fog signals as may be required by this Part.
- (2) Every master or other person for the time being responsible for the navigation of a vessel to which this Part applies must—
 - (a) ensure that all such lights, shapes, and means of making fog signals, as may be required by this Part, are carried, exhibited, and used in accordance with this Part; and
 - (b) refrain from carrying, exhibiting, or using on the vessel any lights, shapes, or means of making fog signals other than those required or permitted by this rule to be carried, exhibited or used on the vessel; and
 - (c) ensure that the vessel is navigated in accordance with this Part; and
 - (d) refrain from navigating the vessel in a manner that is contrary to this Part.

22.40 Responsibility

- (1) Nothing in this Part will exonerate any vessel, its owner, master, or crew, from the consequences of any neglect to comply with this Part, or of the neglect of any precaution which may be required by the ordinary practice of seafarers, or the special circumstances of the case.
- (2) In interpreting and complying with these rules, due regard must be given to all dangers of navigation, collision, and any special circumstances, including the limitations of the vessels involved, that may make a departure from the rules of this Part necessary to avoid immediate danger.

Appendix 1 – Positioning and technical details of lights and shapes

1. Definitions relating to Appendix 1

In this Part—

height above the hull means height above the uppermost continuous deck. This height must be measured from the position vertically beneath the location of the light.

2. Vertical positioning and spacing of lights

- (1) On a power-driven vessel of 20 metres or more in length, the masthead lights must be placed as follows—
 - (a) the forward masthead light or, if only one masthead light is carried, then that light, at a height above the hull of not less than 6 metres, AND if the breadth of vessel exceeds 6 metres, then at a height above the hull not less than such breadth,

BUT the light need not be placed at a greater height above the hull than 12 metres; and
 - (b) when two masthead lights are carried the after one must be at least 4.5 metres vertically higher than the forward one.
- (2) The vertical separation of masthead lights of power-driven vessels must be such that in normal conditions of trim the after light will be seen over and separate from the forward light at a distance of 1000 metres from the stem when viewed from sea-level.
- (3) The masthead light of a power-driven vessel of 12 or more metres but less than 20 metres in length must be placed at a height above the gunwale of not less than 2.5 metres.
- (4) A power-driven vessel of less than 12 metres in length may carry the uppermost light at a height of less than 2.5 metres above the gunwale. However when a masthead light is carried in addition to sidelights and a sternlight or the all-round light prescribed in rule 22.23(3)(a) is carried in addition to sidelights, then such a masthead light or all-round light must be carried at least 1 metre higher than the sidelights.
- (5) One of the two or three masthead lights prescribed for a power-driven vessel engaged in towing or pushing another vessel must be placed in the same position as either the forward masthead light or the after masthead light,

BUT, if carried on the aftermast, the lowest after masthead light must be 4.5 metres vertically higher than the forward masthead light.
- (6) Subject to Appendix 1.12, the masthead light or lights prescribed in rule 22.23(1) must be so placed as to be above and clear of all other lights and obstructions,

EXCEPT that when it is impracticable to carry the all-round lights prescribed by rules 22.27(2)(a) or 22.28 (all-round lights for vessels restricted in their ability to manoeuvre and vessels constrained by their draught) below the masthead lights, they may be carried—
 - (a) above the after masthead light(s); or
 - (b) vertically in between the forward masthead light(s) and after masthead light(s), provided that the requirement of Appendix 1.3(3) (relating to horizontal distance) is complied with.
- (7) The sidelights of a power-driven vessel must be placed at a height above the hull not greater than three-quarters of that of the forward masthead light. They must not be so low as to be interfered with by deck lights.
- (8) The sidelights, if in a combined lantern and carried on a power-driven vessel of less than 20 metres in length, must be placed not less than 1 metre below the masthead light.

- (9) If these rules prescribe two or three lights to be carried in a vertical line, they must be spaced as follows—
 - (a) on a vessel of 20 metres in length or more, such lights must be spaced not less than 2 metres apart, and the lowest of these lights must, except where a towing light is required, be placed at a height of not less than 4 metres above the hull; and
 - (b) on a vessel of less than 20 metres in length, such lights must be spaced not less than 1 metre apart and the lowest of these lights must, except where a towing light is required, be placed at a height of not less than 2 metres above the gunwale; and
 - (c) when three lights are carried, they must be equally spaced.
- (10) The lower of the two all-round lights prescribed for a vessel when engaged in fishing must be at a height above the sidelights not less than twice the distance between the two vertical lights.
- (11) The forward anchor light prescribed in rule 22.30(1), when two are carried, must not be less than 4.5 metres above the after one. On a vessel of 50 metres or more in length, this forward anchor light must be placed at a height of not less than 6 metres above the hull.

3. Horizontal positioning and spacing of lights

- (1) When 2 masthead lights are prescribed for a power-driven vessel, the horizontal distance between them—
 - (a) must not be less than one-half of the length of the vessel; but
 - (b) need not be more than 100 metres.

The forward light must be placed not more than one quarter of the length of the vessel from the stem.
- (2) On a power-driven vessel of 20 metres or more in length, the sidelights must not be placed in front of the forward masthead lights. They must be placed at or near the side of the vessel.
- (3) When the lights prescribed in rules 22.27(2)(a) and 22.28 (all-round lights for vessels restricted in their ability to manoeuvre and vessels constrained by their draught) are placed vertically between the forward masthead light(s) and the after masthead light(s), these all-round lights must be placed at a horizontal distance of not less than 2 metres from the fore and aft centreline of the vessel in the athwartship direction.
- (4) When only one masthead light is prescribed for a power-driven vessel, this light must be exhibited forward of amidships; except that a vessel of less than 20 metres in length need not exhibit this light forward of amidships but must exhibit it as far forward as practicable.

4. Details of location of direction-indicating lights for fishing vessels, dredgers, and vessels engaged in underwater operations

- (1) The light indicating the direction of the outlying gear from a vessel engaged in fishing as prescribed in rule 22.26(3)(b) must be placed at a horizontal distance of not less than 2 metres and not more than 6 metres away from the two all-round red and white lights.

This light must be placed not higher than the all-round white light prescribed in rule 22.26(3)(a) and not lower than the sidelights.

- (2) The lights and shapes on a vessel engaged in dredging or underwater operations that indicate the obstructed side or the side on which it is safe to pass or both, as prescribed in rule 22.27(4)(a) and (b), must be placed at the following distance from the lights or shapes prescribed in rule 22.27(2)(a) and (b) (for vessels restricted in their ability to manoeuvre)—
 - (a) at the maximum practical horizontal distance; and
 - (b) in no case less than 2 metres.

In no case may the upper of these lights or shapes be at a greater height than the lower of the three lights or shapes prescribed in rule 22.27(2)(a) and (b).

5. Screens for sidelights

- (1) The sidelights of vessels of 20 metres or more in length must be fitted with inboard screens painted matt black, and meet the requirements of Appendix 1.9.
- (2) On vessels of less than 20 metres in length, the sidelights, if necessary to meet the requirements of Appendix 1.9, must be fitted with inboard matt black screens. With a combined lantern, that has a single vertical filament and a very narrow division between the green and red sections, external screens need not be fitted.

6. Shapes

- (1) Shapes must be black and of the following sizes—
 - (a) a ball must have a diameter of not less than 0.6 metres;
 - (b) a cone must have a base diameter of not less than 0.6 metres and a height equal to its diameter;
 - (c) a cylinder must have a diameter of at least 0.6 metres and a height of twice its diameter; and
 - (d) a diamond shape must consist of two cones as defined in Appendix 1.6(1)(b) and having a common base.
- (2) The vertical distance between shapes must be at least 1.5 metres.
- (3) In a vessel of less than 20 metres in length, shapes of lesser dimensions, but commensurate with the size of the vessel, may be used and the distance apart may be correspondingly reduced.

7. Colour specification of lights

- (1) The chromaticity of all navigation lights must conform to the following standards, which lie within the boundaries of the area of the diagram specified for each colour by the International Commission on Illumination (CIE).
- (2) The boundaries of the area for each colour are given by indicating the corner co-ordinates, which are as follows:

(a) *White*

X	0.525	0.525	0.452	0.310	0.310	0.443
Y	0.382	0.440	0.440	0.348	0.283	0.382

(b) *Green*

X	0.028	0.009	0.300	0.203
Y	0.385	0.723	0.511	0.356

(c) *Red*

X	0.680	0.660	0.735	0.721
Y	0.320	0.320	0.265	0.259

(d) *Yellow*

X	0.612	0.618	0.575	0.575
Y	0.382	0.382	0.425	0.406

8. Intensity of lights

- (1) The minimum luminous intensity of lights must be calculated by using the formula—

$$I = 3.43 \times 10^6 \times T \times D^2 \times K^{-D}$$

Where I is luminous intensity in candelas under service conditions; and

- T is the threshold factor 2×10^{-7} lux;
- D is the range of visibility (luminous range) of the light in nautical miles; and
- K is atmospheric transmissivity.

For prescribed lights, the value of K must be 0.8, corresponding to a meteorological visibility of approximately 13 nautical miles.

- (2) A selection of figures derived from the formula is given in the following table:

Range of visibility (luminous range) of light in nautical miles	Luminous intensity of light in candelas K = 0.8
1	0.9
2	4.3
3	12
4	27
5	52
6	94

Note: The maximum luminous intensity of navigation lights should be limited to avoid undue glare. This must not be achieved by a variable control of the luminous intensity.

9. Horizontal sectors

- (1) In the forward direction, sidelights as fitted on the vessel must show the minimum required intensities. The intensities must decrease to reach practical cut-off between 1 degree and 3 degrees outside the prescribed sectors.
- (2) For sternlights, masthead lights, and, at 22.5 degrees abaft the beam, sidelights the following provisions apply—
 - (a) the minimum required intensities must be maintained over the arc of the horizon up to 5 degrees within the limits of the sectors prescribed in rule 22.21; and
 - (b) from 5 degrees within the prescribed sectors, the intensity may decrease by 50 per cent up to the prescribed limits. It must decrease steadily to reach practical cut-off at not more than 5 degrees outside the prescribed sectors.
- (3) All-round lights must be located so as to not be obscured by masts, topmasts or structures within angular sectors of more than 6 degrees,

EXCEPT anchor lights prescribed in rule 22.30, which need not be placed at an impracticable height above the hull.

If it is not practicable to comply with this paragraph by exhibiting only one all-round light, two all-round lights must be used. They must be suitably positioned or screened so that they appear, as far as practicable, as one light at a distance of one mile.

10. Vertical sectors

- (1) The vertical sectors of electric lights as fitted, with the exception of lights on sailing vessels underway, must ensure that—
 - (a) at least the required minimum intensity is maintained at all angles from 5 degrees above to 5 degrees below the horizontal; and
 - (b) at least 60 per cent of the required minimum intensity is maintained from 7.5 degrees above to 7.5 degrees below the horizontal.
- (2) In the case of sailing vessels underway, the vertical sectors of electric lights as fitted must ensure that—
 - (a) at least the required minimum intensity is maintained at all angles from 5 degrees above to 5 degrees below the horizontal; and

- (b) at least 50 per cent of the required minimum intensity is maintained from 25 degrees above to 25 degrees below the horizontal.

- (3) In the case of non-electric lights these specifications must be met as closely as possible.

11. Intensity of non-electric lights

Non-electric lights must, so far as practicable, comply with the minimum intensities, as specified in the table given in Appendix 1.8.

12. Manoeuvring light

- (1) The manoeuvring light described in rule 22.34(2) must be placed in the same fore and aft vertical plane as the masthead light or lights.
- (2) Where practicable, it should be at a minimum height of 2 metres vertically above the forward masthead light, provided that it is carried at least 2 metres vertically above or below the after masthead light.
- (3) On a vessel where only one masthead light is carried, the manoeuvring light, if fitted, must be carried where it can best be seen, at least 2 metres vertically apart from the masthead light.

13. High Speed Vessel

The masthead light of a high speed vessel may be placed at a height lower than that prescribed in Appendix 1.2(1)(a) if the base angle of the isosceles triangle formed by the sidelights and masthead light, when seen in end elevation, is not less than 27 degrees. In the case of a high speed vessel of 50 metres or more in length, the vertical separation between the foremost and mainmast lights, required by Appendix 1.2(1)(b), may be modified if that distance is not less than the value determined by the following formula:

$$y = \frac{(a + 17\psi)C}{1000} + 2$$

where:

- y** is the height of the mainmast light above the foremast light in metres;
- a** is the height of the foremast light above the water surface in service condition in metres;
- ψ** is the trim in service condition in degrees; and
- C** is the horizontal separation of masthead lights in metres

14. Approval

The construction of lights and shapes and the installation of lights on board the vessel must be to the satisfaction of—

- (a) in the case of a New Zealand ship, the Director; or
- (b) in the case of a foreign ship, the State whose flag the vessel is entitled to fly.

Appendix 2 – Additional signals for fishing vessels fishing in close proximity

1. General

The lights mentioned in this Appendix, if exhibited by fishing vessels in close proximity to other fishing vessels in accordance with rule 22.26(4) must—

- (a) be placed where they can best be seen; and
- (b) be at least 0.9 metres apart but at a lower level than the all-round fishing or trawling lights prescribed in rule 22.26(2)(a) and (3)(a); and
- (c) be visible all round the horizon at a distance of at least one mile but at a lesser distance than the lights prescribed by this Part for fishing vessels.

2. Signals for trawlers

- (1) Vessels of 20 metres or more in length engaged in trawling, whether using demersal or pelagic gear, or involved in pair trawling, must exhibit—
 - (a) when shooting their nets:
two white lights in a vertical line; and
 - (b) when hauling their nets:
one white light over one red light in a vertical line; and
 - (c) when the net has come fast upon an obstruction:
two red lights in a vertical line; and
 - (d) when engaged in pair trawling by night:
a searchlight directed forward and in the direction of the other vessel of the pair.
- (2) A vessel of less than 20 metres in length engaged in trawling, whether using demersal or pelagic gear or engaged in pair trawling, may exhibit the lights prescribed in Appendix 2.2(1).

3. Signals for purse seiners

Vessels engaged in fishing with purse seine gear may exhibit 2 yellow flashing lights in a vertical line. These lights must flash alternately every second and with equal light and occultation duration. These lights must only be exhibited when the vessel is hampered by its fishing gear.

Appendix 3 – Technical details of sound signal appliances

1. Whistles

(1) Frequencies and range of audibility

- (a) The fundamental frequency of the signal must lie within the range 70-700Hz;
- (b) The range of audibility of the signal from a whistle must be determined by those frequencies, which may include the fundamental and/or one or more higher frequencies, that provide the sound pressure levels specified in Appendix 3.1(3), and that lie within the range—
 - (i) 180-700 Hz ($\pm 1\%$), for a vessel of 20 metres or more in length; or
 - (ii) 180-2100 Hz ($\pm 1\%$), for a vessel of less than 20 metres in length.

(2) Limits of fundamental frequencies

To ensure a wide variety of whistle characteristics, the fundamental frequency of a whistle must be between the following limits—

- (a) 70-200 Hz, for a vessel 200 metres or more in length; and
- (b) 130-350 Hz for a vessel 75 metres but less than 200 metres in length; and
- (c) 250-700 Hz, for a vessel less than 75 metres in length.

(3) Sound signal intensity and range of audibility

A whistle fitted in a vessel must provide, in the direction of maximum intensity of the whistle and at a distance of 1 metre from it, a sound pressure level in at least on 1/3-octave band—

- (a) within the range of frequencies—
 - (i) 180-700 Hz ($\pm 1\%$), for a vessel of 20 metres or more in length; or
 - (ii) 180-2100 Hz ($\pm 1\%$), for a vessel of less than 20 metres in length;
- (b) of not less than the appropriate figure given in the table below—

Length of vessel in metres	1/3-octave band level at 1 metre in dB referred to 2×10^{-5} N/m ²	Audibility range ¹ in nautical miles
200 or more	143	2.0
75 or more but less than 200	138	1.5
20 or more but less than 75	130	1.0
Less than 20	120*	0.5
	115+	
	111∇	

* if the measured frequencies lie within the range 180-450 Hz;

+ if the measured frequencies lie within the range 450-800Hz;

∇ if the measured frequencies lie within the range 800-2100Hz.

¹ The range of audibility in the table is for information only. It is approximately the range at which a whistle may be heard on its forward axis, with 90% probability in conditions of still air, on board a vessel having average background noise level at the listening posts (taken to be 68 dB in the octave band centred on 250 Hz and 63 dB in the octave band centred on 500 Hz).

In practice, the range at which a whistle may be heard is extremely variable and depends critically on weather conditions. The values given can be regarded as typical, but under conditions of strong wind or high ambient noise level at the listening post, the range may be much reduced.

(4) Directional properties

The sound pressure level of a directional whistle must be not more than 4 dB below the prescribed sound pressure level on the axis at any direction in the horizontal plane within ± 45 degrees of the axis. The sound pressure level at any other direction in the horizontal plane must be not more than 10 dB below the prescribed sound pressure level on the axis, so that the range in any direction will be at least half the range on the forward axis. The sound pressure level must be measured in the 1/3rd-octave band which determines the audibility range.

(5) Positioning of whistles

When a directional whistle is to be used as the only whistle on a vessel, it must be installed with its maximum intensity directed straight ahead.

A whistle must be placed as high as practicable on a vessel, in order to reduce interception of the emitted sound by obstructions and also to minimise hearing damage risk to personnel. The sound pressure level of the vessel's own signal at listening posts must not exceed 110 dB (A) and, as far as practicable, should not exceed 100 dB (A).

(6) Fitting of more than one whistle

If whistles are fitted at a distance apart of more than 100 metres, it must be so arranged that they are not sounded simultaneously.

(7) Combined whistle systems

If, due to the presence of obstructions, the sound field of a single whistle or one of the whistles referred to in Appendix 3.1(6) is likely to have a zone of greatly reduced signal level, a combined whistle system should be fitted so as to overcome this reduction in signal.

For the purpose of this rule, a combined whistle system is to be regarded as a single whistle.

The whistles of a combined system must be located at a distance apart of not more than 100 metres and arranged to be sounded simultaneously. The frequency of any one whistle must differ from those of the others by at least 10 Hz.

2. Bell or Gong

(1) Intensity of signal

A bell or gong, or other device having similar sound characteristics, must produce a sound pressure level of not less than 110dB at a distance of one metre from it.

(2) Construction—

- (a) bells and gongs must be made of corrosion-resistant material and designed to give a clear tone; and
- (b) the diameter of the mouth of the bell must not be less than 300 millimetres for vessels of 20 metres or more in length.
- (c) where practicable, a power-driven bell striker is recommended to ensure constant force, but manual operation must be possible; and
- (d) the mass of the striker must not be less than 3% of the mass of the bell.

3. Approval

The construction of sound signal appliances, their performance, and their installation on board the vessel must be to the satisfaction of—

- (a) in the case of New Zealand ships, the Director; or
- (b) in the case of a foreign ship, the State whose flag the vessel is entitled to fly.