

IRPCS Summary

- These slides are available as a training aid for personal use and in particular for those taking part in the SYC TL4 Course. They are for training purposes only and should not be used as a substitute for the International Regulations for the Prevention of Collisions at Sea (COLREGS).
- Use the view show button under Slide Show or the shortcut button, bottom left on the screen to view the slide show. These slides are not animated.

IRPCS Part A General

Rule 1

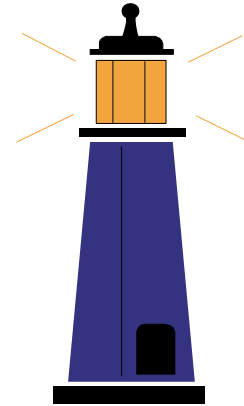
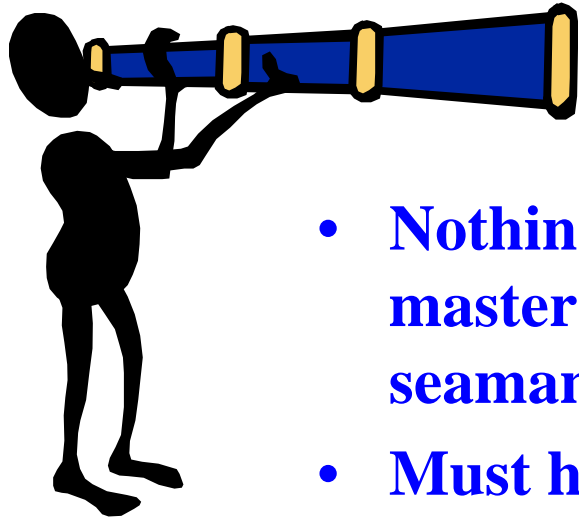
Application

- Rules apply to all vessels on high seas and connecting waters navigable by seagoing vessels.
- These rules do not interfere with special rules that apply for harbours, rivers etc.. made by local authorities.
- These rules do not interfere with special shapes, lights, or whistle signals made by Governments for warships, convoys or fishing vessels. Where possible they should not conflict with IRPCS.
- Traffic Separation schemes may be designated by an authority.
- A Government may apply “closest compliance” for a vessel that cannot comply with these rules.

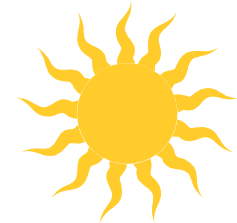
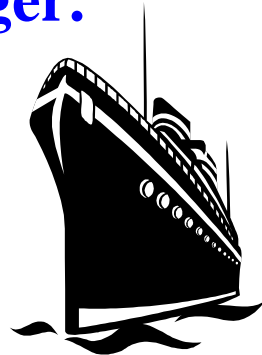


IRPCS Part A General

Rule 2 Responsibility



- Nothing in the rules will exonerate the owner, master or crew for neglect of any precaution or seamanship.
- Must have due regard to dangers of navigation & collision and special circumstances, including the limitations of vessels, which may make departure from the rules necessary to avoid an immediate danger.



IRPCS Part A General

Rule 3 General Definitions

- *Vessel*: Every description of water craft capable of transportation on water.
- *Power driven vessel*: Vessel propelled by machinery
- *Sailing Vessel*: Vessel propelled by sail (machinery not used if fitted)
- *Vessel engaged in fishing*: only vessels fitted with gear that restricts manoeuvrability (nets, lines, trawls).
- *Sea plane*: aircraft designed to manoeuvre on water.
- *Vessel not under command*: due to exceptional circumstances is not able to manoeuvre and keep out of the way of other vessels.
- *Vessel restricted in ability to manoeuvre*: due to nature of work is not able to manoeuvre and keep out of the way of other vessels. List of examples.

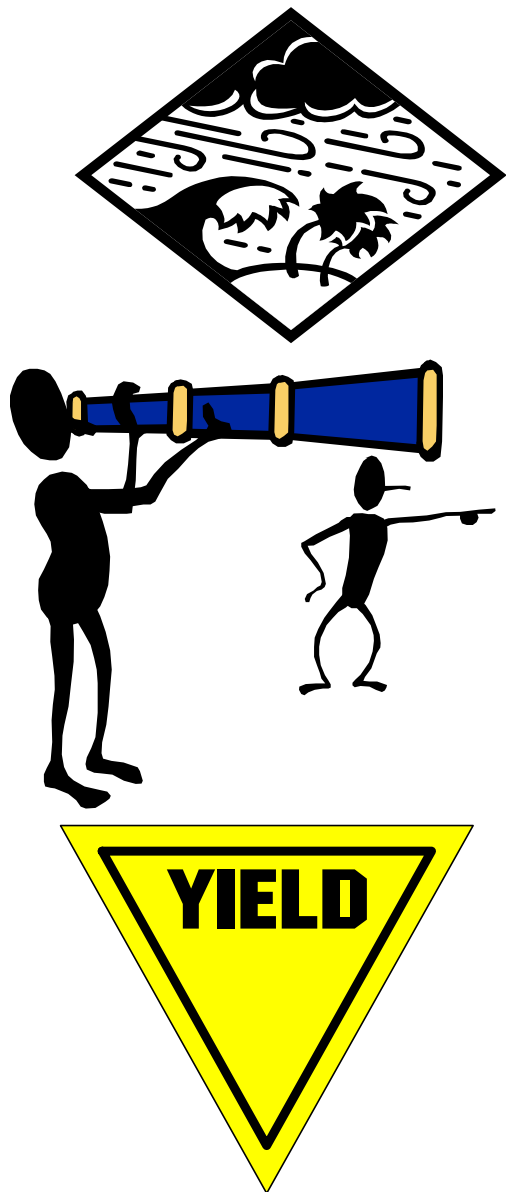
IRPCS Part A General

Rule 3 General Definitions Slide 2

- *Vessel constrained by its draught:* power driven & because of its draught vs depth and width of available water is restricted in ability to deviate from its course.
- *Underway:* vessel that is not at anchor, made fast to shore or aground.
- *Length and breadth:* are defined.
- *Vessels are in sight of each other:* when one can be seen visually from the other.
- *Restricted visibility by:* fog, mist, falling snow, heavy rain, sandstorms, or any other similar cause.

IRPCS Part B Steering & Sailing Rules

Section 1 In any condition of visibility

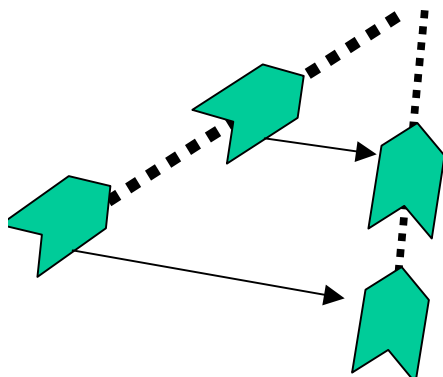
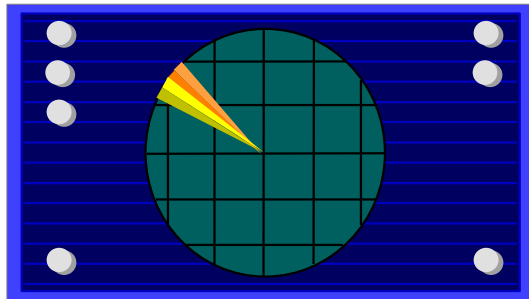


- **Rule 4 Application** Rules in this section apply in any condition of visibility.
- **Rule 5 Lookout** Shall maintain a proper lookout as appropriate at all times by sight, hearing and *all available means*.
- **Rule 6 Safe Speed** All vessels to proceed at a safe speed so that it can avoid a collision or stop within a distance appropriate to the conditions & circumstances.
 - visibility
 - traffic density
 - manoeuvrability
 - background lights
 - state of wind, sea & current
 - navigational hazards
 - draught vs depth
 - use of & limitations of radar use and equipment

IRPCS Part B Steering & Sailing Rules

Section 1 In any condition of visibility

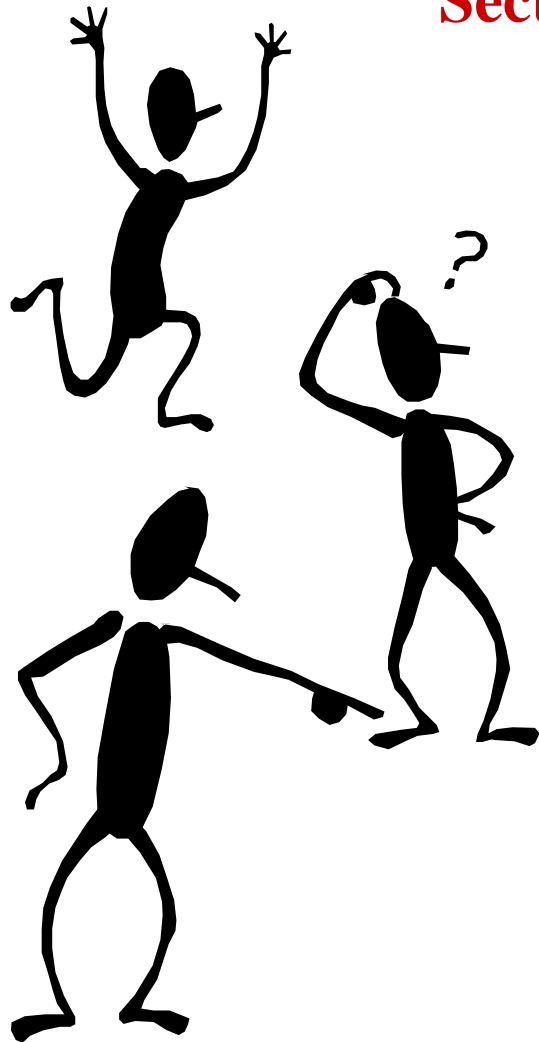
• Rule 7 Risk of collision



- Every vessel to use all means to determine if a risk of collision exists. If in doubt then risk deemed to exist.
- Proper use to be made of radar (expanded).
- Assumptions may not be made on scanty information, especially scanty radar information.
- Take into account:
 - if compass bearing of other vessel does not change appreciably risk deemed to exist.
 - risk may exist when compass bearing changes appreciably if other vessel is very large, at close range or towing.

IRPCS Part B Steering & Sailing Rules

Section 1 In any condition of visibility



- **Rule 8 Action to avoid a collision**
- **Action to be positive, in ample time and to observe good seamanship.**
- **Alteration of course to be large enough to be readily apparent to other vessel, visually or by radar.**
- **If room, alteration of course alone may be sufficient if made in good time, be substantial & not at close quarters.**
- **Action taken to result in passing at a safe distance. Effectiveness to be checked until clear.**
- **May need to slacken speed, stop or reverse.**

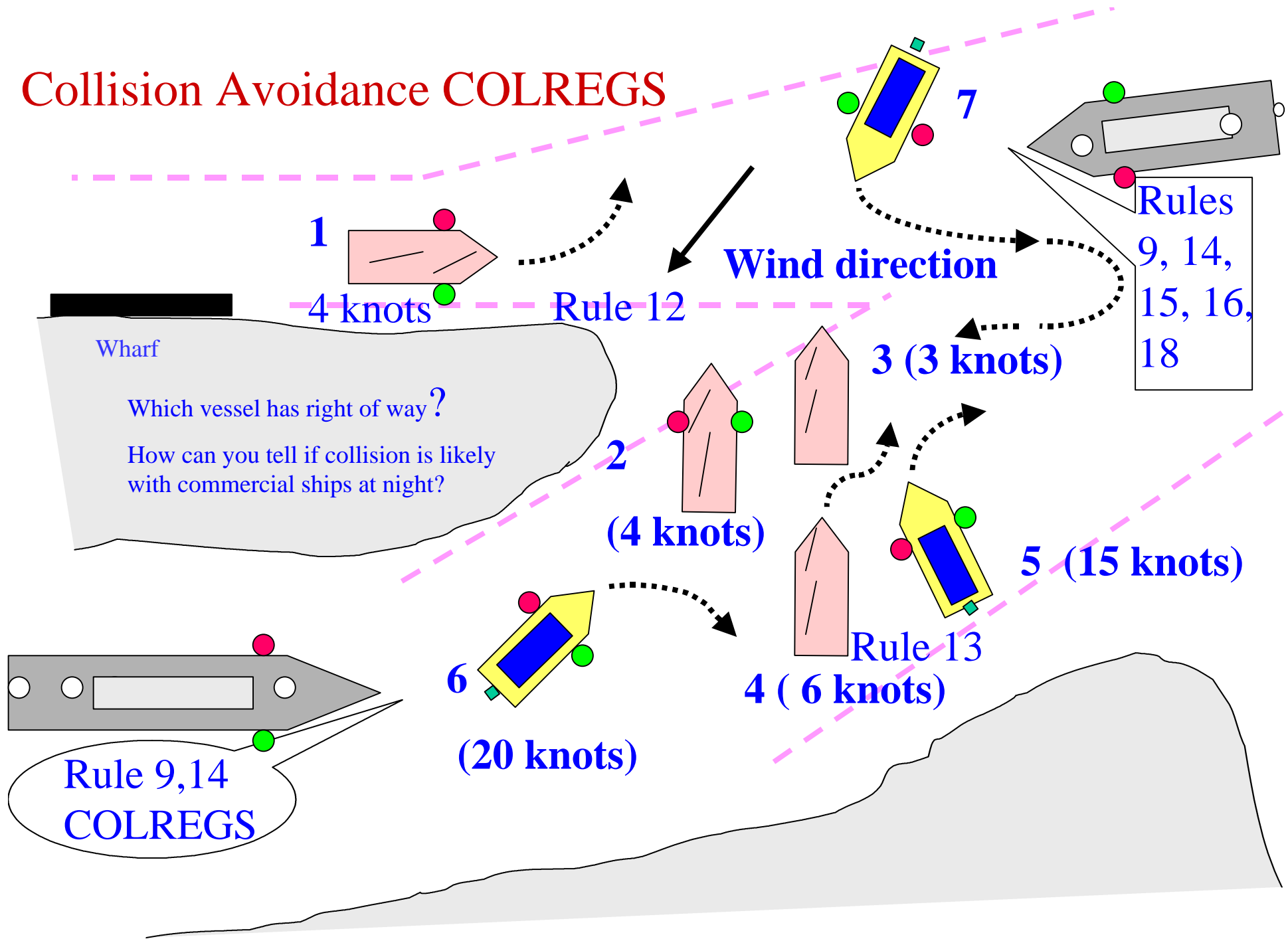
Give way vessel required to take early action & is bound to give way if taking action to avoid collision. *Stand on* vessel may have to take action to avoid a collision.

IRPCS Part B Steering & Sailing Rules

Section 1 In any condition of visibility

- **Rule 9 Narrow channels**
- **Keep as close to starboard side as is safe & practicable.**
- **Vessel of less than 20m or sailing vessel must not impede a vessel which can only navigate within channel.**
- **A fishing vessel must not impede a vessel navigating in a channel or fairway.**
- **A vessel may not cross a channel if it impedes a vessel that can only navigate in the fairway or channel. (see sound signals).**
- **In a narrow channel when overtaking requires the vessel overtaken to take action then overtaking vessel shall sound signal. Vessel to be overtaken to respond & if in agreement to make room. If not then sound signal. (See Rule 13 re obligations of overtaking vessel.)**
- **Care and sound signal required on a blind bend.**
- **Avoid anchoring in a narrow channel if possible.**

Collision Avoidance COLREGS



Wharf

Which vessel has right of way?
How can you tell if collision is likely with commercial ships at night?

Rules
9, 14,
15, 16,
18

Rule 9,14
COLREGS

1
4 knots

Rule 12

Wind direction

3 (3 knots)

2
(4 knots)

5 (15 knots)

Rule 13

4 (6 knots)

6
(20 knots)

7

IRPCS Part B Steering & Sailing Rules

Section 1 In any condition of visibility

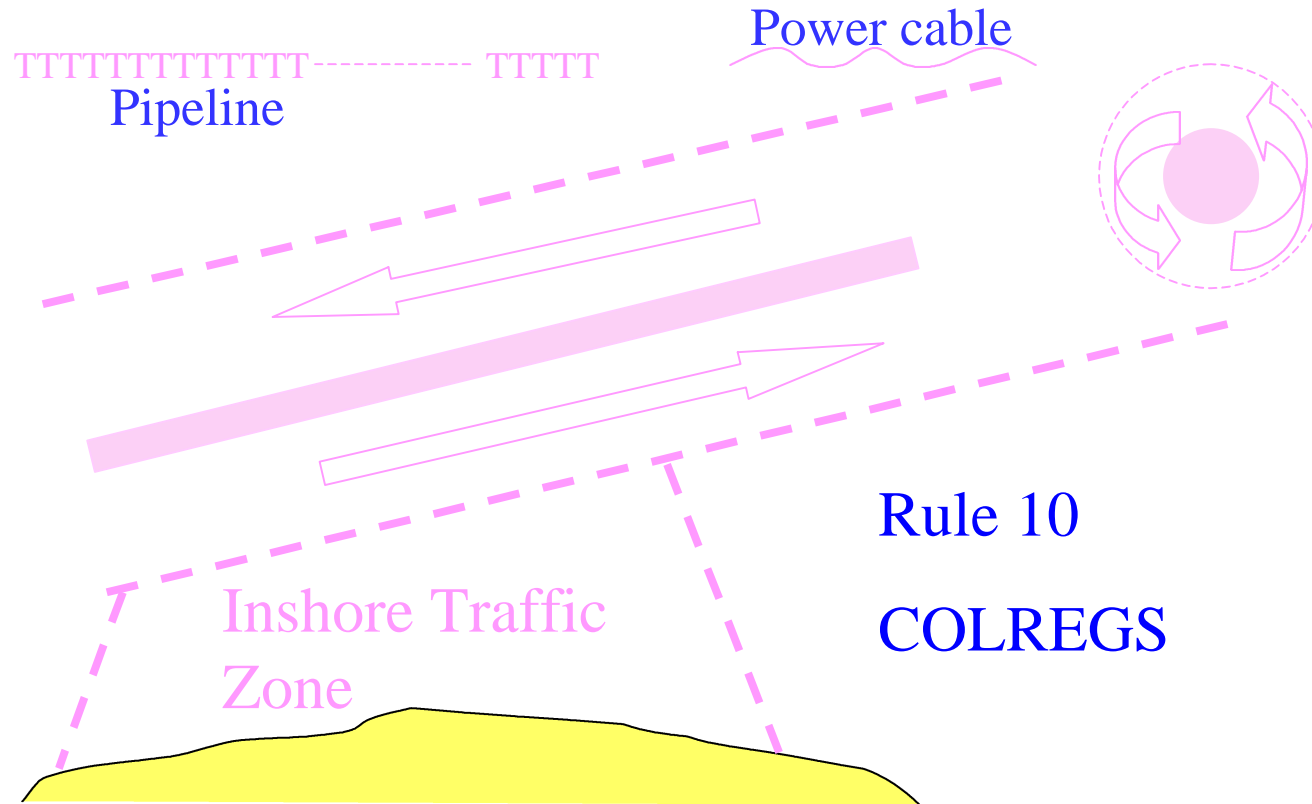
- **Rule 10 Traffic Separation Schemes Slide 1**
- **Does not relieve any vessel of its obligations.**
- **A vessel using a separation scheme shall:**
 - proceed in the lane in the direction of flow
 - if practicable keep clear of separation line or zone.
- **Vessels**
 - shall join or leave at the ends or at as small an angle as possible
 - avoid crossing lanes or do so as near to right angles as possible.
 - shall not use inshore traffic zones unless <20metres, sailing or fishing vessel.
 - may use inshore zone to reach or leave a port, offshore structure, pilot station etc..or to avoid danger.
 - shall not enter a separation zone unless crossing or entering lanes, unless in immediate danger or fishing in the zone.
 - shall navigate with care near the ends.
 - shall avoid anchoring if practicable in a traffic separation scheme.
 - if not using the zone shall avoid it by as much room as possible.

IRPCS Part B Steering & Sailing Rules

Section 1 In any condition of visibility

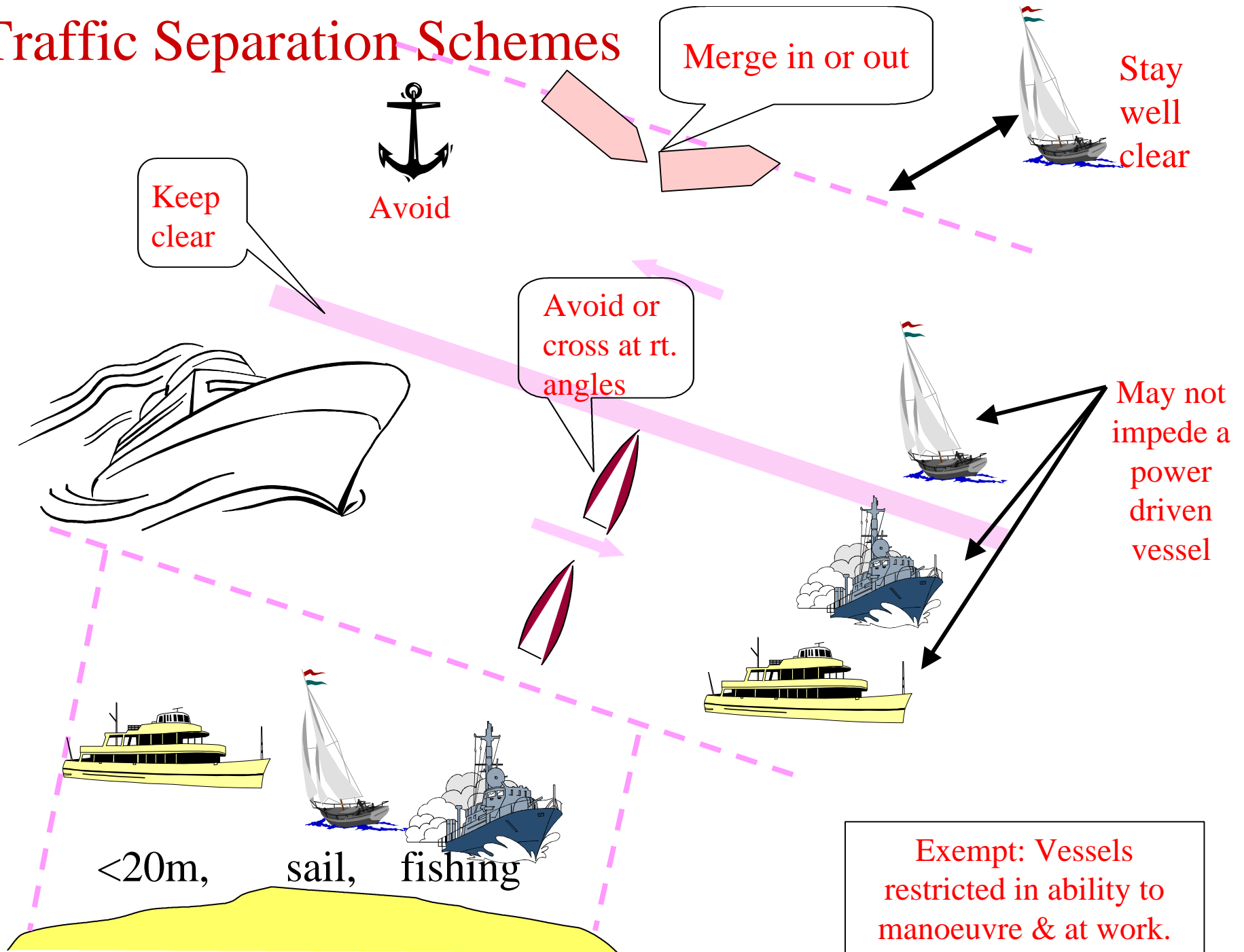
- **Rule 10 Traffic Separation Schemes Slide 2**
- **Vessel**
 - engaged in fishing may not impede traffic following a lane.
 - <20metres, or sailing vessel shall not impede a power driven vessel following a lane.
 - restricted in its ability to manoeuvre & if engaged in maintenance of safety or navigation in a traffic separation scheme is exempted from this rule to the extent required to perform its duties.
 - restricted in its ability to manoeuvre & if engaged in laying, servicing or picking up a submarine cable in a traffic separation scheme is exempted from this rule to the extent required to perform its duties.

Traffic Separation Schemes



International regulations for the prevention of collisions at sea
(COLREGS)

Traffic Separation Schemes

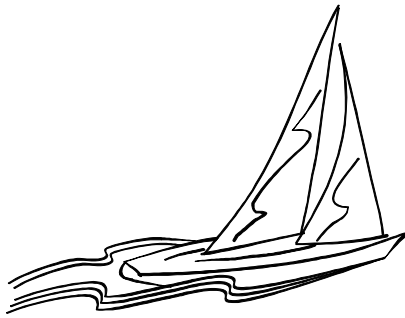


IRPCS Part B Steering & Sailing Rules

Section 11 Vessels in sight of one another

- **Rule 11 Application** Rules of this section apply to vessels in sight of each other.
- **Rule 12 Sailing vessels**
- **When two sailing vessels approach so as to risk collision one shall give way as follows:**
 - with each having wind on opposite sides, boat with wind on port side keeps clear.
 - with wind on same side, boat to windward keeps clear.
 - with wind on port side and unable to determine if a vessel to windward has wind on port or starboard side then shall keep clear.
- **Windward side deemed to be the opposite side from which the mainsail is carried or in a square rigger the opposite side from which the largest fore & aft sail is carried.**

Sailing Vessels

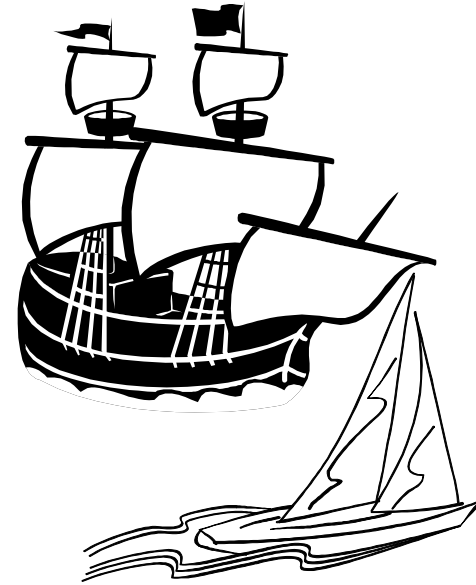


Wind on port side
-give way



Wind on
starboard
side - stand
on

Overtaking
or
windward
vessel -
keep clear



Sq. Rigger to
windward and
wind on port
side - give way

IRPCS Part B Steering & Sailing Rules

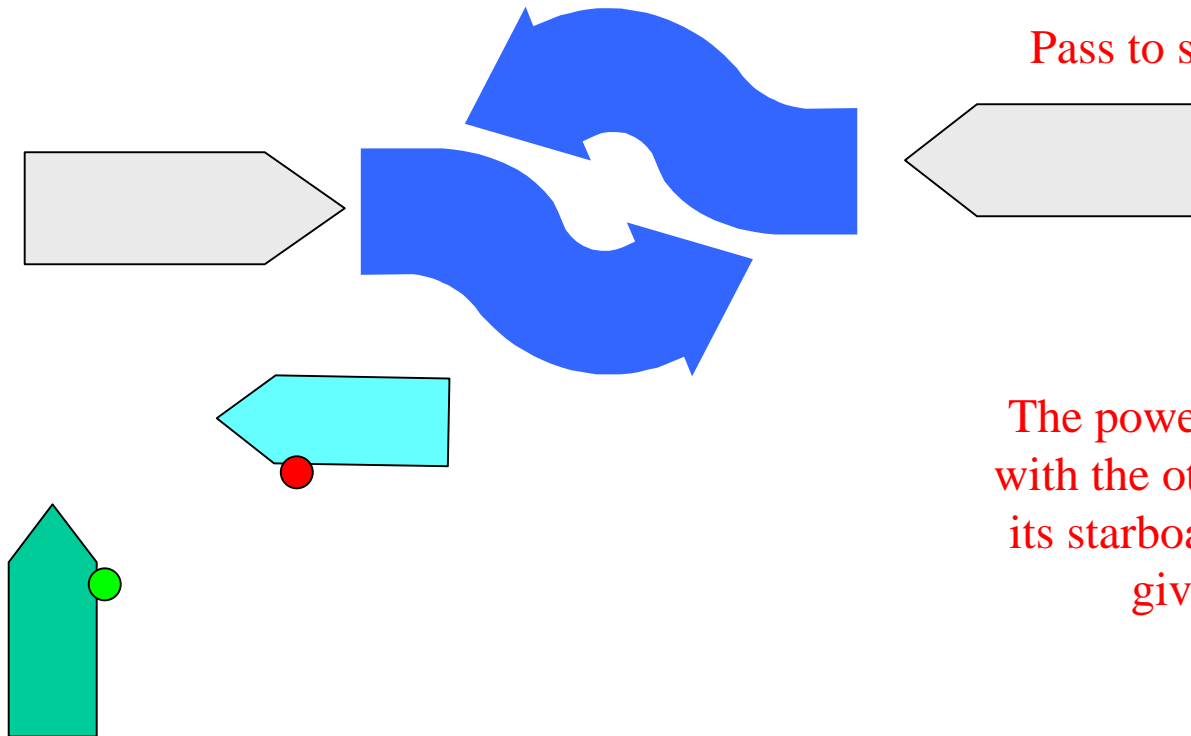
Section 11 Vessels in sight of one another

- **Rule 13 Overtaking**
- **Notwithstanding Rules in Part B Sections 1 & 11, a vessel overtaking shall keep clear of a vessel being overtaken.**
- **A vessel is overtaking if it approaches a vessel from more than 22.5 degrees abaft the beam. i.e sternlight only visible at night.**
- **If a vessel is in doubt then it shall act as though it is overtaking.**
- **Any alteration of bearing between the two vessels shall not make the overtaking vessel a crossing vessel which *shall keep clear until past and clear.***

Power Boats Overtaking, Head on & Crossing



Black is overtaking as approach is from more than 22.5° abaft the beam



Pass to starboard

The power boat (Pink) with the other (Blue) on its starboard side must give way.

IRPCS Part B Steering & Sailing Rules

Section 11 Vessels in sight of one another

- **Rule 14 Head-on situation**
- **When two power driven boats approach head-on they shall alter course to starboard & pass on each others port side.**
- **Applies when one boat sees the other ahead or at night when mast head lights are in line & sidelights visible.**
- **If in doubt a vessel shall assume that a collision risk exists and act accordingly.**

IRPCS Part B Steering & Sailing Rules

Section 11 Vessels in sight of one another

- **Rule 15 Crossing situation**
- **When two power driven vessels are crossing & there is a risk of a collision the one with the other on its starboard side shall keep out of the way and avoid passing ahead of the other.**
- **Rule 16 Action by give-way vessel.**
- **Every vessel directed to keep out of the way of another vessel shall take *early and substantial action to keep well clear.***

IRPCS Part B Steering & Sailing Rules

Section 11 Vessels in sight of one another

- **Rule 17 Action by stand-on vessel**
- **When one vessel is to keep out of the way, the other shall maintain its course and speed.**
- **The *stand on* vessel may by her manoeuvre alone take action to avoid a collision if the other vessel is not taking appropriate action.**
- **When a collision appears unavoidable by the action of the other vessel alone, the stand-on vessel may take action to avoid a collision.**
- **A *stand-on* power driven vessel in point (2) above should not alter course to port if circumstances permit.**
- **This rule does not relieve the give way vessel of its obligations to keep out of the way.**

IRPCS Part B Steering & Sailing Rules

Section 11 Vessels in sight of one another

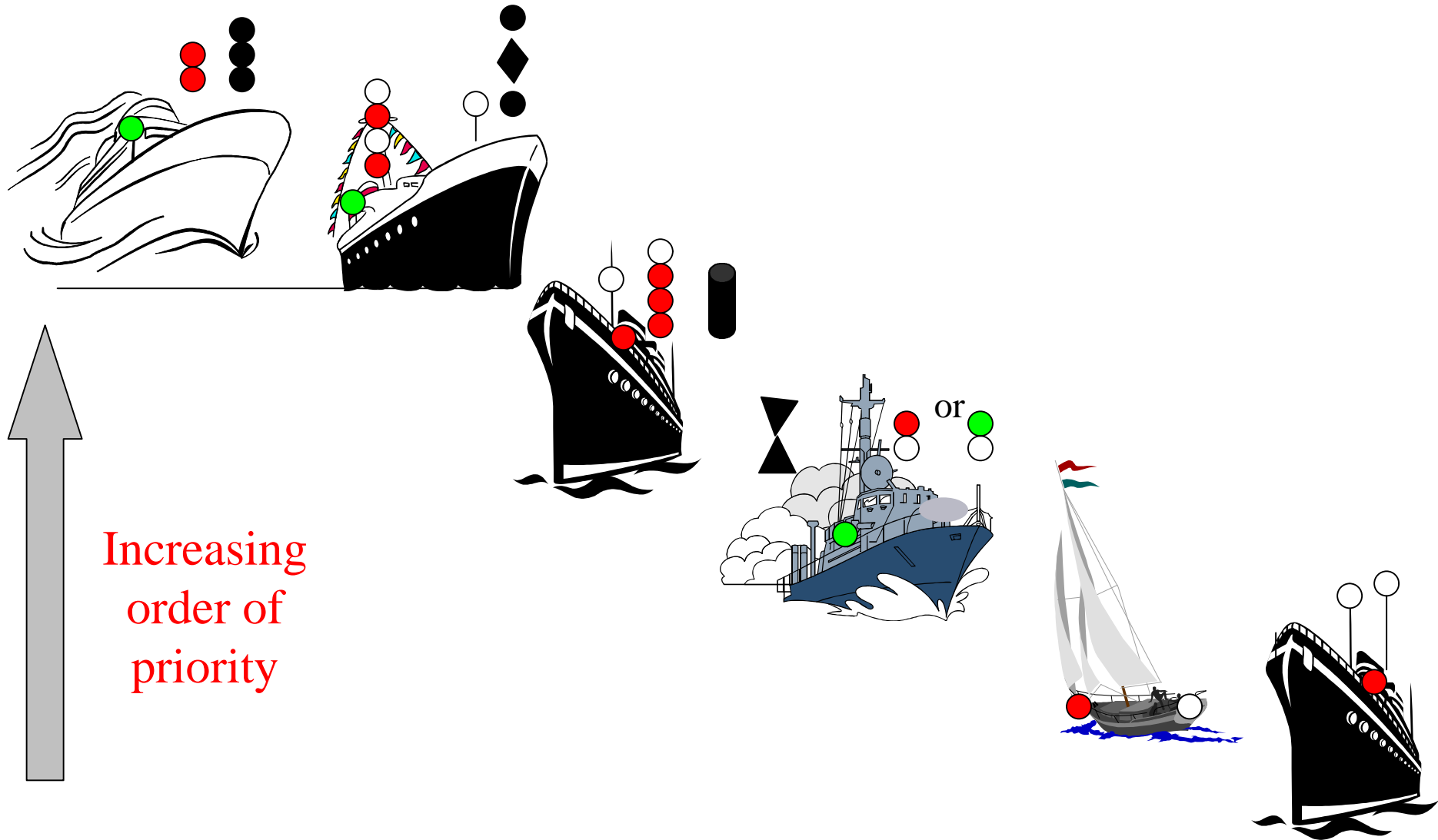
- **Rule 18 Responsibilities between vessels**
 - » Except where rules 9, 10 & 13 apply
- **A power driven vessel shall keep out of the way of:**
 - a vessel not under command
 - a vessel restricted in its ability to manoeuvre
 - a vessel engaged in fishing,
 - a sailing vessel
- **A sailing vessel shall keep out of the way of:**
 - a vessel not under command
 - a vessel restricted in its ability to manoeuvre
 - a vessel engaged in fishing,

IRPCS Part B Steering & Sailing Rules

Section 11 Vessels in sight of one another

- **Rule 18 Responsibilities between vessels** **Slide 2**
 - » Except where rules 9, 10 & 13 apply
- **A vessel engaged in fishing & underway shall keep out of the way of:**
 - a vessel not under command
 - a vessel restricted in its ability to manoeuvre
- **Any vessel other than a vessel not under command and a vessel restricted in its ability to manoeuvre shall if circumstances permit keep out of the way of a vessel constrained by its draught.**
- **A vessel constrained by its draught shall navigate with care given its special position.**
- **A seaplane shall keep clear of all vessels and if necessary comply with the rules of this part where risk of collision exists.**

Responsibilities between vessels

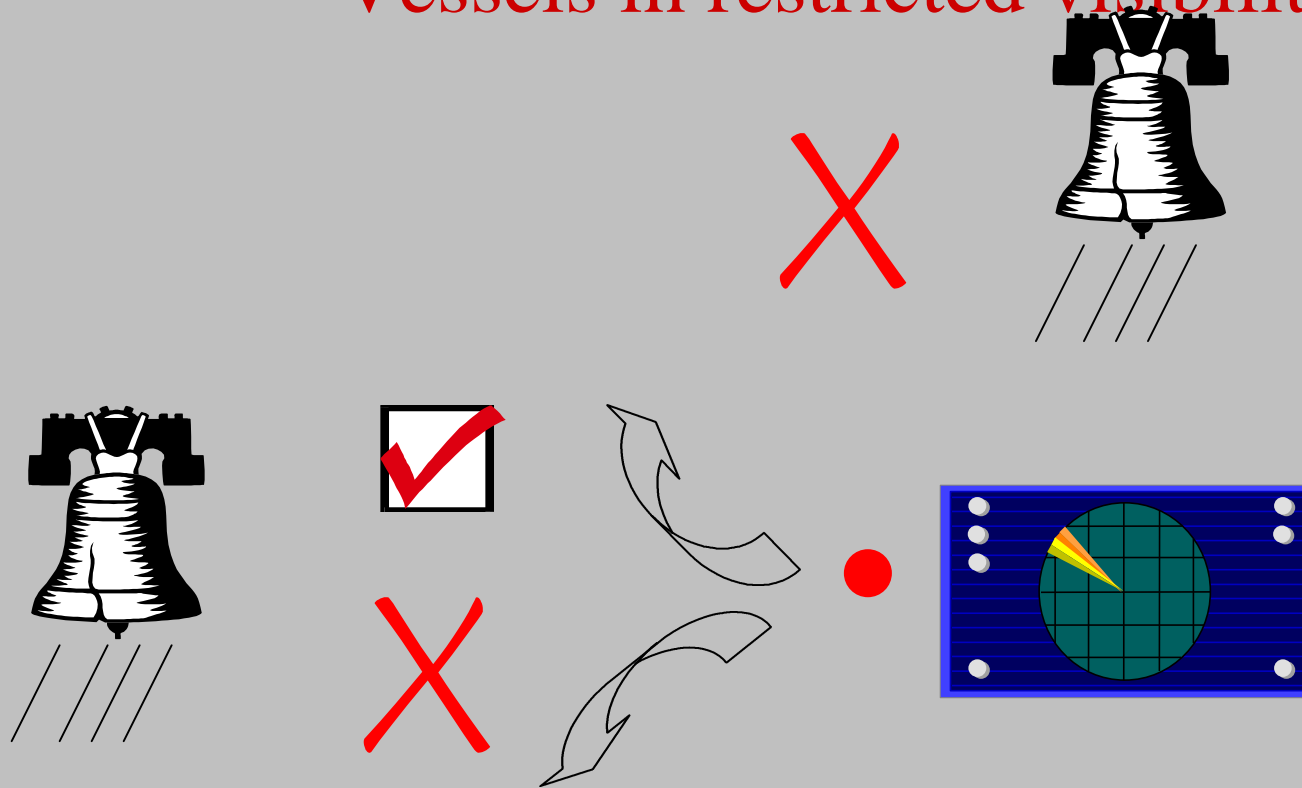


IRPCS Part B Steering & Sailing Rules

Section 111 Conduct of vessels in restricted visibility

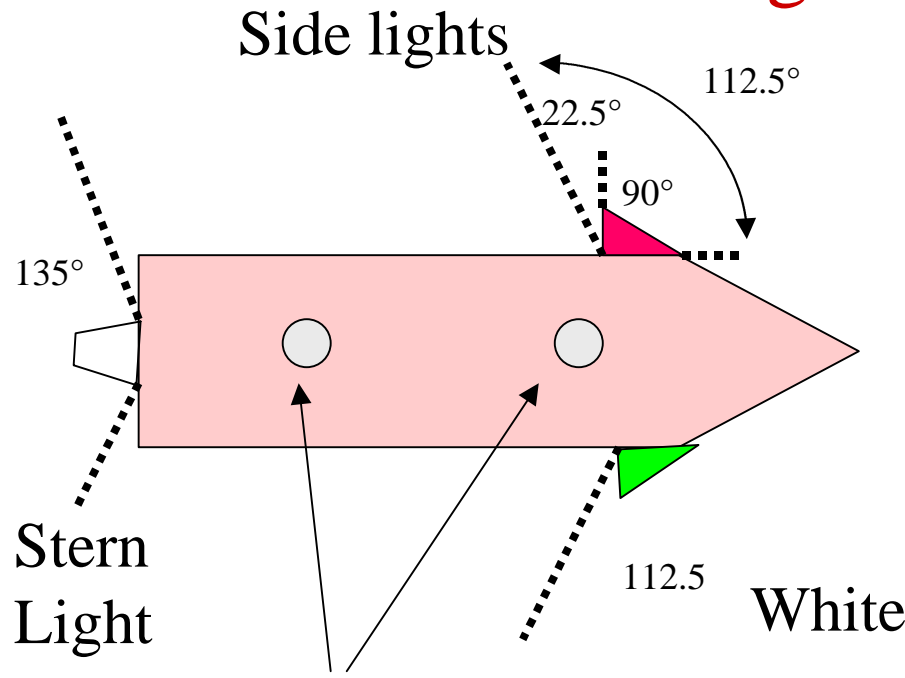
- **Rule 19 Vessels in restricted visibility**
- Applies to vessels not in sight of one another when navigating in or near an area of restricted visibility.
- Every vessel shall proceed at a safe speed adapted to conditions and visibility. A power driven vessel shall have engines ready for immediate manoeuvre.
- Due regard to be shown to the prevailing conditions.
- If another vessel is detected by radar then determine if a risk of collision exists. If so take action in ample time & if a change of course is required then avoid:
 - *alteration to port if other vessel is forward of beam unless overtaking it*
 - *alteration toward a vessel abeam or abaft the beam*
- Except where risk of collision does not exist, when the fog signal of another vessel is heard ahead of the beam and where close quarters cannot be avoided, a vessel shall reduce speed & if necessary take all way off & use extreme caution.

Vessels in restricted visibility



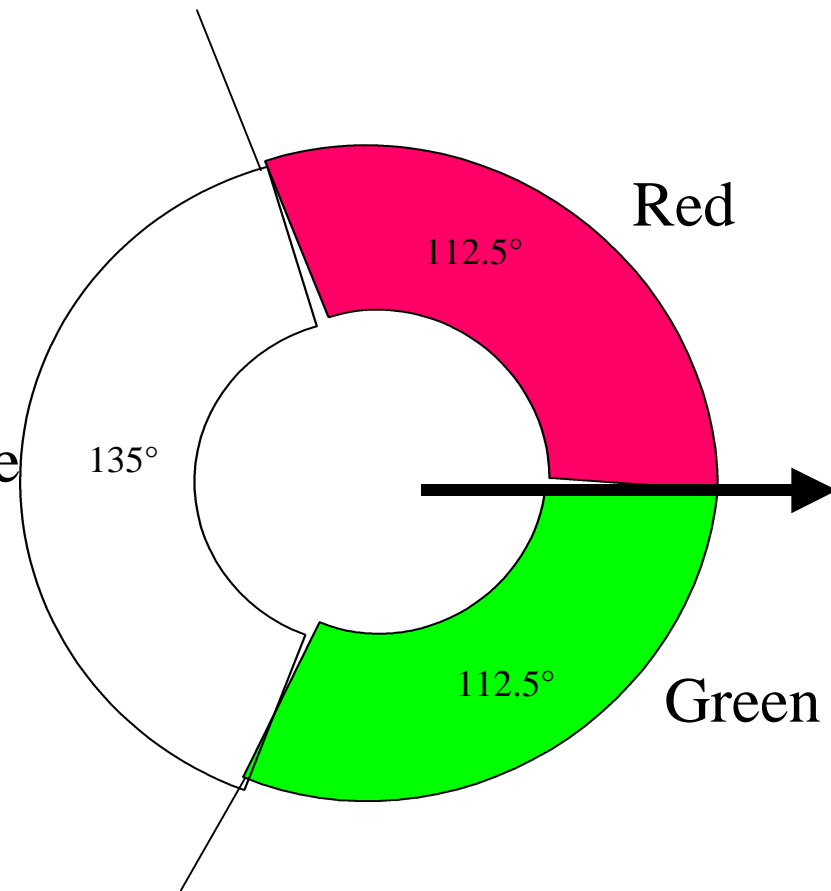
Fog signal heard - Slow or stop

Lights on boats



In line white lights on vessels larger than 50m

Tricolour Masthead light



IRPCS Part C Lights and Shapes

- **Rule 20 Application**
- **Rule 21 Definitions**
- **Rule 22 Visibility of lights**
 - 50 m or more: all lights = 3 miles except masthead lights = 6 miles
 - 12m or more, less than 50 m: all lights = 2 miles except mast head lights = 5 miles. Except if less than 20m, mast head may = 3 miles.
 - less than 12m: all lights = 2 miles except side lights = 1 mile.
 - submerged, towed, inconspicuous vessel = white all round = 3 miles.
- **Rule 23 Power driven vessel**
- **Rule 24 Towing & pushing**
- **Rule 25 Sailing vessels underway, vessels under oars.**
- **Rule 26 Fishing vessels**
- **Rule 27 Vessels not under command or restricted in ability to manoeuvre.**

IRPCS Part C Lights and Shapes

- **Rule 28** **Vessels constrained by their draught**
- **Rule 29** **Pilot vessels**
- **Rule 30** **Anchored vessels & aground**
- **Rule 31** **Seaplanes**

IRPCS Part D Sound and Light Signals

- **Rule 32 Definitions**
 - *whistle* is any sound signalling device capable of meeting the prescribed blasts
 - short blast = 1 second
 - prolonged blast = 4 to 6 seconds.
- **Rule 33 Equipment**
 - less than 12m = any means
 - 12m+ = whistle & bell
 - 100m+ = whistle, bell & gong
- **Rule 34 Manoeuvring & warning signals**
- **Rule 35 Sound signals in restricted visibility.**
- **Rule 36 Signals to attract attention**

IRPCS Part C Lights and Shapes

- **Rule 37 Distress signals**
 - gun or explosive device fired at intervals of 1 minute
 - continuous sounding of fog signal apparatus
 - rockets or shells
 - signals such as Morse code SOS ...---...
 - code NC
 - square flag with ball shape above or below it
 - orange smoke signal (flares)
 - arms flapping
 - radio alarm signal / mayday call
 - EPIRB signal
 - Use of above prohibited except to indicate distress.

COLREGS - Warning & narrow channel signals

- **Rule 34**

- **c(i) Overtaking to Starboard**



- **c(i) Overtaking to Port**



- **c(ii) OK**



- **d Warning**



- **e Bend & Reply**



COLREGS Signals for manoeuvring & warning when in sight of each other

I am altering course to starboard



I am altering course to Port




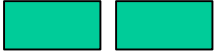


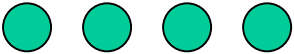
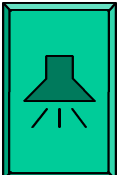
I am going astern



I am unsure of your intentions



COLREGS Signals for vessels in restricted visibility

- **Power making way** Every 2 mins. 
- **Power underway but not making way** Every 2 mins. 
- **Not under command** Every 2 mins. 
- **Restricted manoeuvrability**
- **Constrained by draught**
- **Sailing vessel**
- **Fishing vessel**
- **Vessel towing or pushing**
- **Vessel towed when manned** Every 2 mins 
- **Pilot vessel** 
- **Vessel at anchor < 100m** 5 sec/min Bell 

Summary COLREGS

When both side lights you see ahead
Starboard your wheel and show your
red.

Green to green, red to red
Perfect safety go ahead

If on your starboard red appears
It is your duty to keep clear
To act as judgement says is proper
To port or starboard, back, or stop her.

But when upon your port is seen
A starboard light of green
There's not much for you to do
For green to port keeps clear of you.

Give way to man on the right
(as in road)

In rivers & channels and
confined waterways keep to
the right.

Keep clear of shipping in
channels.

Ships have right of way when
they cannot manoeuvre.

Remember it is difficult to see
a small boat from the bridge of
a large vessel