

source of potential danger to other traffic, not just in good visibility but with added risks in **'restricted visibility'**.

**h:** As explained above, vessels are not necessarily obliged to use a **TSS**, as clearly stated in this Rule **'a vessel not using a traffic separation scheme shall avoid it by as wide a margin as is practicable'**.

The safe and smooth movement of vessels within a **TSS** is dependent on minimum external disturbance. A vessel not using a **TSS** should stay as far away from it as is reasonably practicable so as not to cause any disturbance to the vessels using the **TSS**. This will especially apply **'in areas near the termination of traffic separation schemes'** as explained with paragraph 'f' of this Rule. The intent of this paragraph is that vessels not using a **TSS** stay as far away as possible to enhance the safety of all vessels, whether or not using the **TSS**.

**i:** Applies to any **'vessel engaged in fishing'** and obviously implies that she is within or so near a **TSS** that her movement may **'impede the passage of any vessel following a traffic lane'**. The Rule also implies that a vessel may engage in fishing within a **TSS**, be it a **'traffic lane'** or a **'separation zone'**, for the latter subparagraph 'e-ii' of this Rule clarifies that fishing is allowed in **'a separation zone'**.

A **'vessel engaged in fishing'** will be considered to be using a **TSS** and as such must comply with all the requirements of this Rule, especially of subparagraphs i and ii of paragraph 'b' because no Rule grants them any exemptions from compliance with the requirements of this Rule 10.

As per this paragraph, **'a vessel engaged in fishing shall not impede the passage of any vessel following a traffic lane'**. In other words, all vessels following a **'traffic lane'** should expect **'a vessel engaged in fishing'** to keep clear and the requirements of Rule 8(f), explained earlier, shall apply.

However, **'a vessel engaged in fishing'** outside the outer limits of a **TSS** should also take precautions to ensure that their nets or other fishing gear being towed astern of them **'shall not impede the passage of any vessel following a traffic lane'** in keeping with the directive of this Rule because the nets and lines are considered a part of the vessel.

The requirements of this Rule are similar to Rule 9(c) applicable to **'Narrow Channels'**, except that this Rule uses the term **'following a traffic lane'** whereas Rule 9(c) states **'navigating within a narrow channel or fairway'**. Though both terms appear to mean the same for practical purposes, they can, on closer scrutiny, be interpreted differently. A vessel **'navigating'** could be heading or moving in any direction in **'a narrow channel or fairway'**. However, **'any vessel following a traffic lane'** would mean one actually using the same and subject to the requirements stated in paragraph 'b' of this Rule, especially subparagraph 'b-i'.

**'A vessel engaged in fishing'** thus would not be obliged to keep clear of vessels not **'following a traffic lane'** for example vessels **'crossing traffic lanes'**. In such cases if **'risk of collision'** does develop, the collision prevention Rules shall apply as they normally would to prevent collisions. For example, if vessels are **'in sight of one another'**, **'a power-driven vessel underway shall keep out of the way of a vessel engaged in fishing'** as required by Rule 18 'a-iii'.

**j:** States that **'a vessel of less than 20 m in length or a sailing vessel shall not impede the safe passage of a power-driven vessel following a traffic lane'**. The former could be any vessel less than 20 m in length, including a **'power-driven vessel'**. The latter covers all sailing vessels irrespective of size. The requirements of Rule 8(f) remain applicable due to the use of the term **'shall not impede'**.

Do note the contrast of this Rule with respect to Rule 9(b) applicable in **'Narrow Channels'** where such vessels are required not to impede the passage of any vessel but by this Rule **'shall not impede the safe passage of a power-driven vessel'**.

Since this Rule requires **'vessel of less than 20 m in length or a sailing vessel'** to **'not impede the safe passage of a power-driven vessel following a traffic lane'**, it implies that this requirement is not applicable to any other type of vessels even if they are **'following a traffic lane'** or even a **'power-driven vessel'** which may not be **'following a traffic lane'**, for example if she is **'crossing'** a **'traffic lane'**. **'Crossing'** is authorised by paragraph 'c' of this Rule. Should **'risk of collision'** develop in such cases, then the collision prevention Rules shall be applied for **'preventing collisions'** as they normally would be.

It may be worth noting that these Rules very often distinguish between the size and types of vessels, not just here but at many other places also. The above paragraph 'j' of this Rule and also Rule 9(b) separate **'vessel of less than 20 metres in length or a sailing vessel'** from larger vessels and requires them to keep clear. But Rule 10(d), on the contrary, allows use of any **'inshore traffic zone'** to similar small vessels and any **'vessel engaged in fishing'**.

**'k' and 'l':** All vessels in a **TSS** are expected to comply with all the requirements of this Rule 10, that includes either **'proceed in the appropriate traffic lane in the general direction of traffic flow for that lane'** or **'cross'** at right angles as explained earlier. These two paragraphs grant exception from strictly complying with the requirements of this Rule **'to the extent necessary to carry out the operation'** to **'a vessel restricted in her ability to manoeuvre'**, when carrying out the activities defined. The deviation allowed is for circumstances when strictly complying with the requirements of this Rule 10 would either not allow the vessel to carry out the designated tasks at all or without experiencing great difficulty. As per Rule 3(g), such a vessel will continue to be considered **'restricted in her ability to manoeuvre as required by these Rules and is therefore unable to keep out of the way of another vessel'** even in a **TSS**.

The exemptions granted are for two activities **'when engaged in an operation for the maintenance of safety of navigation'** as per paragraph 'k' and may include vessels servicing buoys or other navigational marks or engaged in hydrographical surveying etc. Additionally, as per paragraph 'l', **'when engaged in an operation for the laying, servicing or picking up of a submarine cable'**.

Any such vessel should indicate her special status by displaying the **'lights and shapes'** prescribed in Rule 27(b). Such operations would normally be announced through notices to mariners or navigational warnings. **'Ships' Routeing'** published by IMO requires that such operations shall as far as possible be avoided in conditions of restricted visibility.

'Ships' Routeing' also contains details of deep water routes established in certain places. The same may or may not form part of a 'traffic lane', and sometimes their mandatory use may apply to vessels which need not have a deep draught; please see the incident stated below. The requirements of this Rule 10 would apply to a deep water route only if it is within a TSS.

Deep water routes which do not form part of a TSS may be for use by one-way or two-way traffic, as indicated by arrows. It would be prudent for a vessel using a deep water route for two-way traffic to keep to the starboard side of the recommended route.

I was master on a 31'500 GT loaded oil tanker on a voyage from Finland to Rotterdam in June 2008 which was to anchor outside Europoort for two days before berthing. The passage plan for the approaches was to pass the 'Friesland Junction precautionary area', then through the TSS "West Friesland", then through the TSS "Off Brown Ridge" and thereafter cross over to the East somewhere near position (6) shown in the following diagram and head for the outer anchorage outside Europoort.

The navigational chart showed the TSS with 'DW' marked. The B.A. navigational charts had no reference to any mandatory compliance requirements. Similarly 'Ships' Routeing' Part 'B' had the TSS details but the cross reference to Part G or any other Part was not clear. Reference to the mandatory nature of the DW route was found later in Part 'G' of 'Ships' Routeing', quoted below.

**Application and use of the route**

The route is mandatory for use by the following classes of ships:

- (a) tankers of 10,000 tons gross tonnage and upwards, carrying oil as defined under Annex I to the International Convention for the Prevention of Pollution from Ships, 1973.
- (b) chemical tankers of 5000 tons gross tonnage and upwards, carrying noxious liquid substances in bulk.
- (c) chemical tankers and NLS tankers of 10,000 tons gross tonnage and upwards, carrying noxious liquid substances in bulk; and
- (d) ships of 10,000 tons gross tonnage and upwards, carrying liquefied gases in bulk.

These ships shall avoid the sea area between the mandatory route and the adjacent Frisian Islands' coast, except when joining or leaving the route at the nearest point of the route to the port of departure or destination which permits a safe passage to or from that port.

The classes of ships referred to above shall use the mandatory route or part of it:

The British Admiralty sailing directions for the area, NP 55, on page 68 clearly states the mandatory use of the DW route by the above class of vessels but implies that it is only till the Southern end of the 'Brown Ridge TSS' or where the 'Frisian Islands' limits end on the Southern side.

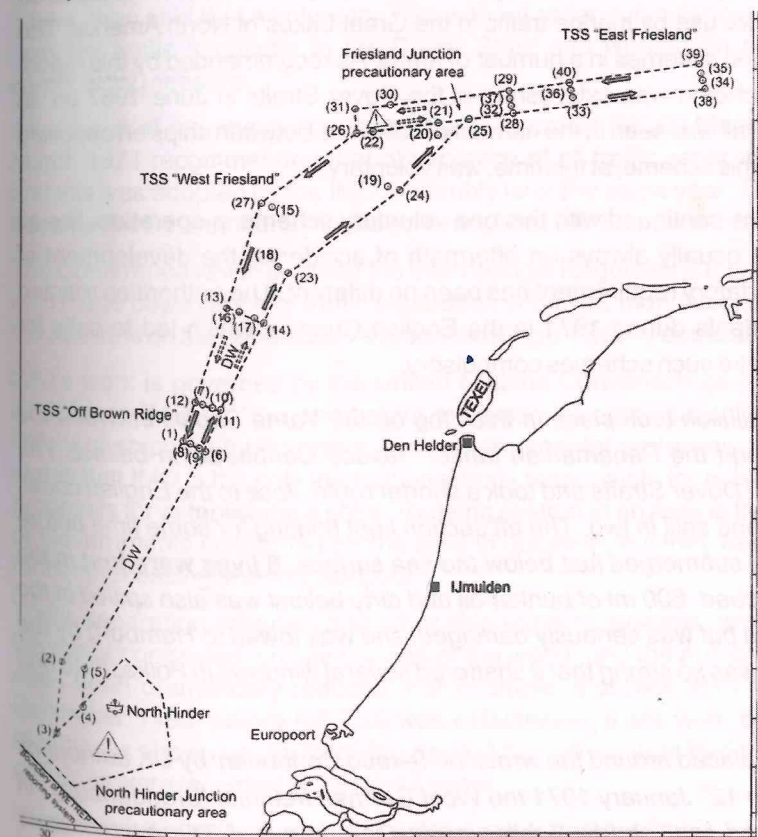
During the voyage about half an hour after clearing the TSS "Off Brown Ridge" and having passed the position shown as (6) in the following diagram, the vessel was called by the Netherlands Coast Guard on VHF to verify the voyage. They expressed concern on the draught since the vessel was not following the DW route. It was explained that the maximum draught was 11.6 metres and there was more than 22 metres water enroute. The Coast Guard official was queried if the vessel should follow the DW route to which he replied in the negative saying that it was the discretion of the master. The

vessel was anyway turned back and followed the DW route, altering towards the anchorage when closest from it and anchored outside Europoort 2 hours behind her original schedule.

Much to everyone's surprise, the Dutch Water police boarded the vessel after berthing and served a notice from the Netherlands Coast Guard stating that the vessel had contravened the 'Routeing measures for tankers from North Hinder to the German Bight and vice versa' and that the Public Prosecutor in Amsterdam had proposed an out of court settlement for an amount (fine) of € 5'500; further prosecution would be stopped on payment. The notice referred to the British Admiralty sailing directions, the Dutch Pilot and Netherlands chart 1970, the chart being a guide for passage planning for the North Sea. The vessel did not have the Dutch publications on board.

In view of the comments made by the Coast Guard official saying 'discretion' on VHF and the way the information had been interpreted on board, mainly that the 'DW' route was mandatory only till the Southern end of the 'Frisian Islands' which coincides with the Southern end of 'Brown Ridge TSS', the fine was not immediately paid, the notice was disputed and put up for a review by the competent court. As of February 2011, there has been no news and it is now safely assumed that the court did not find the application of the fine justified.

The above clearly shows that information may not always necessarily be readily available, may not be indicated on the navigational charts and that its wordings could easily be subject to differing interpretations.



Mandatory route for tankers from North Hinder to the German bight as shown in Part G of Ships Routeing (2008 edition)

Apart from the above, of late there have been collisions reported between vessels within a TSS since they were maintaining their position on the charted course and the one overtaking did not deviate away from it, most vessels are likely to have the same plotted course. And apart from the cautions stated in Rule 10(f); STCW Code Section A-VIII/2 also addresses precautions required to be exercised for TSS transits. Paragraph 16.2 states, 'the attention necessary when navigating in or near traffic separation schemes' and paragraph 17.3 adds, 'the attention necessary when navigating in or near traffic separation schemes or other routing measures'.

**HISTORY OF SHIPS' ROUTEING AND TRAFFIC SEPARATION SCHEMES:**

Sometime in 1898 passenger vessels operating in the North Atlantic started using predetermined routes to prevent groundings and collisions. The 1960 SOLAS Convention referred to these voluntary ships' routeing measures in busy areas of the North Atlantic and member states assumed the responsibility to encourage ships flying their flags to follow these recommended routes, as far as circumstances permitted. During this time, statistics of maritime collisions showed an increasing trend especially in congested waterways, a matter of grave concern to all connected with maritime transportation.

In 1963, the Liverpool Underwriters Association reported 21 collisions with total losses of ships in congested traffic areas as compared with the previous 5 year average of 13.8. A report on tanker hazards presented to the United States Treasury in late 1963 stated that most accidents were due to human error, with high speed in congested waters a principal cause. The report further concluded that too many diverse rules being observed by vessels of different flags, restricted width of navigable channels, increased size and number of ships coupled with poor use of modern communications were the other main contributory factors for these increasing numbers of collisions. (Underlined points remain true even now.)

In 1966 the institutes of Navigation of the Federal Republic of Germany, France and the United Kingdom released a report of a study on improving navigational safety in congested areas, such as the English Channel. The report proposed that ships should follow a system of one-way lanes like on the roads on land which had also been adopted for use by marine traffic in the Great Lakes of North America. The report recommended traffic separation schemes in a number of areas. As recommended by this report, the world's first traffic separation scheme was established in the Dover Straits in June 1967 on an experimental basis and a significant fall was seen in the number of collisions between ships on opposing courses. However, compliance with this scheme, at this time, was voluntary.

While experiments and deliberations continued with this one voluntary scheme in operation, like all other safety related developments usually always an aftermath of accidents, the development of ships' routeing measures as a mandatory requirement has been no different. The authorities reacted only after a series of serious accidents during 1971 in the English Channel which led to calls for immediate and drastic actions to make such schemes compulsory.

*On 11<sup>th</sup> January 1971, a severe collision took place in thick fog off the Varne Shoals between the Peruvian cargo vessel 'Paracas' and the Panamanian tanker 'Texaco Caribbean' in ballast. The former ignored the voluntary TSS of Dover Straits and took a shorter route close to the English coast. The 'Texaco Caribbean' exploded and split in two. The aft section kept floating for some time before sinking while the forward remained submerged just below the sea surface. **8 lives were lost** in the accident, though 22 crew were rescued, 600 mt of bunker oil and dirty ballast was also spilled in the sea. 'Paracas' survived the collision but was seriously damaged; she was towed to Hamburg by the salvage tug 'Heros'. The explosion was so strong that it shattered several windows in Folkestone and it was also heard by many ashore.*

*3 vertical green lights were quickly placed around the wreck of 'Texaco Caribbean' by UK authorities to warn other vessels. However, on 12<sup>th</sup> January 1971 the West German freighter 'Brandenburg' hit the wreck of 'Texaco Caribbean' and sank shortly 2 miles away. Only 11 out of 32 crew members could be rescued by local fishing boats, **21 lives were lost**, of these only 7 bodies were recovered.*

*A light ship and 5 light buoys were further added to the 3 vertical green lights to warn other vessels. However, on 27<sup>th</sup> February 1971 the Greek vessel 'Nikki' having missed the warnings collided with the submerged wrecks. The Norwegian tanker 'Hebris' responded to the distress calls of 'Nikki' but arrived only to see her sink with her entire crew of **22 people** who **perished** with their ill fated vessel.*

*The 3 wrecks close to each other were a serious hazard for passing ships. A second lightship and about 10 more buoys were added to the existing set to warn passing traffic of the hazards. In the next 2 months 16 vessels were observed to have just missed the wrecks having ignored the lightships and buoys placed for warning, fortunately none struck them. A Southampton based company took 18 months to remove the three wrecks.*

*To see a picture of 'Texaco Caribbean' after the collision please see:*

<http://www.kenthistoryforum.co.uk/index.php?PHPSESSID=728a21035dc77fe31431dc686f0a19f9&topic=4867.msg54531#msg54531>

**[TASK: IS THERE ANY SIMILARITY IN THE ABOVE CASE AND THAT OF THE WRECK OF TRICOLOR, THE LATTER HAS BEEN EXPLAINED WITH RULE 6.]**

In this multiple collision **51 people died**, three vessels were totally lost and one badly damaged. This and other maritime disasters around the UK coast further triggered action on safe management of maritime traffic. The UK Department of Trade, which was responsible, at that time, for maritime affairs, then said that a voluntary TSS without radar surveillance was inadequate for the dense and complex traffic situations in the Dover Strait and worked on getting the scheme adopted as a compulsory measure.

As a result of the above efforts, IMO's (then called IMCO) Maritime Safety Committee meeting in March 1971 recommended that observance of all traffic separation schemes be made mandatory and this was adopted by the IMO Assembly later the same year. The Dover Straits scheme therefore became the first mandatory traffic scheme, from 1971, and the first with radar coverage too.

The Conference which adopted the International Regulations for preventing Collisions at Sea in 1972 also made observance of traffic separation schemes mandatory, Rule 10 was a new addition to the Regulations on the conduct of vessels following a TSS, its application has already been explained.

IMO's work is governed by the United Nations Convention on Law of The Sea (UNCLOS), which designates IMO as "the competent international organization" in matters of navigational safety, safety of shipping traffic and marine environmental protection. Chapter V of the present SOLAS states that IMO is the only international body responsible for establishing ships' routeing's. Initiating proposals for establishing a ships' routeing system in an area is the responsibility of the Government or Governments concerned for the area in question, but they have to refer all proposals to IMO for further processing and final adoption.

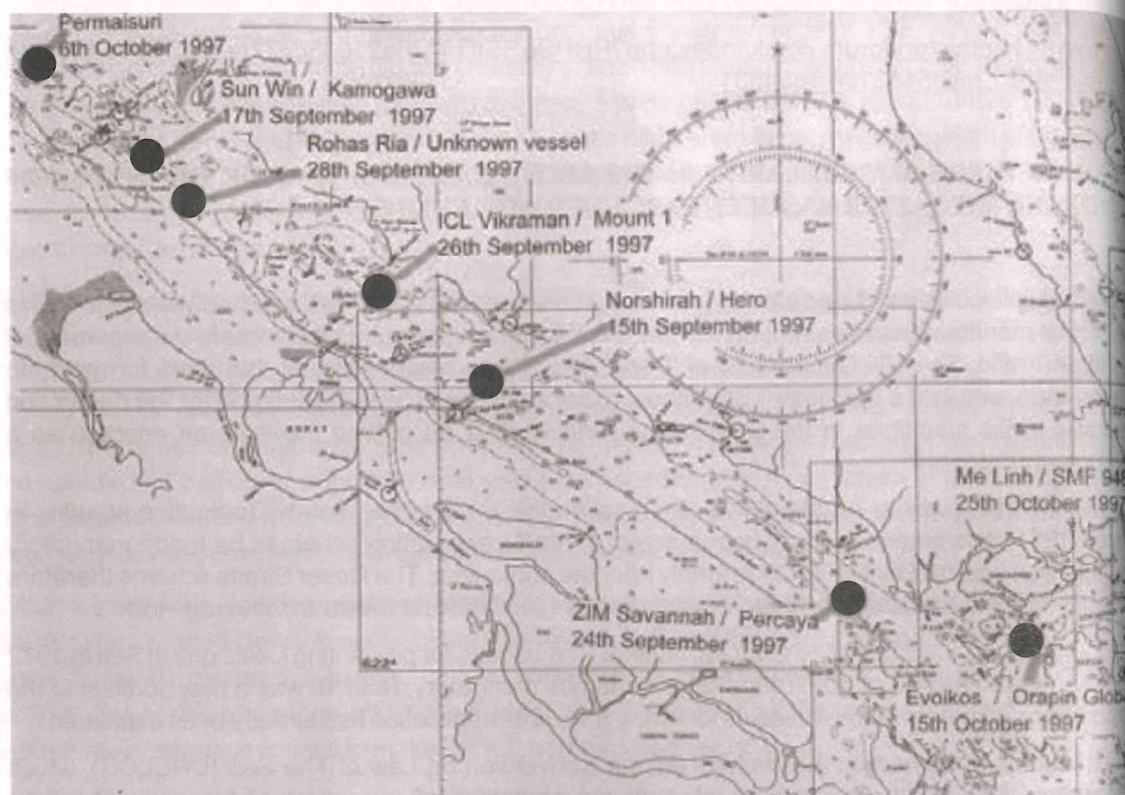
Traffic separation schemes and other ship routeing systems have now been established in most of the major congested; shipping areas of the world, and the number of collisions and groundings has often been dramatically reduced. For example, statistics from Malacca Straits show that prior to December 1998, before full TSS was established, there were 8 collisions in a short duration of 2 months, as shown on the following page. After the scheme had been in operation for a while, only 6 collisions were recorded in the next 3 years.

You may visit [http://www.imo.org/safety/mainframe.asp?topic\\_id=770](http://www.imo.org/safety/mainframe.asp?topic_id=770) to further see what IMO says about TSS.

Further reading is recommended too:

- i. *General Provisions on Ships' Routeing adopted by the Organization by resolution A.572(14), as amended.*
- ii. MSC/Circ.1060 Guidance Note on the Preparation of Proposals on Ships' Routeing Systems and Ship Reporting Systems.

The 1971 accidents also prompted a review and revision of the buoyage systems since many vessels failed to recognise the wreck marking buoys placed for warning.



**Collisions within 2 months in the Malacca Straits prior to December 1998**

The case of the collision between 'Samco Europe' and 'MSC Prestige' referred to on page 86 was decided on 23<sup>rd</sup> June 2011 at the Royal Courts of Justice, London. Mr. Justice Teare in his judgment has ruled stating: ***'I have therefore concluded that MSC PRESTIGE should bear 60% responsibility for the collision and that SAMCO EUROPE should bear 40% responsibility for the collision'***.

**[TASK: YOU ARE REQUESTED TO READ THE FULL JUDGMENT ON THE WEBLINKS AND LEARN FROM THE MANY FAILURES ATTRIBUTED TO THE COLLISION.]**

<http://www.bailii.org/ew/cases/EWHC/Admlty/2011/1580.html>  
and  
<http://www.bailii.org/ew/cases/EWHC/Admlty/2011/1656.html>]

**Introduction: Part B Section II - Conduct of vessels in sight of one another**

The Rules in this section II of part B define various situations and/or conditions when **'risk of collision'** may exist between two vessels **'in sight of one another'**, and the expected **'action to avoid collision'** required to be executed by one or both the vessels involved. These are Rules 12, 13, 14, 15 and 18; except for Rules 13 and 18, the other Rules include the term **'involve risk of collision'**. At other times, it is implied. The phrase **'risk of collision'** always and automatically includes any developing **'close-quarters'** situation, both these terms are synonymous, as explained with Rule 8(c).

The Rules in this section are applicable only when the vessels involved are **'in sight of one another'**. This depends on the range of visibility, which in turn depends on the prevailing weather conditions. Visibility may vary from excellent to rather low levels, but if two vessels having **'risk of collision'** or a developing **'close-quarters situation'** are **'in sight of one another'**, they must take **'action to avoid collision'** as per the provisions of these Rules, in this section II of Part B, i.e. 11 to 18.

Apart from the duties, responsibilities and expected actions of **'give-way'** and **'stand-on'** vessels explained later, the Rules in this section also state the **'responsibilities between vessels'**. At times there is a difference in action required by different vessels in varying situations, for example a **'power-driven vessel'** is obliged to keep out of the way of a **'sailing vessel'** at all times except when being overtaken by a **'sailing vessel'**; all these aspects have been explained with the Rules.

Another important element is that the Rules do not venture into dealing with multi vessel situations and quite rightly so, as there can be an infinite number of situations, making it an impossible task to cover them all. In such situations, vessels concerned may need to take **'action to avoid collision'** in order of priority and the navigators may need to apply the following clauses from Rule 2 as may be relevant, **'ordinary practice of seamen'**, **'special circumstances'** and/or **'which may make a departure from these Rules necessary to avoid immediate danger'**.

In the Rules of this section, other than Rule 14 governing a **'head-on situation'** where both **'power-driven vessels'** are required to take **'action to avoid collision'** and each becomes a **'give-way vessel'**, all other Rules require only **'one of the two vessels to take action to avoid collision'** and **'keep out of the way'**. An exception is when a **'stand-on vessel'** is required to act **'to avoid collision'**, but that is only when it appears that the **'give-way'** vessel is not acting as per the requirements of these Rules, and this is not the normal intent of these Rules.

Rules of part B section I continue to apply at all times as stated earlier and have to be complied with when following the Rules of this section II, or for that matter even with Rule 19 in section III.

Rule 13 requirements in overtaking situations over-ride all other Rules of both sections I and II of this Part B. Similarly, Rule 18 on **'responsibilities between vessels'** over-rides all Rules of this section (II of part B) except the requirements of Rules 9, 10 and 13.

Nowhere do these Rules mathematically define or give any numerical values to the ranges and/or time frames when a vessel should start to act, or the quantum of action required, though all the describing adjectives used in these Rules have a clear and implied meaning open to reasonable interpretations. The determination of the quantum and type of action required in each case and when it should be initiated, whether by a **'give-way vessel'** or a **'stand-on vessel'**, may vary and depend on various factors which may include but not be limited to:

- range,
- speed of the vessels,
- rate and angle of approach,
- size and manoeuvring characteristics of the vessels,
- available sea room - depth and width,
- presence and proximity of other traffic or navigational hazards, and also,
- the prevailing weather conditions.

Elementary ship handling principles need to be followed in practice when executing **'any action to avoid collision'**; some important ones are included in this book in the chapter on basic ship handling. Their application, coupled with common sense and the requirements of these Rules, will have a definite impact on the desired outcome of the actions taken. Numerical limits are neither defined in these Rules nor expected to be even in the near future.

As explained earlier, **'risk of collision'** has a clear meaning - firm prediction of contact confirmed by a steady compass bearing and reducing range between vessels. However, the term **'close-quarters situation'** does not have such a clear definition. To repeat, as explained with Rule 8, Lord Justice Willmer in 1961 had remarked on the term **'close-quarters situation'** by saying, *'it leaves open to argument what is meant by the phrase'*. The interpretation of this term can vary on a case by case basis, for example the size and manoeuvrability of the vessels concerned and if they are likely to pass too close to each other. Vessels passing each other at very close range may result in sudden dangerous situations developing due to interaction between them, in addition other sudden operational factors like steering or engine failure may also lead to dangerous situations even culminating in a collision. Good navigational practices require that a certain minimum safe passing margin be set by the navigators; this may vary on different types of vessels and, furthermore, in different conditions. While Rule 2 states **'due regard shall be had to all dangers of navigation and collision'**, Rule 8 only emphasises **'passing at a safe distance'** and Rule 16 requires **'keep well clear'** - none state any numerical limits. If the passing distance is predicted to be or appears to be anything less than the desired minimum safe range distance, action must be taken and should be in compliance with the general requirements of these Rules. The extreme limits of advance and tactical diameter figures of a vessel's turning circle may be considered as the least acceptable range limits of a **'close-quarters situation'**. In practice at sea double these figures to allow for interaction or for even higher margins of safe passing ranges especially if so required by the management systems.

There can be cases where an apparent **'stand-on vessel'** cannot or does not hold a steady course, for example in congested areas or where vessels may be rounding buoys, shallow water patches or a corrugated coast etc., and thus constantly changing their courses and at times even their speeds. In such cases, a clear application of some of the Rules from this section II or even section III may be difficult. In a collision that took place in such circumstances when the vessels concerned were **'in sight of one another'**, the court observed that in a constantly changing situation determination of the situation itself was difficult and therefore establishing a **'give-way vessel'** or a **'stand-on vessel'** an impossible task. Just before collision, it appeared to be a **'crossing situation'** between the two vessels but as the **'stand-on vessel'** had been changing her course constantly, the **'give-way vessel'** got confused. The court finally ruled that in these circumstances the application of any particular Rule could not be established. Though this ruling is of 1949, its implications will remain valid for all time. In such confusing situations, there seems to be no other recourse than to be guided

by the various requirements of the all-empowering Rule 2. Do note that this ruling is not connected with a similar ruling mentioned with Rule 9 (a) regarding a **'narrow channel'** in which only the requirements of Rule 9 should apply.

A vessel simply stopped and drifting is considered **'underway'** and obliged to comply with these Rules, including keeping clear of other vessels as required by the various Rules except when she is **'not under command'**, **'restricted in her ability to manoeuvre'**, **'engaged in fishing'** or due to any **'special circumstances of the case'**. Special circumstances may be many, as explained with Rule 2; for example, a large loaded tanker that is stopped and is physically unable to manoeuvre out of the way of a fast approaching **'stand-on vessel'**. However, even then she must make all efforts to keep clear as even vessels at anchor, when finding that an approaching vessel is not keeping clear, have been criticised in courts if they made no efforts to attract the attention of the other vessel and took no **'action to avoid collision'**.

*'Hebei Spirit', a Hong Kong flagged fully loaded single hull VLCC at anchor off South Korea awaiting berthing, was hit by a Samsung Heavy Industries crane barge 'Samsung No 1' on 7<sup>th</sup> December 2007 leading to an approximate spill of 10'500 mt crude oil. The crane barge broke off from the tugs towing her in heavy weather, drifted on to the VLCC and collided with her. The Master and the Chief Officer were detained and even jailed in South Korea on charges of negligence in preventing the oil pollution from their vessel. Amongst many charges, it was alleged that they did not take sufficient action to move their vessel away from anchorage to prevent collision and the resulting oil pollution. These Indian officers holding UK certificates of competency were eventually allowed to return to India in June 2009 after protracted legal efforts, even as the legal battle continues in the Korean courts.*

A video clip of the accident can be viewed at [http://www.youtube.com/watch?v=66J\\_MazbAfE](http://www.youtube.com/watch?v=66J_MazbAfE).

*As master on a loaded product/chemical tanker anchored outside Brownsville in December 2009 in passing fog patches, at around 0430 hrs., a small fishing vessel passing close by made contact with my vessel at the forward end, the damage was almost nil. Though she was initially noticed at 0330 and all efforts made by the OOW's to attract her attention; I was not called till she disappeared from the radar screen at 0425 and then it was too late to do anything. One of the actions possible was to let go the full length of the anchor chain and use engines to manoeuvre the vessel away from the approaching fishing boat, but even this required time. Subsequent enquiry by USCG revealed that all the crew members on watch on the fishing boat were fast asleep.*

*Note: A vessel at anchor can do little to immediately move out of the way of another approaching vessel and in any case is explicitly not required to by these Rules.*

Of all the Rules, the application of the requirements stated in Rule 8 gets activated the moment any **'action to avoid collision'** is activated by any vessel in compliance with these Rules **'in any condition of visibility'**, even if it is a **'stand-on vessel'** compelled to **'take action by her manoeuvre alone'**.

**[TASK: REVISE RULE 8 BEFORE PROCEEDING FURTHER.]**

## Rule 11

### Application

Rules in this section apply to vessels in sight of one another.

Rule 3(k) definition states **'vessels shall be deemed to be in sight of one another only when one can be observed visually from the other'**. The application of the Rules in this section II of Part B is governed by this definition of **'in sight of one another'**. It is important to note that by this it is implied that the Rules in this section are not applicable to vessels not in visual **'sight of one another'** even in good visibility.

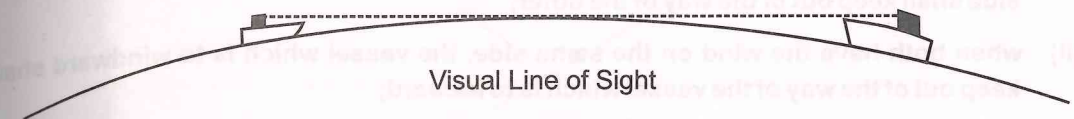
Thus, if two vessels not **'in sight of one another'** are navigating in an area of reasonably good visibility and having determined that there is a developing **'risk of collision'** and/or a **'close-quarters situation'** between them by means of the radar, AIS or any other means, they are not necessarily obliged to comply with the Rules of this section till such time that they are actually **'in sight of one another'** - this range depends on the prevailing visibility. On the other hand, since the Rules of section I of Part B (Rules 4 to 10) continue to apply at all times, determination of **'risk of collision'** as required by Rule 7 using all available means including but not limited to radar, AIS or even VHF continue to apply. It would certainly appear absurd to have determined that a **'risk of collision'** exists but not to act just because **'in sight of'** is not yet or cannot be established. By applying **'ordinary practice of seamen'**, it will be natural to conclude that **'any action to avoid collision'**, if being contemplated in such situations, should be in line with the basic guiding spirit, principles and requirements of these Rules so as not to cause any conflict or embarrassment.

When **'risk of collision'** is established by the use of radar alone for **'vessels not in sight of one another when navigating in or near an area of restricted visibility'**, the requirements of Rule 19 alone are applicable for **'any action to avoid collision'**. When Rule 19, (the only Rule in section III of this Part B of the Rules), becomes applicable, then Rules 11 to 18 of this section II are not applicable any more as they apply only when vessels are **'in sight of one another'**. However, Rules 4 to 10 of section I of Part B remain applicable as they **'apply in any condition of visibility'**.

Even in **'restricted visibility'** conditions when Rule 19 alone is applicable, if the vessels concerned reach close enough that they get **'in sight of one another'**, then Rules of section II, (11 to 18), automatically get activated. The cut off point between the Rules of sections II and III of this Part B is whether the vessels concerned are **'in sight of one another'** or not. However, when analysing the above by invoking the meaning of **'ordinary practice of seamen'** given in Rule 2 and the requirements of **'ample time'** stated in Rules 8 and 19, if reasonably applied in practice, then **'any action to avoid collision'** taken in accordance with Rule 19 alone should suffice to ensure that the vessels involved pass at a safe distance and there should normally be no need to take **'action to avoid collision'** using Rules of section II, Rules 11 to 18.

Maintaining **'proper look-out'** required by Rule 5 coupled with **'watchkeeping arrangements and principles to be observed'** from STCW Code A-VIII/2, as explained, are important elements of navigation practices. Not observing these requirements can never be accepted as an excuse for

failure to sight another vessel. It must be kept in mind that the range of visual sightings may vary for different vessels in the vicinity due to various factors: for example, the intensity and height of their navigational lights, the height of eye of the observers, the range of the visible horizon, the prevailing visibility, presence of fog, mist, smoke or haze patches, the height and colour of the vessels, presence of any background lights and in daylight the position of the sun at that time, etc. Two vessels in the same area may therefore visually sight each other with substantial time lag at times. It is for the navigators to determine and judge the prevailing visibility conditions and accordingly apply the relevant Rules pertaining to the situations encountered.



Failure to change over to hand steering in good time has frequently been found to be a contributory factor leading to navigational accidents including collisions. The requirements to change over to hand steering are given in chapter V of the SOLAS convention in Regulation 24 quoted below and in the STCW Code A-VIII/2, paragraph 35. The latter has been referred to earlier as a task in the explanations of Rule 5 on **'look-out'**:

#### Regulation 24: Use of heading and/or track control systems (SOLAS Chapter V)

1 In areas of high traffic density, in conditions of restricted visibility and in all other hazardous navigational situations where heading and/or track control systems are in use, it shall be possible to establish manual control of the ship's steering immediately.

2 In circumstances as above, the officer in charge of the navigational watch shall have available without delay the services of a qualified helmsperson who shall be ready at all times to take over steering control. ▶

3 The change-over from automatic to manual steering and vice versa shall be made by, or under the supervision of, a responsible officer.

4 The manual steering shall be tested after prolonged use of heading and/or track control systems and before entering areas where navigation demands special caution.

[TASK: COMPARE THE ABOVE WITH THE REQUIREMENTS STATED IN PARAGRAPH 35 OF STCW CODE A-VIII/2 AND ALSO THOSE IN PARAGRAPH 16.

QUIZ Qs? DO THESE REQUIREMENTS APPLY AT ALL TIMES AT SEA OR NOT?]

# Rule 12

## Sailing vessels

- (a) When two sailing vessels are approaching one another, so as to involve risk of collision, one of them shall keep out of the way of the other as follows:
- (i) when each has the wind on a different side, the vessel which has the wind on the port side shall keep out of the way of the other;
  - (ii) when both have the wind on the same side, the vessel which is to windward shall keep out of the way of the vessel which is to leeward;
  - (iii) 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 on the starboard side, she shall keep out of the way of the other.
- (b) For the purpose of this Rule the windward side shall be deemed to be the side opposite to that on which the mainsail is carried or, in the case of a square-rigged vessel, the side opposite to that on which the largest fore-and-aft sail is carried.

This Rule applies to 'sailing vessels' as defined in Rule 3(c) - 'any vessel under sail provided that propelling machinery, if fitted, is not being used'. Propelling machinery, if fitted and being used, in conjunction with sails or not, changes the vessel's status to a 'power-driven vessel' as defined in Rule 3(b). Sailing vessels have to keep clear of each other if there is any 'risk of collision' between them as per the various situations listed in this Rule.

However, in case any one of them is 'overtaking' another, or any other vessel, then the requirement 'any vessel overtaking any other shall keep out of the way of the vessel being overtaken' stated in Rule 13 over-rides this Rule 12, explained later with Rule 13. Apart from this, Rule 18 defines the basic 'responsibilities between vessels'; Rule 18 (b) states that 'a sailing vessel underway shall keep out of the way of:

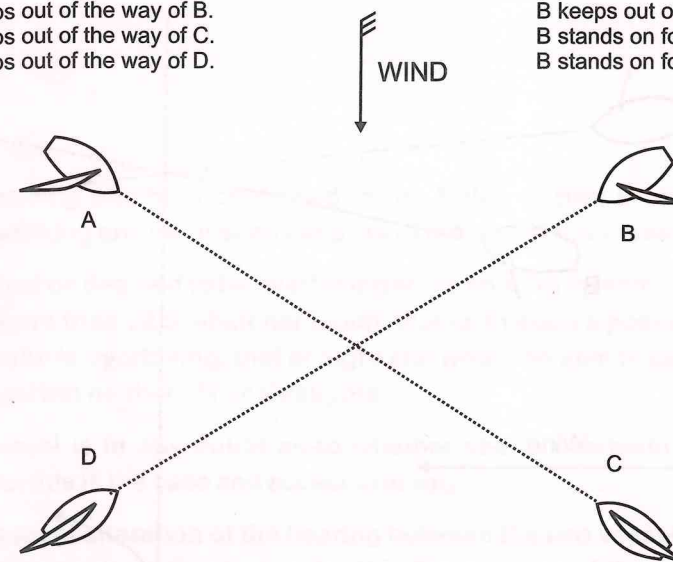
- (i) a vessel not under command;
- (ii) a vessel restricted in her ability to manoeuvre;
- (iii) a vessel engaged in fishing.

The vessels under the categories described above may be of any type, 'power-driven' or 'sailing' but they all have the right of way when encountering a 'sailing vessel'.

The self explanatory diagrams on the following page show the application of this Rule.

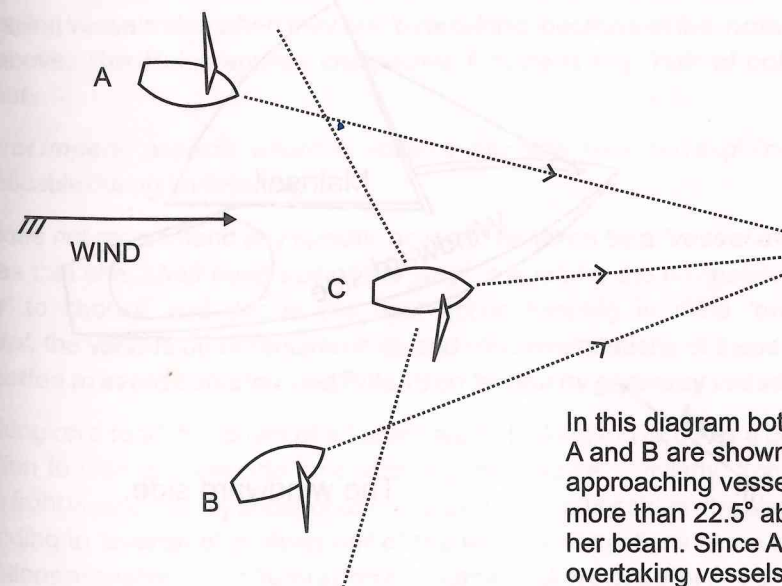
A keeps out of the way of B.  
A keeps out of the way of C.  
A keeps out of the way of D.

B keeps out of the way of C.  
B stands on for A.  
B stands on for D.

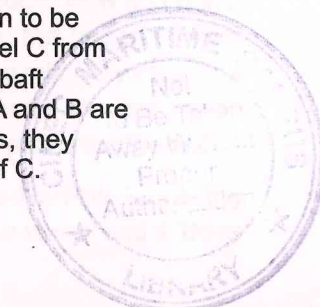


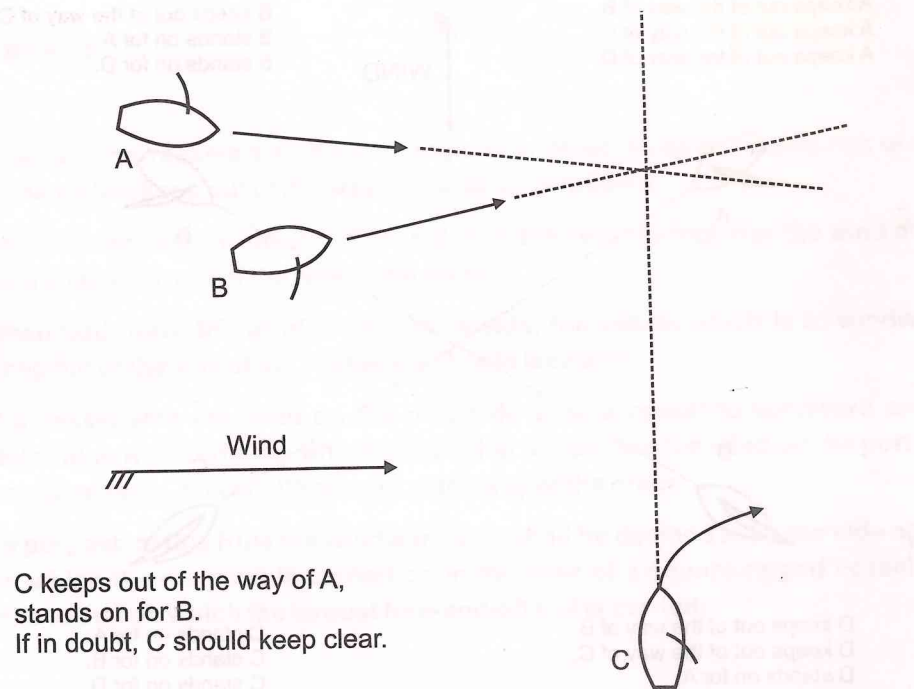
D keeps out of the way of B.  
D keeps out of the way of C.  
D stands on for A.

C stands on for A.  
C stands on for B.  
C stands on for D.

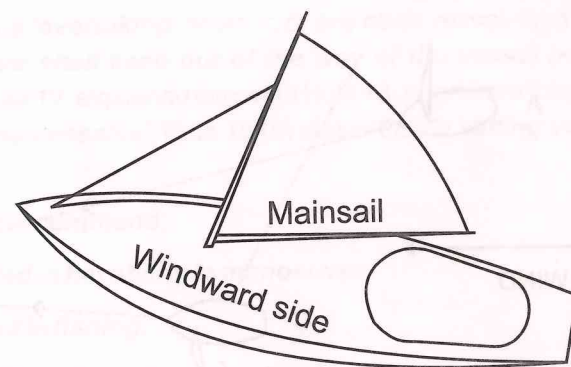


In this diagram both vessels A and B are shown to be approaching vessel C from more than 22.5° abaft her beam. Since A and B are overtaking vessels, they must keep clear of C.





C keeps out of the way of A,  
stands on for B.  
If in doubt, C should keep clear.



The windward side.

## Rule 13

### Overtaking

- (a) Notwithstanding anything contained in the Rules of part B, sections I and II, any vessel overtaking any other shall keep out of the way of the vessel being overtaken.
- (b) A vessel shall be deemed to be overtaking when coming up with another vessel from a direction more than 22.5° abaft her beam, that is, in such a position with reference to the vessel she is overtaking, that at night she would be able to see only the sternlight of that vessel but neither of her sidelights.
- (c) When a vessel is in any doubt as to whether she is overtaking another, she shall assume that this is the case and act accordingly.
- (d) Any subsequent alteration of the bearing between the two vessels shall not make the overtaking vessel a crossing vessel within the meaning of these Rules or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear.

a: 'Notwithstanding anything contained in the Rules of part B, sections I and II', means that when vessels are 'in sight of one another', this Rule over-rides all other Rules from 4 to 18. Whether it is open waters, 'a narrow channel', 'traffic separation scheme' or anywhere else, 'any vessel overtaking any other shall keep out of the way of the vessel being overtaken'. Rule 9(e)(ii) regarding overtaking in 'a narrow channel' states 'this Rule does not relieve the overtaking vessel of her obligation under Rule 13'. Similarly, Rule 10(a) clarifies that in a TSS all other Rules apply as it states, 'does not relieve any vessel of her obligation under any other rule'. The size, type of the vessels involved or the distance between them are of no consequence. This Rule equally applies to sailing vessels also when they are 'overtaking' because of the 'notwithstanding' clause explained above. This Rules applied irrespective if there is any 'risk of collision' between the vessels or not.

The 'shall not impede' aspects, wherever stated in any other Rule and explained with Rule 8(f), are also not applicable during 'overtaking'.

This Rule does not recommend any specific action to be taken by a 'vessel overtaking'. The Rule simply states that she 'shall keep out of the way'. It is left for the navigators on board a 'vessel overtaking' to choose and decide the best action keeping in mind 'ordinary practice of seamanship', the various other requirements and recommendations of these Rules, especially of Rule 8 on 'action to avoid collision' and Rule 16 on 'action by give-way vessel'.

Like overtaking on a road, the driver of a faster vehicle looking forward has a better view and is in a better position to plan and execute an overtaking manoeuvre. Similarly, from the bridge of most vessels, the front view is usually superior as compared to the other sides. It is also relatively easy for a vessel intending to 'overtake' to 'keep out of the way' by her actions alone since she has a wide variety of actions available to her; 'alteration of course and/or speed' or any combination thereof.

'Alteration of course alone may be the most effective action' is recommended by Rule 8(c) as the first choice for any 'action to avoid collision' provided 'there is sufficient sea-room' and it 'does



**not result in another close-quarters situation**. Although **'any vessel overtaking'** is free to choose the side to overtake from, the best action by the navigators on board should be to choose a side that is clear and where the **'vessel overtaking'** moves away from or stays parallel to the **'vessel being overtaken'** for the shortest possible time duration. If this is not possible, prudent action would be to reduce speed to wait until it is safe to overtake as recommended by Rule 8(e).

**[TASK: REVISE RULE 8(E) REQUIREMENTS WITH RESPECT TO THE ABOVE PARAGRAPH.]**

Caution also needs to be exercised for the potentially strong hydrodynamic interactive forces developed and their dangerous effects when vessels pass at very close range, causing one or both vessels to suddenly swing from their course and at times even collide. Keeping a large passing margin is the best solution; if not possible, for example in a **'narrow channel'** or otherwise, bold use of helm and propulsion power can assist counteract interaction effects.

It is obvious that a vessel **'overtaking'** will be moving at a relatively faster speed; else there would not be any **'risk of collision'** or the need for her to **'keep out of the way of the vessel being overtaken'**. The relative speed of approach between two vessels in an **'overtaking'** situation would usually be substantially less as compared to say a **'head-on situation'** and a lot more time available to analyse the situation and to take **'action to avoid collision'**. On the other hand, the vessels will be together for a longer duration too; hence, a careful watch is required to verify compliance with Rule 8(d), **'the effectiveness of the action shall be carefully checked until the other vessel is finally past and clear'**.

Increase of speed is theoretically amongst the available choices for **'any action to avoid collision'** and may be resorted to **'provided it does not result in another close-quarters situation'**. However, the concepts of **'safe speed'** from Rule 6 or elsewhere prescribe or imply a slower speed or a reduction of speed, never an increase. Rule 8(e) states **'a vessel shall slacken her speed or take all way off'**, Rule 19(e), though not applicable when vessels are **'in sight of one another'**, states, **'shall reduce her speed to the minimum at which she can be kept on her course'**. Any action should also be **'readily apparent to another vessel'**, an increase in speed would not only be contrary to the general principles of these Rules for **'safe speed'** but will usually be too slow to implement and not likely to be **'readily apparent to another vessel'** as required by Rule 8(b).

**b & c: 'A vessel shall be deemed to be overtaking when coming up with another vessel from a direction more than 22.5° abaft her beam'**. The statement **'that at night she would be able to see only the sternlight of that vessel but neither of her sidelights'** is a reference to **'sternlight'** both to explain the relative position of a **'vessel overtaking'** with respect to **'the vessel being overtaken'** and to highlight the navigational lights a **'vessel overtaking'** would normally see during darkness of a **'vessel being overtaken'**. The sternlight sector extends **'67.5° from right aft on each side of the vessel'** as stated in Rule 21(c) and this horizontal sector coincides exactly with the clause in this Rule, **'from a direction more than 22.5° abaft her beam'**.

In several situations, different types of vessels may show just one single white light, which may not be the stern light. If there is a doubt paragraph 'c' of this Rule clarifies; **'when a vessel is in any doubt as to whether she is overtaking another, she shall assume that this is the case and act accordingly'**.

**'accordingly'**. If **'in any doubt'**, this Rule requires navigators to be prudent, assume the situation to be **'overtaking'** and keep their vessel **'out of the way'**. Later, if and when the situation gets clear and doubts are removed, comply with the appropriate Rules as applicable. However, by then, having taken **'action to avoid collision'** the **'risk of collision'** should normally have disappeared or been mitigated.

**'Sternlight means a white light placed as nearly as practicable at the stern'**. However, sighting a single white light does not necessarily mean that it is the **'sternlight'** of a **'vessel being overtaken'**; it may be the single **'masthead light'** of a **'power-driven vessel'** of less than 50 m in length, (but over 20 m), and the **'sidelights'** are still not visible because of their lower visibility range. As per Rule 22(b) the minimum visible range of **'a masthead light'** varies from 2 to 6 miles, but of **'sidelights'** and **'sternlight'** is only 1 to 3 miles.

There can be situations when a vessel approaching another **'from a direction more than 22.5° abaft her beam'** can also see any one of her **'sidelights'** in addition to her **'sternlight'**. This is because **'sidelights'** do not cut off at exactly 22.5° abaft the beam but may extend up to 5° outside the prescribed sector and as such be visible up to 27.5° abaft the beam, though overlapping with the sternlight and with their intensity diminishing steadily. If this creates **'any doubt'** to the vessel approaching **'whether she is overtaking'** or not, **'she shall assume that this is the case and act accordingly'**, in other words take action **'to keep out of the way of the vessel being overtaken'**.

If a vessel is approaching another from an angle slightly less than 22.5° abaft the beam of the latter, it technically is not a situation covered by this Rule. However, for the vessel approaching there may be a doubt whether she is more than or less than the cut off angle of 22.5° abaft the beam of the other. In all such cases also **'when a vessel is in any doubt as to whether she is overtaking another, she shall assume that this is the case and act accordingly'**.

The Rules basically require a proactive approach **'for preventing collisions at sea'** as can be seen in the above.

**[TASK: STUDY ANNEX I PARAGRAPH 9 PRESCRIBING THE REQUIREMENTS OF HORIZONTAL SECTORS OF NAVIGATIONAL LIGHTS.]**

d: Clarifies that a **'vessel overtaking any other'** retains the status of a **'vessel overtaking'** and remains obliged to comply with this Rule **'until she is finally past and clear'**. During the overtaking process, as the **'vessel overtaking'** moves relatively forward of this cut off limit, **'22.5° abaft her beam'** with respect to the **'vessel being overtaken'**, for example abeam or forward of the beam of the **'vessel being overtaken'**, she shall still continue to be considered an **'overtaking vessel'** and not **'a crossing vessel'** or be covered by any other situation or condition mentioned in these Rules.

**'Any subsequent alteration of the bearing between the two vessels'** does not change the status or the situation; a **'vessel overtaking'** shall continue to retain the responsibility and obligation to **'keep out of the way of the vessel being overtaken'**. This is an important element of the Rule to prevent confusion. Unfortunately, there have been some cases where this has not been correctly implemented by a **'vessel overtaking'**, leading to collisions.

As mentioned, this Rule does not state anything on its applicability, it just states *'any vessel overtaking any other shall keep out of the way of the vessel being overtaken'*. The Rules by their very title are meant *'for preventing collisions'*. It has been held in courts that there has to be a developing *'close-quarters situation'* or *'risk of collision'* before any of these *'International Regulations for Preventing Collisions at Sea'* are applicable. This also applies to any *'overtaking'* situation when a *'vessel overtaking'* - *'shall keep out of the way of the vessel being overtaken'* - *'until she is finally past and clear'*. If these conditions are not applicable, for example, two vessels are on parallel or diverging courses, with one of them being more than 22.5° abaft the beam of the other; then obviously, this Rule would not apply. However, if there is a development of *'risk of collision'* and/or *'close-quarters situation'*, the requirements of this Rule become applicable immediately.

Some court rulings on collisions involving *'overtaking'* situations have commented otherwise; that even if the vessels are far apart, the basic principles of this Rule continue to apply since this Rule by itself does not state *'risk of collision'* and requires *'any vessel overtaking any other shall keep out of the way of the vessel being overtaken'*. *'Overtaking'* continues even when the *'vessel overtaking'* moves out of the sternlight sector and pulls abeam of or even ahead of the *'vessel being overtaken'*, as explained above and is so stated in paragraph d of this Rule.

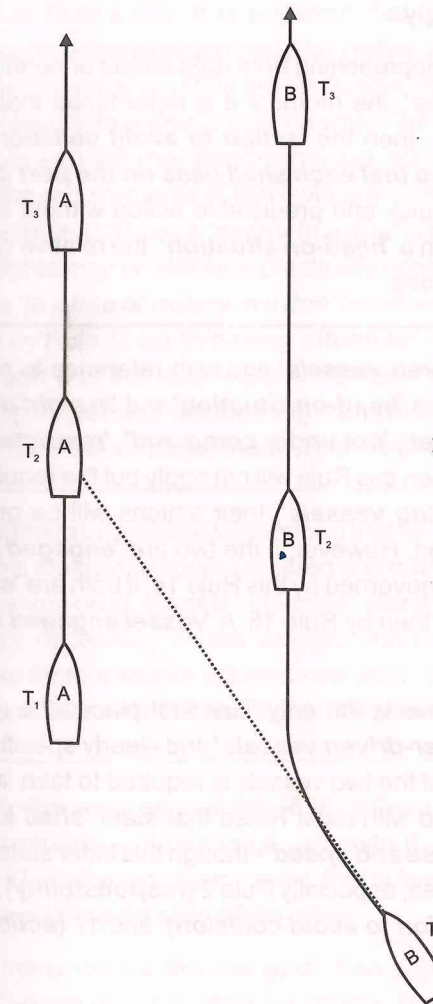
The requirements in paragraph 'd' are to cover situations like, if a *'vessel overtaking'* another from the starboard side of a *'vessel being overtaken'* subsequently alters her course to port across the bows of the *'vessel being overtaken'*. This situation would now appear as *'crossing situation'*; the vessel which has *'overtaken'* and then altered her course while presently on the starboard side (bow) of the *'overtaken vessel'*, would appear to have gained the first right-of-way as per Rule 15, *'crossing situation'*. The *'overtaken vessel'* which was so far a *'stand-on vessel'* would suddenly become a *'give-way vessel'*. This would quite absurdly change the situation very rapidly and suddenly make the *'stand-on vessel'* a *'give-way vessel'*. This sudden change of roles and the transfer of onus to *'keep out of the way'* to a vessel which only moment ago was a *'stand-on vessel'* may leave her neither the time nor perhaps enough manoeuvring room to *'keep out of the way'*, leading to utter chaos. As such, the requirements of this paragraph 'd' are for a fair and reasonable approach to *'avoid collision'*.

[TASK: DRAW A SKETCH WHERE A 'VESSEL OVERTAKING' AFTER PASSING FORWARD OF THE BEAM OF THE 'VESSEL BEING OVERTAKEN' ALTERS COURSE AND SEE HOW THE SITUATION WOULD SUDDENLY CHANGE HAD PARAGRAPH 'D' OF THIS RULE NOT PROHIBITED THE SAME.]

Further to the extract of the judgment given at the end of Rule 6 about the collision between Tricolor and Kariba, the same judgement also has comments regarding the application of this Rule regarding overtaking: *"The Circuit (court) held that under COLREGS 13 and 16, the overtaking vessel also has a duty to keep far enough away to allow the overtaken vessel to conduct "reasonably predictable adjustments," and that the overtaking vessel must select a safe place to overtake in the first instance, with regard to factors such as visibility, sea conditions, the space confining the vessels, the vessels' speed and their capabilities. On the Tricolor's causative impact, the Circuit held that its violations of the*

*COLREGS on overtaking were a but-for cause of the collision, finding that "if the Tricolor had not chosen to overtake in an unsafe place and in an unsafe manner, the collision would not have occurred; the Kariba would have passed across the Tricolor's bow." The Circuit found too that the Tricolor's overtaking was a proximate cause of the collision because the "choice to overtake created a risk that other vessels, particularly the Kariba, would have less space, and less time, to avoid navigational exigency leading to a collision—the very same risk as makes inopportune overtaking a violation of the COLREGS." Therefore, the Circuit held that the Tricolor's overtaking violations were a cause of the collision"*.

Note: The word 'Circuit' in the above quoted judgement means the Circuit court.



A typical overtaking situation  
Vessel 'B' is overtaking Vessel 'A'

## Rule 14

### Head-on situation

- (a) When two power-driven vessels are meeting on reciprocal or nearly reciprocal courses so as to involve risk of collision each shall alter her course to starboard so that each shall pass on the port side of the other.
- (b) Such a situation shall be deemed to exist when a vessel sees the other ahead or nearly ahead and by night she could see the masthead lights of the other in a line or nearly in a line and/or both sidelights and by day she observes the corresponding aspect of the other vessel.
- (c) When a vessel is in any doubt as to whether such a situation exists she shall assume that it does exist and act accordingly.

a and b: If 'two power-driven vessels' are approaching from right ahead or nearly right ahead, the situation is 'reciprocal or nearly reciprocal courses', the moment it is determined that this approach is leading to 'risk of collision' between them, then the 'action to avoid collision' required is that 'each shall alter her course to starboard so that each shall pass on the port side of the other'. The requirement of this Rule is to ensure quick and predictable action without any delays and to eliminate chances of uncertainties because in a 'head-on situation', the relative speed of approach will be rather fast as compared to other situations.

This Rule applies explicitly to 'power-driven vessels' and with reference to other Rules it is clearly implied that they are 'underway'. In a 'head-on situation' and 'in sight of one another' if one of the two vessels is a 'sailing vessel', 'not under command', 'restricted in her ability to manoeuvre' or 'engaged in fishing', then this Rule will not apply but the requirements stated in Rule 18 shall prevail. If both are 'sailing vessels', their actions will be governed by the requirements of Rule 12, already explained. However, if the two are 'engaged in fishing' and both are 'power-driven', they shall still be governed by this Rule 14; if both are 'sailing vessels' then by Rule 12; if they are different types then by Rule 18. A 'vessel engaged in fishing' may be covered by any of these categories.

In the Rules of this section II of Part B, this is the only Rule that places the responsibility of 'preventing collisions' on both the 'power-driven vessels' and clearly specifies the action to be taken. In all other situations, only one of the two vessels is required to take 'action to avoid collision', and that is not clearly specified with most Rules that state 'shall keep out of the way', while the other 'shall keep her course and speed' - though this latter statement is subject to the provisions of all other applicable Rules, especially Rule 2 (responsibility), 5 (look-out), 6 (safe speed), 7 (risk of collision), 8 (action to avoid collision), and 17 (action by stand-on vessel).

'Reciprocal' means exactly the opposite, but the Rule goes further on to say 'or nearly reciprocal' and does not clearly specify any limit for this 'nearly' aspect - to interpret and understand the same

apply 'ordinary practice of seamen' from Rule 2. The Rule states that 'such a situation shall be deemed to exist' if 'by night she could see the masthead lights of the other in a line or nearly in a line and/or both sidelights'. However, there is an inbuilt ambiguity regarding daytime application - the 'corresponding aspect' clause. This 'corresponding aspect' can usually, easily be determined visually by practical experience; however, the clarity that will be there at night by virtue of the cut off limits of the navigational lights will be missing in daylight. In addition, the sidelights may not have the same intensities, and the sensitivity of the human eye is not the same for red and green lights. Fair probability exists that one sidelight may be sighted before the other even when watching another vessel from right ahead.

You have been assigned a task to study Annex I paragraph 9 on the horizontal sectors of navigational lights with Rule 13. The cut off limits in the forward direction may also be used to analyse and determine the 'nearly reciprocal' aspect. In the forward direction, the intensities of sidelights must decrease to reach practical cut-off between 1° to 3° outside the prescribed sector of 'right ahead', the latter as stated in Rule 21(b). It is apparent that sidelights show from 1° up to 3° outside their prescribed sector on either side and could be visible up to a maximum total arc of 6° in the right ahead direction. The provisions of this Rule are applicable not just when 'the masthead lights of the other' are 'in a line or nearly in a line', but even when 'both sidelights' are visible. However, if only one sidelight is visible and the masthead lights are not 'in a line or nearly in a line', then it may be concluded that the requirements of this Rule are no more applicable and the situation is outside the 'nearly reciprocal' limit. Though 'nearly in a line' is not defined, the 3° maximum on either side limit when both sidelights may be visible is practically considered the cut off limit. If 'the masthead lights of the other' are 'in a line or nearly in a line' but when only one 'sidelight' is visible, the situation will be well covered by Rule 15 on 'crossing situation', but keep in mind the caution and requirements stated in paragraph 'c' of this Rule explained below. A small 'power-driven vessel' of less than 50 m in length may display just one masthead light and that may make the above determination even more difficult as there is no 'second masthead light', refer Rule 23(a)(ii).

Regarding course(s), it must be understood that as per the basic principles on which these Rules are framed, this means the course steered and not the course made good. Normally the effect of current is the same on all vessels in the near vicinity of each other in open waters but drift due to wind may vary depending on the draught and the freeboard profile or windage area of the vessels. These factors neither influence the application of these Rules nor the expected actions of vessels in compliance with these Rules 'for preventing collisions'.

c: Gives clarity to the application of this Rule - if there is 'any doubt as to whether such a situation exists'. In such situations, it has to be assumed that it is a 'head-on situation' and action taken 'accordingly' by both the vessels involved, that is 'each shall alter her course to starboard so that each shall pass on the port side of the other'.

There may be many doubts like the type of an approaching vessel, her range, whether she is a 'power-driven' vessel or not, is she on a course 'reciprocal or nearly reciprocal' or slightly out of this range. The requirement for vessels to act in line with the requirements of this Rule is to avoid the development of any 'close-quarters' and/or 'risk of collision' situations. The requirement for an alteration to starboard is not just stated in this Rule but is the most predominant action implied by

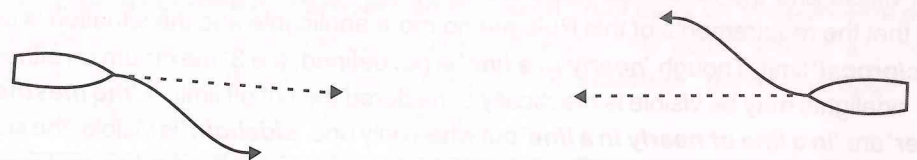
many other Rules too. This clarification of action to be taken in case of *'any doubt'* is similar to Rule 13(c) applicable in overtaking situations.



A typical head-on situation, two power driven vessels on reciprocal courses. Both alter their course to starboard



Nearly Reciprocal Courses. Both power-driven vessels alter their course to starboard



Nearly Reciprocal Courses. Both power-driven vessels alter their course to starboard

There have been cases involving collisions between *'power-driven vessels'* that were meeting at nearly reciprocal courses or crossing at a very fine angle, when it appeared that they would likely pass clear starboard to starboard. One of the vessels altered to port to increase the passing distance while the other altered to starboard in compliance with the *'nearly reciprocal'* aspect of this Rule resulting in a collision. Courts have held that in such situations, if the passing distance appeared less than comfortable, it clearly implies a *'close-quarters situation'* is developing, in which case this Rule applies and the alteration of course to port by any vessel is in violation of the Rule. Both vessels in such situations should comply and act as per this Rule 14, *'each shall alter her course to starboard so that each shall pass on the port side of the other'*. Please refer to the collision accident of VLCC 'Samco Europe' and the container vessel 'MSC Prestige', details given with Rule 10(f) earlier, which took place in December 2007 in similar circumstances.

The dividing line between a *'head-on situation'* and a *'crossing situation'* can sometimes be rather fine. If two vessels are approaching on *'nearly reciprocal courses'* or crossing at a fine angle, there may be some misunderstanding. Rule 15 on *'crossing situation'*, explained later, has no restrictions on an alteration of course to port as *'action to avoid collision'* by the *'give-*

*way vessel'*. The situation shown below highlights this danger. Prudent action in such cases would be to consider such situations also as *'head-on'* using the clause *'nearly reciprocal'*. The following diagram is self-explanatory and is meant to highlight the danger of an alteration of course to port by either of the two vessels involved which may lead to a collision.



[TASK: THE CUT OFF LIMIT OF NEARLY HEAD ON IS 3° OUTSIDE THE RIGHT AHEAD RELATIVE DIRECTION OF A VESSEL CONCERNED. WORK OUT BY HOW MANY DEGREES THE OTHER VESSEL'S COURSE MAY BE OFFSET FROM THE RIGHT AHEAD HEADING OF THE FIRST VESSEL FOR THE SITUATION TO BE COVERED BY THIS RULE.]

# Rule 15

## Crossing situation

When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing ahead of the other vessel.

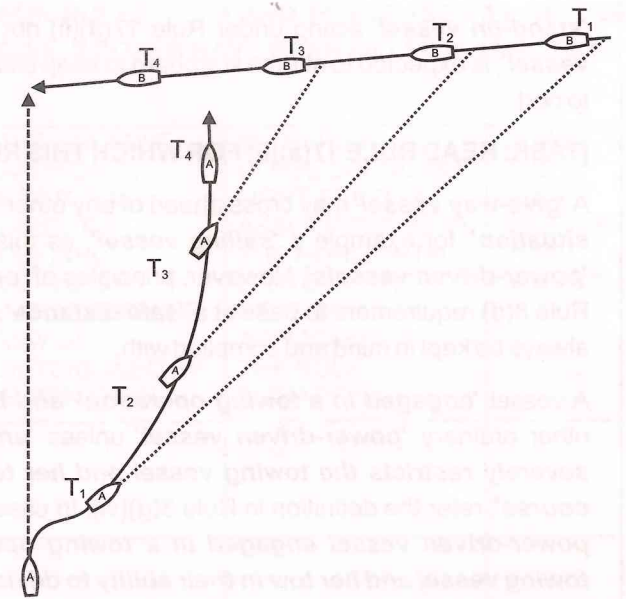
The majority of 'risk of collision' situations between 'power driven vessels' when 'in sight of one another' and the corresponding 'action to avoid collision' are generally covered under any one of the three situations, 'overtaking', 'head-on' or 'crossing'. The remainder of 'risk of collision' situations are governed by Rule 12 when 'sailing vessels' encounter each other and Rule 18 on 'responsibilities between vessels'. Even in this generality, Rule 13 over-rides Rule 12 and 18 if one of the vessels is 'overtaking', be it of any type.

This Rule applies 'when two power-driven vessels are crossing so as to involve risk of collision', the requirements being similar to Rule 14. A 'crossing situation' may simply be defined as one that is not covered by Rules 13 on 'overtaking' and 14 on 'head-on' situations that have already been explained. By this reasoning, the relative direction of approach of a vessel would be between the right or almost right ahead, 'reciprocal or nearly reciprocal courses', direction and up to 22.5° degrees abaft the beam of the vessel being approached. In a 'crossing situation' and 'in sight of one another', if one of the vessels is not a 'power-driven vessel', then this Rule does not apply and the requirements of Rule 18 will prevail, or if both are 'sailing vessels' then Rule 12 shall apply as explained earlier with Rule 14.

The responsibility of keeping clear has been very simply stated in this Rule: 'the vessel which has the other on her own starboard side shall keep out of the way'. However, 'action to avoid collision' is not specified. Applying the common sense of ship handling principles and vectors, it will be quite clear that normally the best 'action to avoid collision' in a 'crossing situation' would appear to be that a vessel required to 'keep out of the way' should alter her course to starboard and pass astern of the other, as shown further below and also earlier with Rule 8(b).

Notwithstanding the above, it must be clarified and emphasised that this Rule does not prevent or prohibit a vessel required to 'keep out of the way', or the 'give-way vessel', from altering her course to port, 'slacken her speed or take all way off' or even go astern; any of these actions may be executed singly or coupled with the others except that she 'shall, if the circumstances of the case admit, avoid crossing ahead of the other vessel'. The final 'action to avoid collision' executed is up to the prudent judgement and discretion of the OOW of a 'give-way vessel', keeping in mind all the requirements of Rule 8 that remain applicable, especially Rule 8(c) that recommends 'alteration of course alone'. An increase in speed alone by a 'give-way vessel' in a 'crossing situation' would be an act contrary to this Rule as is likely to take the 'give-way vessel' ahead of the 'stand-on vessel', which is not allowed by the Rule - 'avoid crossing ahead of the other vessel'.

The adjoining diagram shows a typical crossing situation between two 'power-driven vessels' underway. Assume they are a reasonable distance away, 'in sight of one another' with 'risk of collision' confirmed, that is constant compass bearing and reducing range. There is ample safe navigable sea room, no navigational dangers, no other traffic in the vicinity and the weather is fair. As per this Rule, vessel 'A' should keep clear of vessel 'B' which is on her starboard side. The best recommended action would be for 'A' to initially make a wide alteration of her course to starboard such that 'B' is on her port bow or can only see her red sidelight, i.e. 'A' is heading clear of the stern of 'B'. As 'B' moves on her course, 'A' should slowly return to her original heading, but always keeping 'B' on her port bow and ensuring that a safe passing range is maintained, until 'A' is back on her original course. When initially taking the above action in compliance with Rule 34(a), 'A' is required to give a sound signal of one short blast which may be supplemented by a light signal, this is irrespective of the range between the vessels. Traditionally the initial alteration should be minimum to a course which is the bearing of 'B' from 'A' plus 3° more to ensure that it is clear to 'B' that 'A' has taken sufficient action and 'B' can now only see the red sidelight of 'A'. Sidelights may show up to 3° outside the right ahead direction as such the reference to this amount.



**[TASK: IN THE ABOVE CASE DETERMINE HOW MUCH CROSS TRACK ERROR 'A' WILL GENERATE FROM HER ORIGINAL PATH UNTIL SHE IS BACK ON HER ORIGINAL HEADING ON COMPLETION OF THE ACTION.]**

The above best action of a 'give-way vessel' altering her course to starboard to keep clear is also implied and can be derived from the requirement stated in Rule 17(c) stated below.

In the above scenario, assume that 'A', the 'give-way vessel', does not take any action, and 'B', the 'stand-on vessel', has to take action as per Rule 17. If 'B' alters her course to port, it is likely to take her closer to 'A', and if 'A' at the same time, or a little later and perhaps correctly, starts altering her course to starboard, you can well imagine the disastrous situation developing with a high probability of collision between the two vessels.

These Rules have been designed to prevent such dangerous and conflicting actions from taking place. Rule 17(c) states, 'a power-driven vessel which takes action in a crossing situation in accordance with subparagraph (a)(ii) of this Rule to avoid collision with another power-driven vessel shall, if the circumstances of the case admit, not alter course to port for a vessel on her own port side'. This restriction imposed by Rule 17(c) applies only to a

'stand-on vessel' acting under Rule 17(a)(ii) not 17(b) and implies that 'A', the 'give-way vessel', is expected to alter to starboard to keep clear and hence 'B' should not alter her course to port.

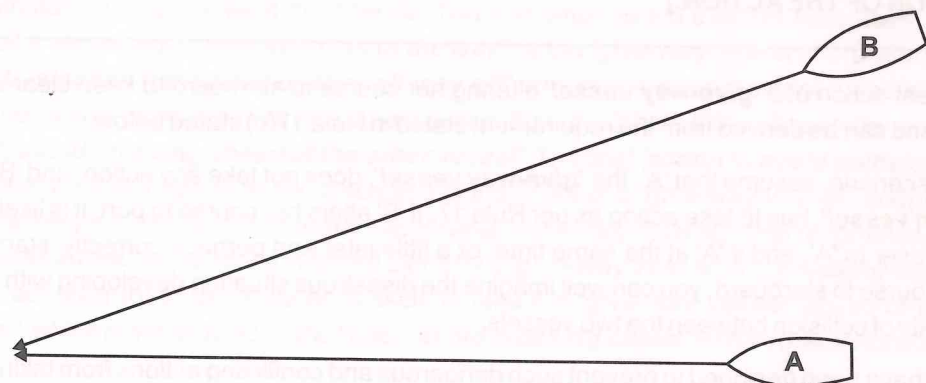
[TASK: READ RULE 17(a)(ii) FOR WHICH THIS RESTRICTION OF RULE 17(c) APPLIES]

A 'give-way vessel' may cross ahead of any other type of a 'stand-on vessel' in a 'crossing situation', for example a 'sailing vessel', as this Rule 15 requirements apply only to two 'power-driven vessels'. However, principles of 'ordinary practice of seamen' from Rule 2, Rule 8(d) requirement to pass at a 'safe distance' and 'keep well clear' from Rule 16 should always be kept in mind and complied with.

A vessel 'engaged in a towing operation' 'and her tows' are together considered as any other ordinary 'power-driven vessel' unless 'engaged in a towing operation such as severely restricts the towing vessel and her tow in their ability to deviate from their course'; refer the definition in Rule 3(g)(vi). In case of the latter, as required by Rule 27(c), 'a power-driven vessel engaged in a towing operation such as severely restricts the towing vessel and her tow in their ability to deviate from their course shall, in addition to the lights or shapes prescribed in Rule 24(a), exhibit the lights or shapes prescribed in subparagraphs (b)(i) and (ii) of this Rule'

[TASK: IN THE SITUATION SHOWN, ASSUME THE TWO APPROACHING POWER-DRIVEN VESSELS 'A' & 'B' ARE IN SIGHT OF ONE ANOTHER, THE CONSTANT COMPASS BEARING BETWEEN THEM IS 017° – 197°, RANGE OVER 8 NAUTICAL MILES AND RISK OF COLLISION IS CONFIRMED. ASSUME VESSEL 'A' IS HEADING 270° AND 'B' IS HEADING 250°.

DETERMINE THIS SITUATION AND THE APPLICATION OF THE RELEVANT RULES. WHAT APPEARS TO BE THE BEST ACTIONS BY THE TWO VESSELS TO PREVENT COLLISION IN FULL COMPLIANCE WITH IRPCS (COLREGS).]



(Answer given at the end of this chapter)

[TASK: HERE IS A COMPARISON CHART FOR RULES 13, 14 AND 15. PLEASE FILL UP THE EMPTY BOXES TO COMPLETE THE EXERCISE, 2 BOXES HAVE BEEN FILLED IN ITALICS TO START THE EXERCISE.]

RULE NO	APPLIES TO VESSELS	USES THE TERM 'INVOLVE RISK OF COLLISION'	THE RELATIVE APPROACH SECTOR IS DIRECTLY DEFINED, DEFINED BY IMPLICATION OR MAY BE DETERMINED BY ELIMINATION	IS THERE A CORRESPONDING LIGHT SECTOR ASSOCIATED WITH THE HORIZONTAL LIMITS OF THE SECTOR APPLICABLE TO THE RULE / SITUATION?	DOES THE RULE USE THE TERM 'DOUBT'
13 OVERTAKING	<i>All vessels</i>				
14 HEAD ON SITUATION	<i>Only to two power-driven vessels</i>				
15 CROSSING SITUATION					

[COMPARE YOUR RESULTS WITH THE DIAGRAM GIVEN IN RULE 21 OF PART C COMPARING THE LIGHT SECTORS AND THESE THREE MAIN SITUATIONS APPLICABLE WHEN VESSELS ARE IN SIGHT OF ONE ANOTHER.]

'Power-driven vessels' meeting in a 'crossing situation' 'so as to involve risk of collision' are required to comply with the requirements of this Rule if 'in sight of one another'. However, there are a few exceptions stated in Rules 9 and 10, explained below with reference to those Rules.

'Power-driven vessels' proceeding in opposite directions in 'narrow channels' with bends may appear to be 'crossing'. However, since each is required to comply with Rule 9(a), 'a vessel proceeding along the course of a narrow channel or fairway shall keep as near to the outer limit of the channel or fairway which lies on her starboard side as is safe and practicable'. They should not be considered covered by this Rule on 'crossing situation' when in 'narrow channels'. A 1948 judgement on this aspect has been quoted with the explanation of Rule 9(a) and is repeated here for ready reference: On a collision which took place in a 'narrow channel', Mr. Justice Willmer had Ruled, "I have no hesitation in saying that as between a vessel coming up and a vessel going down, approaching each other in that way in a narrow channel, the narrow channel Rule, and the narrow channel Rule only, is the Rule that has to be applied."

Rule 9(d) states that 'a vessel shall not cross a narrow channel or fairway if such crossing impedes the passage of a vessel which can safely navigate only within such channel or

**fairway**. The term **'a vessel'** in Rule 9(d) quoted above includes all types of vessels and hence the conduct of any **'power-driven vessel'** also. This requirement of Rule 9(d) shall remain applicable in **'a narrow channel or fairway'**, even though there is no cross reference to it in this Rule 15. However, should there be a developing **'close-quarters'** and/or a **'risk of collision'** situation in areas governed by Rule 9(d), then the requirements of Rule 8(f) would apply for any **'action to avoid collision'** as the word **'impedes'** has been used in Rule 9(d).

Rule 10 governs the conduct of vessels in **'traffic separation schemes'** but also states that it **'does not relieve any vessel of her obligation under any other Rule'**. So within a TSS should there be a developing **'close-quarters'** and/or a **'risk of collision'** situation between any two vessels, normal collision prevention Rules shall apply. If it is a **'crossing situation'** involving two **'power-driven vessels'**, then the requirements of Rule 15 would prevail when they are in **'sight of one another'**.

Rule 10(c) does allow vessels to cross **'traffic lanes'**; however, Rule 10(j) only prohibits vessels of less than 20 m in length and sailing vessels from impeding **'the safe passage of a power-driven vessel following a traffic lane'**. Interpreted inversely, the Rules do not prohibit vessels over 20 m in length to impede **'the safe passage of a power-driven vessel following a traffic lane'** and in all such cases the requirements of the relevant Rules shall apply for **'any action to avoid collision'**. This aspect has deliberately been stated here because by now all the three conditions of **'overtaking'**, **'head-on'** and **'crossing'** have been explained.

**[TASK: REFER TO THE COLLISION BETWEEN 'MSC PRESTIGE' AND 'SAMCO EUROPE', DETAILS GIVEN WITH RULE 10(F). ANALYSE THE SAME WITH RESPECT TO RULES 14 AND 15. WERE THESE RULES APPLIED CORRECTLY? HAD ANY OF THESE TWO RULES BEEN APPLIED CORRECTLY IN CONJUNCTION WITH THE REQUIREMENTS OF RULE 8, WOULD THEY HAVE PREVENTED THE COLLISION FROM TAKING PLACE?]**

*Solution to the situation shown on page 116 where 'A' is heading 270° and 'B' is heading 250°. Work out the relative position of the vessels from each other to first determine the situation. Since 'B' is only 17° abaft the beam of 'A' this is not an overtaking but a crossing situation between the vessels. 'A' is the give-way vessel by this Rule 15. 'A' should alter her course initially to starboard at least to a heading 020° or even higher so that 'B' is clearly on her port bow.*

*Rules 5, 6, 7, 8, 11, 15, 16, 17 and 34 may all be considered applicable in the situation.*

## Rule 16

### Action by give-way vessel

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

This Rule is self-explanatory. Any **'give-way vessel'** - **'shall, so far as possible'** keep clear by taking **'early and substantial action'**. The different situations involving vessels having **'risk of collision'**, except the requirements of Rule 18, and the best expected actions **'to avoid collision'** have already been explained. A vessel required to keep clear, termed **'give-way vessel'**, is required to act as per the Rule applicable in the relevant situation, she shall **'take early and substantial action to keep well clear'** and also pass at a **'safe distance'**. The application of these **'International Regulations for Preventing Collisions at Sea'** is stated in Rule 1(a), but the requirement to take **'action to avoid collision'** is further stated in Rule 8(a); **'any action to avoid collision shall be taken in accordance with the Rules of this part'**. **'This part'** means Part B of these Rules as explained earlier. A **'give-way vessel'** has the prime duty and responsibility to **'keep well clear'**.

Any **'action to avoid collision'** has to be coupled with and executed in conjunction and compliance with all the requirements of Rule 8. A quick reminder of the main elements stated in Rule 8: **'collision avoidance actions should be positive, made in ample time, with due regard to the observance of good seamanship, substantial, be large enough to be readily apparent to another vessel, if there is sufficient sea room - alteration of course alone may be the most effective action, result in passing at a safe distance, not result in another close-quarters situation and the effectiveness of the action shall be carefully checked until the other vessel is finally past and clear'**.

Both Rules 8 and 16 contain similar requirements. Rule 16 states **'take early and substantial action'**; Rule 8 states take action that is **'positive, made in ample time'**; Rule 16 states take action **'to keep well clear'**; Rule 8 states take action that will **'result in passing at a safe distance'**; Rule 16 implies take the prescribed action **'so far as possible'**; Rule 8 states take action **'if circumstances of the case admit'**. Though the language varies, the requirements are essentially the same.

The **'so far as possible'** clause in this Rule does give a **'give-way vessel'** some discretion, that is in circumstances where she may be unable take **'action to avoid collision'** as required by these Rules. For example, due to the presence of navigational dangers like other traffic and/or no-go areas etc. If a **'give-way vessel'** finds herself in such a situation, she continues to remain a **'give-way vessel'** and should take such other action to keep clear as best possible in the circumstances. In these conditions, if the **'give-way vessel'** is not able to act in compliance with the requirements of the relevant Rule(s) applicable for the situation, she should invoke Rule 2 in deciding the best **'action to avoid collision'**. The important elements from Rule 2 are quoted here as a quick reminder: **'any precaution which may be required by the ordinary practice of seamen', 'special circumstances of the case', 'due regard shall be had to all dangers of navigation and collision' and 'which may make a departure from these Rules necessary to avoid immediate danger'**.

Rule 34(a), applicable to a *'power-driven vessel'*, requires *'when manoeuvring as authorised or required by these Rules, shall indicate that manoeuvre by the following signals on her whistle'*. This requirement has to be complied with by any *'power-driven vessel'* whenever she takes *'any action to avoid collision'* as a *'give-way vessel'*, irrespective of the range between the vessels.

It must be emphasised in no uncertain terms that although a *'stand-on vessel'*, by virtue of the next Rule 17, is also required to *'take action to avoid collision by her manoeuvre alone'*, this is to be executed only and only when a *'give-way vessel'* does not act to avoid collision. By no stretch of the imagination does Rule 17 imply that a *'give-way vessel'* is relieved of her primary duties and obligations.

## Rule 17

### Action by stand-on vessel

- (a) (i) Where one of two vessels is to keep out of the way the other shall keep her course and speed.
- (a) (ii) The latter vessel may, however, take action to avoid collision by her manoeuvre alone, as soon as it becomes apparent to her that the vessel required to keep out of the way is not taking appropriate action in compliance with these Rules.
- (b) When, from any cause, the vessel required to keep her course and speed finds herself so close that collision cannot be avoided by the action of the give-way vessel alone, she shall take such action as will best aid to avoid collision.
- (c) A power-driven vessel which takes action in a crossing situation in accordance with subparagraph (a)(ii) of this Rule to avoid collision with another power-driven vessel shall, if the circumstances of the case admit, not alter course to port for a vessel on her own port side.
- (d) This Rule does not relieve the give-way vessel of her obligation to keep out of the way.

When apportioning the percentage of blame to vessels involved in collisions, very rarely have the courts concluded that it was 100 % the fault of just one of them. Such rulings are based on the requirements stated in this rather important Rule designed for *'preventing collisions'* at any cost. If a *'give-way vessel'* is closing in to cause discomfort to the navigators of a *'stand-on vessel'*, then the latter are required to act to *'avoid collision'*. One rare ruling blaming one vessel alone is given at the end of these explanations about this Rule.

*'Give-way'* or *'stand-on'* terms of Rules 16 and 17 respectively become applicable when an encounter between any two vessels *'in sight of one another'* develops into a *'close-quarters and/or risk of collision'*. This is so, since these Rules are placed in Section II of this Part B of these Rules. As explained earlier, if *'risk of collision'* is not established at long range or otherwise then the application of these Rules is also not applicable.

Where one of the two vessels is *'directed to keep out of the way of another vessel'* by any of the Rules in this section II of Part B, applicable *'to vessels in sight of one another'*, in any developing *'close-quarters and/or risk of collision'* situation, she is classified a *'give-way vessel'*. She has a simple obligation to stay out of the way of a *'stand-on vessel'* as required by Rule 16 and take *'action to avoid collision'* in accordance with the Rule(s) applicable to the prevailing situation. This Rule also states *'one of two vessels'*; for reasons explained earlier, these Rules restrain themselves to various situations involving two vessels only. For example, assume a vessel is in a situation where there are two other vessels in its vicinity and both of them have *'risk of collision'* with this vessel. If this vessel is *'give-way vessel'* for one and *'stand-on vessel'* for the other, obviously she cannot do both the acts of a *'stand-on vessel'* and of a *'give-way vessel'* at the same time. In such situations the requirements of Rule 2, as explained earlier, may need to be applied.



This Rule is about the *'stand-on vessel'*, but this term has only been used in the title and not even once in the contents. The text uses the terms *'other'* in paragraph 'a' and *'vessel required to keep her course and speed'* in paragraph 'b'. Both imply that the vessel referred to is the *'stand-on vessel'*. A *'stand-on vessel'* is placed in a more complex situation with complicated responsibilities because her initial obligation is *'shall keep her course and speed'* or to *'stand-on'* as per subparagraph 'a-i' of this Rule. The purpose is to allow time to a *'give-way vessel'* to plan and execute *'action to avoid collision'* - *'to keep out of the way'* of the *'stand-on vessel'*.

The provisions of this Rule 17 get invoked in any developing *'close-quarters'* and/or *'risk of collision'* situation where it appears that a *'give-way vessel'* is not taking the desired actions *'keep out of the way'* of a *'stand-on vessel'*. This Rule requires a *'stand-on vessel'* *'to take action to avoid collision'* to deal with such an emergency; it is expected that collisions can still be prevented by her actions. This Rule places a duty on a *'stand-on vessel'* to compulsorily act in such circumstances. The two important elements to activate action by a *'stand-on vessel'* as prescribed by this Rule are:

1: The *'give-way vessel'* must appear to be *'not taking appropriate action in compliance with these Rules'*. That means taking nil or insufficient *'appropriate action'* to eliminate the developing *'close-quarters and/or risk of collision'* situation as perceived by the *'stand-on vessel'*, as per subparagraph 'a-ii' of this Rule.

And

2: A *'give-way vessel'* should have reached *'so close'* to the *'stand-on vessel'* that it appears to the latter that actions of the *'give-way vessel'* alone will not eliminate the imminent *'risk of collision'*, as per paragraph 'b' of this Rule.

To enable the above-mentioned determinations, these Rules require a proactive approach by all vessels to remain alert and vigilant in monitoring the behaviour and actions of all other vessels in the vicinity. All vessels should always continue to comply with all the requirements of these Rules, especially Rule 5 on *'look-out'*, Rule 7 *'to determine if risk of collision exists'* and Rule 8 on *'action to avoid collision'*.

Subparagraph 'a-ii' of this Rule means that *'as soon'* any *'stand-on vessel'* feels that a *'give-way vessel'* - *'is not taking appropriate action in compliance with these Rules'*, she *'may'* take action to eliminate any developing *'close-quarters and/or risk of collision'* situation. *'Appropriate action'* expected from a *'give-way vessel'* has been explained with each Rule earlier. Activating evasive action required by this Rule depends on the perception of a *'stand-on vessel'* about the *'appropriate action'* of a *'give-way vessel'*. *'As soon'* limits are open to debate, but appear to emphasise that action is taken earlier rather than later. Similarly, but to a lesser extent, *'appropriate action'* may also be debated. It is all finally dependent on the sound and prudent judgement of the navigators on board a *'stand-on vessel'* to decide on the time, range and quantum of *'action to avoid collision'* taken by a *'give-way vessel'*. Do note the discretion of action allowed to a *'stand-on vessel'* by the use of *'may'* in this subparagraph.

Many factors can be considered in determining *'not taking appropriate action'* by a *'give-way vessel'*: no action at all, late action, not sufficient action or action contrary to the Rules, etc. In all cases, it depends on the perception of a *'stand-on vessel'* that must also gauge if the situation is likely to turn dangerous.

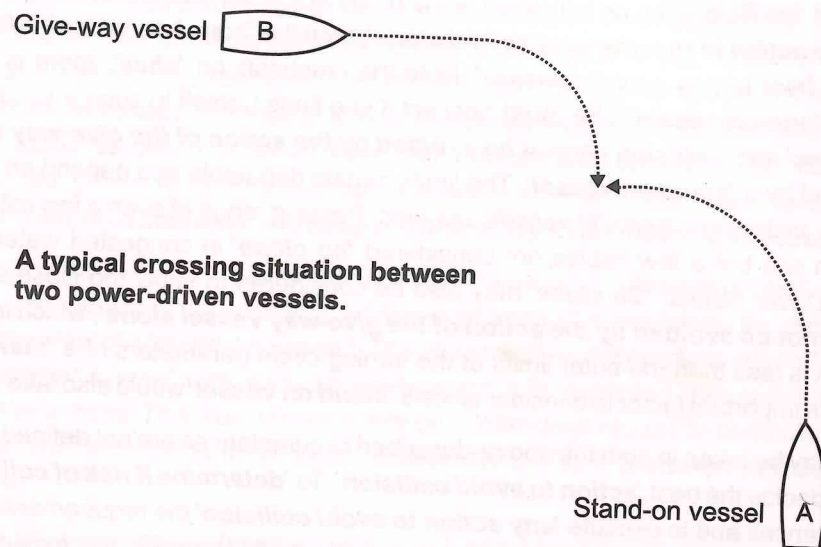
Paragraph 'b' of this Rule gives an indication of the range, if it is *'so close that collision cannot be avoided by the action of the give-way vessel alone'*, then the *'stand-on vessel'* *'shall take such action as will best aid to avoid collision'*. Note the emphasis on *'shall'*; there is no discretion granted to a *'stand-on vessel'*, she must now act if she finds herself in such a situation. Both the factors *'so close'* and *'collision cannot be avoided by the action of the give-way vessel alone'* are to be judged by a *'stand on vessel'*. The limits remain debatable and depend on the prevailing circumstances, including the type of vessels involved. Passing range of even a few miles may be *'so close'* in open sea but a few cables not considered *'so close'* in congested waterways like the Singapore or Dover Straits. *'So close'* may also be considered to imply too close a range where *'collision cannot be avoided by the action of the give-way vessel alone'*, which implies that the projected CPA is less than the outer limits of the turning circle parameters of a *'stand on vessel'*. TCPA also is an important factor to consider since a *'stand on vessel'* would also take time to act.

Actions that may be taken in both the above-described circumstances are not defined and it is for the navigators to decide the best *'action to avoid collision'*. To *'determine if risk of collision exists'* in such circumstances and to execute *'any action to avoid collision'* the requirements of the various applicable Rules remain valid, especially Rules 2, 5, 7 and 8. Normally, the expected action of a *'stand-on vessel'* in such situations should be to take her away from the direction of the *'give-way vessel'*; this may well be considered the safest manoeuvre and in line with the recommendations of Rule 8(c), *'if there is sufficient sea room, alteration of course alone may be the most effective action to avoid a close-quarters situation provided that it is made in good time, is substantial and does not result in another close-quarters situation'*. The option to alter speed is also very much a valid option. However, as referred to with Rule 8 and explained later in the chapter on basic ship handling, this takes longer to put into effect and may not always be *'readily apparent to another vessel observing visually or by radar'*, required by Rule 8(b). In any case, whatever best can be done must be done in such circumstances; a *'stand-on vessel'* should not wait for too long but act at a large enough range in *'ample time'* as per subparagraph 'a-ii' of this Rule.

Other than *'not alter course to port for a vessel on her own port side'* in a *'crossing situation'* by a *'stand-on vessel'* as per paragraph 'c', this Rule does not provide any advice on *'any action to avoid collision'* required to be taken by a *'stand-on vessel'* as explained above. However, this restriction is only when a *'stand-on vessel'* acts in compliance with subparagraph a(ii) of this Rule. This restriction does not apply when paragraph 'b' of this Rule becomes applicable. In the latter case the *'stand-on vessel'*, *'shall taken such action as will best aid to avoid collision'*.

By not providing any advice, the Rule implies that conflicting actions by vessels should be avoided. A *'stand-on vessel'* having the freedom to decide her action, except as required by paragraph 'c' of this Rule, should always consider the most likely action expected to be taken by a *'give-way vessel'* in compliance with these Rules. Hence, any action initiated by a *'stand-on vessel'* should not embarrass the expected action of a *'give-way vessel'* or lead to a more dangerous situation or an imminent collision. Navigators of a *'stand-on vessel'* must remember that they enjoy the freedom of choosing actions by Rule 2 keeping *'ordinary practice of seamen'* in mind and that the requirements of Rule 8 continue to apply for *'any action to avoid collision'*.

The requirements of paragraph 'c' of this Rule are self-explanatory. The best *'action to avoid collision'* in a *'crossing situation'* has been explained with a sketch in the explanation following Rule 15; a similar situation is repeated here involving *'two power-driven vessels'*. It will be quite



clear that 'A', the **'stand-on vessel'**, should not alter her course to port because 'B', the **'give-way vessel'** on her port side, is in all likelihood should be expected to alter her course to starboard to pass astern of 'A'. If 'A', the **'stand-on vessel'**, alters course to port and then finds 'B', the **'give-way vessel'**, starting to alter her course to her starboard, the conflicting actions could lead to a very dangerous situation which may even culminate in a collision - a situation that has to be avoided. Such cases have occurred in the past and thus the inclusion of this restriction in the Rule itself.

If **'risk of collision'** is developing and a **'give-way vessel'** does not appear to be taking appropriate action, a **'stand-on vessel'** needs to attract her attention by sounding five short and rapid blasts on her whistle as prescribed in Rule 34(d) which **'may be supplemented by a light signal of at least five short and rapid flashes'**. These are customarily called **'wake up'** signals. The optional supplementary light signal is to enable this caution or wake-up signal to be transmitted visually to ranges beyond that of sound signals.

However, should the 'wake-up' signals fail to make a **'give-way vessel'** take any **'action to avoid collision'** and a **'stand-on vessel'** has to take such action as per this Rule, then the requirements of Rule 34(a) shall still apply if this **'stand-on vessel'** is a **'power-driven vessel'**. The requirement of giving the 'wake up' sound signals given in Rule 34(d), however, remains applicable to all vessels.

The last paragraph 'd' of this Rule highlights that a **'give-way vessel'** remains obliged to keep clear of a **'stand-on vessel'** and the requirements of this Rule by which a **'stand-on vessel'** may act to **'avoid collision'** do not in any way imply or suggest that a **'give-way vessel'** should not act correctly, or is absolved of her prime responsibilities and obligations.

As mentioned earlier, the restriction by paragraph 'c' of this Rule is only applicable when a **'stand-on vessel'** acts in compliance with subparagraph 'a-ii' of this Rule and not when she acts as per paragraph 'b', in the latter scenario she has full freedom to take **'any action to avoid collision'** and this reflects the requirements stated in Rule 2 also.

There have been some interesting court rulings on these aspects; two different rulings are explained below.

Two vessels proceeding on the same parallel course and speed in open waters, good visibility, vessels **'in sight of one another'** no change in the compass bearing or range between them, **'no risk of collision'**, and the range between them about 5 miles. The vessel ahead started doing compass adjustment and altered her course to starboard by almost 90° resulting in a collision. In this case, the court ruled that since there was no **'risk of collision'** initially, these Rules did not apply until such time that the one ahead had altered and **'risk of collision'** actually developed. The argument by the one ahead, that she assumed this to be an **'overtaking'** situation and expected the one behind to keep clear, did not hold good as the Rules did not apply till **'risk of collision'** was established. The court observed that when the one forward altered to starboard bringing the other vessel on her starboard bow, the application of these Rules became applicable because **'risk of collision'** had developed, and since this was a **'crossing situation'**, the relevant Rule applied. Though this is a ruling of 1938, the implications of the interpretations of the Rules by the courts remain valid even today. The application of any of these Rules for collision avoidance is activated as soon as there is the development of any **'close quarters'** and/or **'risk of collision'**.

The act of altering course to adjust compasses was not an ordinary navigational act or a required nautical manoeuvre in the area, which the other vessel ought to have foreseen or envisaged and thus taken precautions to keep clear by the **'ordinary practice of seamen'**. This aspect is highlighted in the other case stated below.

In a second case, two vessels were approaching a pilot station on crossing courses **'in sight of one another'**; the two collided during the approach. Sometime before collision, the **'stand-on vessel'** reduced speed by stopping her engines to embark the pilot. In the court ruling, she was not found at fault on account of **'shall keep her course and speed'**. Being in the act of embarking a pilot, she was unable to take any **'action to avoid collision'** as required by these Rules. On the contrary, her actions were totally justified in the circumstances, and to quote a few of the remarks made in the judgement: **'course and speed'**, mean the course and speed in following the nautical manoeuvre in which, to the knowledge of the other vessel, the vessel is at the time engaged. Is the manoeuvre in which the vessel is engaged an ordinary and proper manoeuvre in the course of navigation that will require an alteration of course and speed?; ought the other vessel to be aware of the manoeuvre which is being attempted to be carried out?

On 27<sup>th</sup> July 1993 at about 00.05 hrs the Hamburg registered container vessel 'Contship Success' of 16'250 gross steering about 065° true at 17 knots collided with the UAE flag anchor handling tug 'Selat Arjuna' of 499 gross steering about 245° true at 9 knots in the Arabian Sea off Yemen due to which the latter subsequently sank, though all on board survived.

In a judgment handed down on 22nd July 1998, Mr Geoffrey Brice QC, sitting as a Deputy High Court judge in the Admiralty Court, held that the 'Contship Success', which had claimed, perhaps incorrectly, to be the **'stand-on vessel'**, was alone to blame for the collision. On 11<sup>th</sup> April 2000, a bench of three: Lord Justice Roch, Lord Justice Clarke and Sir Christopher Slade, in the

Supreme Court of Judicature, Court of Appeal upheld the previous ruling and passed the order 'Appeal dismissed with costs'.

*This is a very rare ruling where the container vessel was found to be totally at fault and blamed 100% for the collision by the Courts twice. Although the owners of the container vessel had tried to claim that she was a 'stand-on vessel' in a 'crossing situation', this did not sustain because of the manner in which she claimed to have become a 'stand-on vessel'.*

*The vessels, initially passing clear and safe of each other on near opposite courses, should have passed on the starboard side of each other at an estimated range of just less than one nautical mile. The container ship suddenly altered her course to starboard and collided with the starboard side of the tug. The owners of the container vessel claimed that she was crossing the path of the tug and was on the starboard side of the tug; as such she was the 'stand-on vessel' and the tug should have kept 'out of the way' being the 'give-way vessel'. During the trial, the court established that the two vessels would have passed each other safely starboard to starboard had they maintained their 'course and speed'. 'Contship Success', the container vessel, made several 10° alterations of course to starboard placing 'Selat Arjuna' right ahead of her and then made another sudden course alteration to starboard leading to the collision.*

*The owner's of 'Contship Success', while arguing that their vessel was crossing, further claimed that 'Selat Arjuna' failed to give way and their vessel was thus forced to make a last-minute alteration of course to starboard, but that was insufficient to prevent the collision.*

*The Admiralty Court concluded that 'Contship Success' had to take all the blame. In reaching this decision, the court commented that a remarkable feature of the case was that 'Contship Success' altered course to starboard and collided with 'Selat Arjuna' although 'Selat Arjuna' was at all material times on the starboard bow of 'Contship Success'. According to the judgement, 'Selat Arjuna' could not have been readily aware of a slow alteration to starboard by 'Contship Success', and having confirmed a safe starboard to starboard passing 'Selat Arjuna' was caught by surprise, had few options when it became apparent to her that 'Contship Success' was taking improper action and did not have any opportunity to react in time. Although 'Selat Arjuna' held her course and speed over roughly 8 minutes, from the time 'Contship Success' started altering her course to starboard in the 10° incremental steps using her auto pilot (note: to avoid the off course alarm), having confirmed the earlier safe passing, it missed noticing the slow and incremental course changes made by 'Contship Success' till it was too late.*

*The main arguments were whether actions of 'Contship Success' created a legitimate 'crossing situation' by which 'Selat Arjuna' became a 'give-way vessel' as was being claimed by the owners of the former. Various previous judgements were referred to, including the fact that the crossing rule applied regardless of the fault of any vessel.*

*The court finally held that the crossing rule may apply in principle to make 'Selat Arjuna' a 'give-way vessel', subject to the Lord Wright test in the 'Alcoa Rambler' (a case of 1949) that a ship was on a course only if its actions were open and notorious to a seaman on the other ship in the ordinary course of navigation. According to Lord Wright, the ordinary idea of a course is sufficiently constant direction of a ship on the same line of heading.*

*Using this definition, the Admiralty court concluded that the 'Contship Success' was never on a course for its actions to be open and notorious to the watch keeper on 'Selat Arjuna'. As such, the crossing rule would not apply and 'Contship Success' was solely to blame for the collision.*

*The following are quoted from the Court of Appeal ruling dated 11<sup>th</sup> April 2000, which upheld the above ruling:*

**A) The sidelights of the CONTSHIP SUCCESS did not comply with the Regulations, which provide that sidelights should be visible between 1° and 3° outside the prescribed sector.**

**B) In summary, I find Contship Success was at fault for:**

- 1) **Failing to keep a good radar and visual lookout;**
- 2) **Wrongly interpreting the information from (or which ought by proper operation of the ARPA to be available) on radar;**
- 3) **Wrongly altering course to starboard to a ship on her starboard bow;**
- 4) **If an alteration to starboard was to be made, failing to make a bold alteration in due time or at all and which could be observed from on board Selat Arjuna;**
- 5) **Failing to put her engines on standby and reduce to manoeuvring full ahead in due time or at all;**
- 6) **Operating the engines so as to cause a temporary blackout;**
- 7) **Failing to sound a whistle signal of one short blast in due time or at all;**
- 8) **Failing to reduce speed in due time to avoid a collision;**
- 9) **Failing to comply with rules 2, 5, 6, 7, 8, 20b, 23(a)(iii) and 34(a) of the International Regulations for Preventing Collisions at Sea 1972 (as amended).**

**There was no causative fault as regards rules 34(d) or 36 because the ships were never in a situation where those rules were relevant.**

The text of the full ruling may be seen on the website

<http://www.bailii.org/ew/cases/EWCA/Civ/2000/121.html>

**[TASK: ANALYSE THIS COLLISION ACCIDENT AND COMPARE WITH THE COLLISION BETWEEN 'SAMCO EUROPE' AND 'MSC PRESTIGE' GIVEN AFTER RULE 10(F) AND LINK IT WITH THE REQUIREMENTS OF RULES 16 & 17.]**

The above collision also exhibits that situational ambiguity of the watch keepers has certainly contributed to the accident. This collision took place soon after change of watch. Statistical research on navigational accidents indicates that the duration from 15 minutes before the end of a watch until 15 minutes after change over is vulnerable for accidents. The outgoing OOW may get busy completing various ongoing activities and miss out on navigation; the incoming OOW would take some time to gain full situational awareness. In the above case the small incremental alterations prohibited by Rule 8(b) contributed to the accident but advice from the watchkeeping guidelines, see the task below, also do not appear to have been complied with.

**[TASK: REFER TO PARAGRAPHS 23 & 35 IN STCW CODE SECTION A-VIII/2 TO COMPLETE THIS ANALYSIS]**

## Rule 18

### Responsibilities between vessels

Except where Rules 9, 10 and 13 otherwise require:

- (a) A power-driven vessel underway shall keep out of the way of:
- (i) a vessel not under command;
  - (ii) a vessel restricted in her ability to manoeuvre;
  - (iii) a vessel engaged in fishing;
  - (iv) a sailing vessel.
- (b) A sailing vessel underway shall keep out of the way of:
- (i) a vessel not under command;
  - (ii) a vessel restricted in her ability to manoeuvre;
  - (iii) a vessel engaged in fishing.
- (c) A vessel engaged in fishing when underway shall, so far as possible, keep out of the way of:
- (i) a vessel not under command;
  - (ii) a vessel restricted in her ability to manoeuvre.
- (d)
- (i) Any vessel other than a vessel not under command or a vessel restricted in her ability to manoeuvre shall, if the circumstances of the case admit, avoid impeding the safe passage of a vessel constrained by her draught, exhibiting the signals in Rule 28.
  - (ii) A vessel constrained by her draught shall navigate with particular caution having full regard to her special condition.
- (e) A seaplane on the water shall, in general, keep well clear of all vessels and avoid impeding their navigation. In circumstances, however, where risk of collision exists, she shall comply with the Rules of this part.
- (f)
- (i) A WIG craft, when taking off, landing and in flight near the surface, shall keep well clear of all other vessels and avoid impeding their navigation;
  - (ii) A WIG craft operating on the water surface shall comply with the Rules of this Part as a power-driven vessel.

This Rule states that the requirements of 'Rules 9, 10 and 13', explained earlier, always prevail and have precedence over or automatically override the requirements stated in this Rule 18.

Simply worded and self-explanatory, this Rule creates a clear division between different types of vessels and defines the 'responsibilities between vessels' for areas not covered by earlier Rules.

In apparent order of priority, the more manoeuvrable vessels are required to give way to those less manoeuvrable or restricted in their movements. Of the situations covered earlier, Rule 12 was only about 'two sailing vessels' when they have a 'risk of collision' between them. When 'overtaking', Rule 13 alone is applicable since it overrides all other Rules from 04 to 18. Rules 14 & 15 on 'head-on' and 'crossing' situations govern actions only between 'two power-driven vessels' when they 'involve risk of collision'.

The requirements of these Rules apply when there is a developing 'close-quarters and/or a risk of collision' between vessels and has been so held by courts in several cases; this principle should naturally apply to the application of this Rule 18 too. Further, any 'action to avoid collision' should be appropriate to the 'circumstances and conditions' of each situation and the application of the general principles of these Rules, especially Rules 2 and 8. Rule 16, 'action by give-way vessel' and Rule 17, 'action by stand-on vessel', continue to apply along with the application of this Rule.

Only when a vessel is actually meeting Rule 3 definitions and the criteria defined can she justify claiming the privileges granted by this Rule. Such vessels should also display 'lights and shapes' indicating their special condition as prescribed in Part C of these Rules.

This Rule neither states 'risk of collision' nor defines or implies any expected actions; the Rule uses the terms 'keep out of the way of', 'avoid impeding the safe passage', or 'keep well clear of'. Interestingly, different paragraphs of this Rule have used these different phrases and, though all may have the same intent, each can be interpreted differently. While paragraphs (a), 'b' and 'f' of this Rule only use 'shall', paragraphs 'c' and 'd-i' respectively use the phrases 'so far as possible' and 'if the circumstances of the case admit' after 'shall', which does dilute the strictness imposed by the word, 'shall'. These aspects should be kept in mind in the interpretation of the different requirements, their understanding and practical application, for example application of 'avoid impeding' is as explained in depth with Rule 8(f).

The practical application of this Rule, like most others, depends on 'look out', which does depend on prevailing visibility. At times, the special category of a particular vessel may not be recognized at a reasonable range to allow timely 'action to avoid collision'. During day, especially if a special category vessel is towards the direction of the sun, the shapes may not be seen/recognised by other vessels till they are too close to take effective 'action to avoid collision'. If, such a situation is likely to or does develop, a 'stand-on' vessel should take action 'in good time' as per Rule 17.

#### [TASK: PLEASE REVISE RULES '9', '10' AND '13' AND THEIR EXPLANATIONS.]

a: Requires that a 'power-driven vessel underway shall keep out of the way of' all kinds of vessels that have some sort of restriction in manoeuvring and are usually called 'hampered'. These have been listed as those 'not under command', (NUC), 'restricted in her ability to manoeuvre', (RAM), 'engaged in fishing' and 'sailing'. Keeping clear of a 'vessel engaged in fishing' implies keeping clear of her fishing gear also which may extend a considerable distance from the vessel. The exceptions to this Rule would be the requirements stated in Rules 9, 10 and 13 that always override this full Rule as explained earlier.

The word *'underway'* has a wide spectrum application and applies even if a *'power-driven vessel'* is stopped and drifting, when she is still very much required to comply with this and other Rules. In addition, paragraph 'd' of this Rule also requires *'any vessel'* to *'avoid impeding the safe passage of a vessel constrained by her draught'*, the latter would always be a *'power-driven vessel'* as per the definition in Rule 3(h).

By reverse implication of these Rules, a *'power-driven vessel'* that is not *'underway'*, for example if she is *'at anchor, or made fast to the shore, or aground'*, is not required by any of these Rules to keep out of the way of another vessel as this requirement is not stated in any of these Rules.

**[TASK: PLEASE REFER TO THE EXPLANATIONS GIVEN AFTER RULE 2 REGARDING KEEPING CLEAR OF VESSELS AT ANCHOR.]**

By *'ordinary practice of seamen'*, an expected exception to this paragraph 'a' of this Rule may be small sailing yachts or similar craft, on pleasure trips, making frequent changes in their *'course and speed'*; such craft should normally and reasonably be expected to keep clear of *'power-driven vessels'*. Frequent changes in their *'course and speed'* will make it extremely difficult for other vessels to even ascertain *'risk of collision'* with them, leave alone plan and execute *'any action to avoid collision'*.

b: Requires *'sailing vessels 'underway'* to keep out of the way of vessels *'not under command'* (NUC), *'restricted in her ability to manoeuvre'*, (RAM) and those *'engaged in fishing'*. The explanation on the application of the requirement is same as for paragraph 'a'.

c: States that *'a vessel engaged in fishing when underway shall, 'keep out of the way of vessels 'not under command'*, (NUC) and *'restricted in her ability to manoeuvre'*, (RAM) but *'so far as possible'*. This latter clause marginally reduces the strictness imposed by the word *'shall'* but does not eliminate it. The various possibilities when this exception under *'so far as possible'* may be applied are not defined and would have to be decided by the navigators of a *'vessel engaged in fishing'*. Requirements of Rules 2, 5, 7, 8 and 17 should be considered if a *'vessel engaged in fishing'* decides not to act.

For *'a vessel engaged in fishing'*, the very nature of her work and the outlying gear may impose severe restrictions on her manoeuvrability such that it may be physically impossible for her to *'keep out of the way'* at times. A trawler's speed is often limited to a few knots and a purse seiner may not be able to move at all while drawing in its nets. This Rule surely would not require a *'vessel engaged in fishing'* to cut loose its fishing gear just to keep out of the way of these 'hampered' vessels.

Rule 26(a) states, *'a vessel engaged in fishing, whether underway or at anchor, shall exhibit only the lights and shapes prescribed in this Rule'*. This requirement places her in a peculiar situation where she displays the same signals at anchor or underway. If she is *'at anchor'*, she would be not be able to take any action; but to others it would not be clear whether she is *'underway'* or *'at anchor'*.

Vessels *'not under command'* or *'restricted in her ability to manoeuvre'* are restricted in their manoeuvring capabilities, though the intensity varies as explained with Rule 3 definitions. On a comparative basis, *'a vessel engaged in fishing'* will be far more manoeuvrable and this explains/justifies the requirements of this Rule.

d-i: Requires all vessels other than a vessel *'not under command'* or *'restricted in her ability to manoeuvre'* to *'avoid impeding the safe passage of a vessel constrained by her draught'*. The severity of the requirement imposed by *'shall'* is reduced by *'if the circumstances of the case admit'*. As explained earlier for *'so far as possible'* with the previous paragraph 'c', the same parameters can be used to define this clause too. *'Avoid impeding'* has been explained in detail earlier with Rule 8(f).

By the definition given in Rule 3(h) a *'vessel constrained by her draught means a power-driven vessel which, because of her draught in relation to the available depth and width of navigable water, is severely restricted in her ability to deviate from the course she is following'*. By definition, such a vessel can only be a *'power-driven vessel'*; it is both *'the available depth and width of navigable water'* that matter and *'severely restricted'* does not mean incapable. However, it must be borne in mind that a vessel *'constrained by her draught'*, because of the low under keel and/or side clearance of the channel, will be slow and lethargic in executing any manoeuvres she undertakes, be it a change of course and/or speed. Negative effects of low clearances referred to above are generally termed 'squat' and have been explained in the chapter on basic ship handling.

This subparagraph refers to Rule 28 which states, *'a vessel constrained by her draught may exhibit the following signals 'three all-round red lights in a vertical line, or a cylinder'. 'May'* means optional and implies that the vessel concerned has to decide when she is actually *'constrained by her draught'* when she may display these additional signals if she wishes to use the privileges granted by this Rule.

d-ii: *'A vessel constrained by her draught shall navigate with particular caution having full regard to her special condition'*. The Rule does not specify the special conditions but these would primarily be the reduced manoeuvring capabilities of such a vessel as explained above. Such a vessel must consider this aspect in determining *'safe speed'*, especially Rule 6(a)(ii) clause, *'the manoeuvrability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions'*. The implication here is that the onus of exercising caution when navigating in such circumstances is primarily on a *'vessel constrained by her draught'*. In practice, such a vessel should navigate at a reasonably slow speed; the quantum to be decided by the navigators on board based on the *'prevailing circumstances and conditions'*.

Rule 1(b) empowers local authorities to make special Rules. If in any particular area such Rules prescribe either an absolute right of way or Rules different than as prescribed by these Rules for a *'vessel constrained by her draught'*, such local Rules would prevail and override the requirements of these Rules to the extent declared by the local authorities. Appropriate sources like publications and/or web-based sites should be consulted to check for any such local Rules.

e: Requires seaplanes when on water to *'keep well clear of all vessels'*. The strictness of *'shall'* is slightly diluted by the remark *'in general'*, but the emphasis is quite clear.

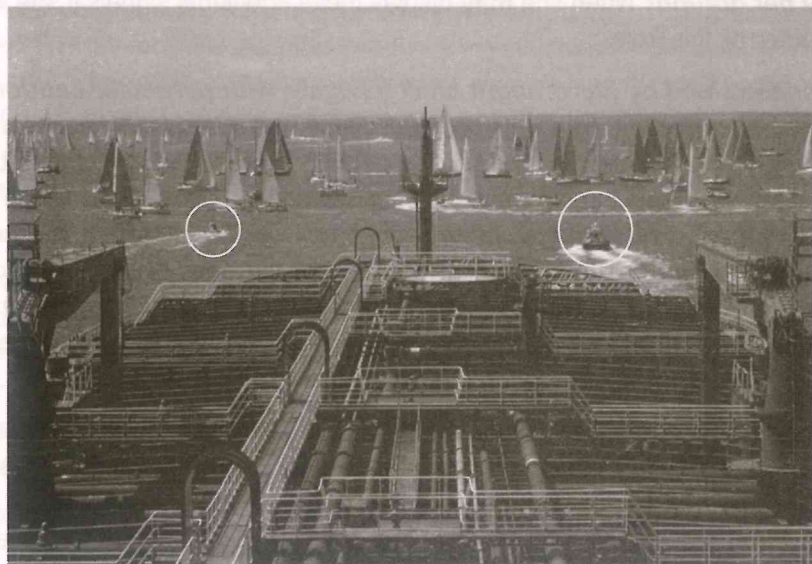
By definition, *'seaplane includes any aircraft designed to manoeuvre on water'* stated in Rule 3(e). This automatically excludes hovercrafts and similar craft like hydrofoils, which operate on the water in the non-displacement mode. Requirements of Rule 8(f) also apply with this Rule because of the *'avoid impeding'* clause.

**f-i:** Requires *'A WIG craft'* to *'keep well clear of all other vessels and avoid impeding their navigation'*. *'A WIG craft'* *'shall'* do this *'when taking off, landing and in flight near the surface'*. Do note these three specific conditions. *'Keep well clear of'* would apply at all times, whether *'risk of collision'* exists or not; as such, this requirement automatically includes conditions when there is a developing *'close-quarters and/or risk of collision'* situation. Requirements of Rule 8(f) also apply with this Rule because of the *'avoid impeding'* clause.

**f-ii:** States that except for the conditions stated in subparagraph 'i' explained above, *'A WIG craft'*, at other times when operating on the water surface, *'shall'* comply with the Rules of this Part B like any other *'power-driven vessel'*; which means not be entitled to any special privileges.

This Rule has not referred to other high-speed craft like hovercrafts and hydrofoils that would continue to be covered by the definition of a *'vessel'*. However, when applying the provisions of *'special circumstances'* from Rule 2, such high-speed craft may be reasonably expected to keep clear of other traffic.

[QUIZ: A VESSEL CONSTRAINED BY HER DRAUGHT IS NAVIGATING THROUGH A NARROW CHANNEL. OTHER VESSELS SHOULD KEEP CLEAR OF HER BY WHICH RULE - 9(b), 9(d) OR 18(d-i) ?]



A Power-driven vessel sailing out of an European port being assisted by the pilot boats to pass clear of the sailing yachts

## PART B SECTION II CONCLUSIONS

All normally expected *'in sight of one another'* situations and expected **best actions 'to avoid collision'** covered by these Rules have been explained so far. Beyond these, though unlikely, some situations may appear at times as not having been specifically addressed in these Rules. Answers and solutions to such problems can usually be found within the Rules themselves - either directly, by their interpretations and at times by direct or reverse implications. Some such situations have been explained below; a study of actual cases and court rulings given in this book will further help in the interpretation, understanding and application of these Rules, other legislative requirements and best practices.

Generally, *'if a close-quarters situation is developing and/or risk of collision exists'* and the responsibility of action is neither specifically defined, prescribed nor implied by these Rules for the situation or the type of vessels involved, it should be tackled as per the provisions of Rule 2 explained earlier. All requirements of Rule 8 continue to apply including *'if there is sufficient sea-room alteration of course alone may be the most effective action'*. This action, more often than not, is an alteration of course to starboard that is specified in Rules 14 and 17(c) and is the implied best action in a *'crossing situation'* as explained with Rule 15.

**1:** Two vessels both *'engaged in fishing'* meeting each other in a *'head-on situation'* with *'risk of collision'*. The Rules need to be interpreted for the said situation: if both are *'power-driven'*, Rule 14 will apply, if both are *'sailing'*, Rule 12. If one is *'power-driven'* and the other *'sailing'* then the provisions of Rule 18 should be applied.

**2:** Two hampered *'power driven vessel'* meeting each other in say a *'head-on'* or a *'crossing situation'*, *'so as to involve risk of collision'*. The vessels may be showing the 'RAM' or 'NUC' signals depending on their individual circumstances. The degree of responsibility cannot be clearly established in such cases. A vessel 'NUC' is defined as one which *'through some exceptional circumstance is unable to manoeuvre as required by these Rules and is therefore unable to keep out of the way of another vessel'*. A vessel 'RAM' *'from the nature of her work is restricted in her ability to manoeuvre as required by these Rules and is therefore unable to keep out of the way of another vessel'*.

Vessels indicate their status by displaying *'lights and shapes'* as applicable and may supplement the same by navigational safety warnings. As per the general trend of the Rules, a vessel less *'restricted in her ability to manoeuvre'* should take the best possible *'action to avoid collision'*. If one of them is 'RAM' then she should act as the *'give-way vessel'*, but if both are 'NUC', they may need to resort to some extraordinary means. Though the probability of such situations is extremely rare in reality, it cannot be ruled out and helps in analysing these Rules better.

As per these Rules, a *'vessel restricted her ability to manoeuvre'* and a *'vessel not under command'* have similar status. Any *'vessel underway'* under normal circumstances is required to *'keep out of the way'* of these vessels.

**3:** Another hypothetical situation that usually leads to heated debates is a *'vessel not under command'* overtaking a *'power-driven vessel'*. Assume this is in good visibility, vessels are *'in sight of one another'*, ample sea room exists and there is no other traffic.

Rule 13 states **'notwithstanding anything contained in the Rules of Part B, Sections I and II, any vessel overtaking any other shall keep out of the way of the vessel being overtaken'**. By this, a **'vessel overtaking'** is clearly required to keep clear and no other Rule of Sections I & II of Part B is applicable. As such, a vessel **'not under command'** should keep clear. She should be considered the **'give-way vessel'** and the **'power-driven vessel'** the **'stand on vessel'** by Rules 16 and 17 respectively. All situations and the related **'action to avoid collision'** are anyway prescribed in Part B and hence this argument seems reasonably satisfactory and acceptable.

However, the definition of a **'vessel not under command'** stated in Rule 3(f) is, **'the term "vessel not under command" means a vessel which through some exceptional circumstance is unable to manoeuvre as required by these rules and is therefore unable to keep out of the way of another vessel'**.

Rule 13 on **'overtaking'**, while over-riding all other Rules of Part B sections I & II, (Rules 4 to 18) does not change the definition which is contained in Rule 3 and is in Part A. Since a **'vessel not under command'**, **'is unable to manoeuvre as required by these rules and is therefore unable to keep out of the way of another vessel'** by definition, obviously she cannot be expected to take any actions prescribed in the Rules of Part B to keep clear.

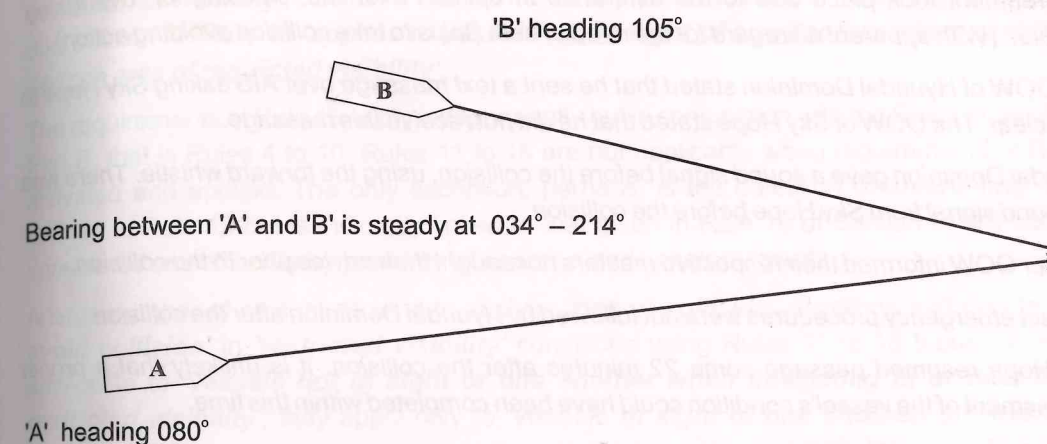
When **'ordinary practice of seamen'** and **'special circumstances'** are considered for this situation in conjunction with the definition; it gets apparent that since a **'vessel not under command'** by definition **'is unable to manoeuvre as required by these rules and is therefore unable to keep out of the way of another vessel'**; the **'power-driven vessel'** should ideally keep clear.

4: Vessels **'underway'** but stopped are frequently known to display **'not under command'** signals. Unless a vessel is **'not under command'** or **'restricted in her ability to manoeuvre'** she is not granted any special privileges by these Rules. Determination of **'risk of collision'** or the requirement to take **'action to avoid collision'** apply to any vessel **'underway'** even if she is stopped, when she should continue to display lights, shapes or signals as normally applicable to her.

There have been clarifications issued by IMO that normal collision prevention Rules apply to any vessel **'underway'** even if stopped and she must comply with the rules of part B. The following extracts from SN/Circ. 177 of 02 November 1995 issued by IMO are quoted below to highlight this aspect.

- 2 **In many cases, vessels have deliberately shut down their main propulsion machinery for no justifiable reason, and have considered themselves to be "vessels not under command" and therefore relieved from their responsibilities as power-driven vessels underway, as set out in rule 18.**
- 3 **A vessel which is underway and stopped, unless actually a "vessel not under command" as defined in the rules, must not use the NUC signal. Such a vessel must continue to exhibit the lights as prescribed in rule 23 for a power-driven vessel underway. This is particularly important when vessels engaged in fishing or restricted in their ability to manoeuvre, are forced to take action to avoid collision with a vessel which is the give-way vessel in accordance with rule 16.**
- 4 **Member Governments are urged to remind seafarers that NUC lights and signals should only be exhibited in circumstances as defined in rule 3(f). Such contraventions should be reported to the flag state for appropriate action.**

5: While the Rules do place clear requirements **'when a vessel is in any doubt'**, there still have been cases of confusion in determining the applicable situation with the navigators on board assuming different situations and waiting for the other to act; this had led to collisions. In the following diagram, **'power-driven'** vessels 'A' and 'B' have risk of collision. Vessel 'B' may analyse this as a **'crossing situation'**, and act as a **'give-way vessel'** whereas 'A' may analyse that she is **'overtaking'** and is the **'give-way vessel'**, as such both may take **'action to avoid collision'**, each acting assuming she is the **'give-way vessel'**. If done at good range it is unlikely their actions will lead to any risk even if both act simultaneously, the probability of this being low but not nil. 'A' should follow the general advice of Rules '2', '8' and '16' executing a large alteration away from 'B' in good time or reduce speed substantially.



However, if their analysis of the situation is reversed, then each would assume she is a **'stand-on vessel'** and wait for the other to act and may cause a collision unless they both act as per Rule 17. The below gist of the investigation report from the website of MAIB, UK about collision in good visibility highlights this aspect.

*Hyundai Dominion and Sky Hope, these large container vessels collided at 07.38 local time on 21st June 2004 in the East China Sea in good visibility conditions, fortunately with very minor damage. The investigations were jointly undertaken by the UK & Hong Kong authorities where the vessels were registered.*

*As the vessels approached, the officer on watch (OOW) on Sky Hope apparently incorrectly assessed the situation that Hyundai Dominion was overtaking; the latter perhaps assessed the situation as crossing. No action was taken by any of them till too late. The initial delay was due to VHF discussions, then again when the OOW on Hyundai Dominion requested the other vessel to keep clear using the free text facility on the Automatic Identification System (AIS). None took early or effective action and they collided.*

The contributory factors leading to the accident are stated in the report as:

- *Though not fatigued, however, both watchkeepers had worked in excess of the hours permitted*

by the STCW convention over the previous two days.

- Both vessels had been observing each other approaching. However, other than VHF communication there was no avoidance action taken until they were within a range of 0.2 nautical miles.
- Sky Hope judged Hyundai Dominion to be an overtaking vessel, which, in accordance with the COLREGS, required Sky Hope not to take any immediate collision avoiding action.
- Hyundai Dominion considered Sky Hope to be a crossing vessel requiring Hyundai Dominion to 'stand-on'.
- In VHF communications between the vessels leading up to the collision, it is likely that a disagreement took place due to the difference in opinion over the 'crossing' or 'overtaking' situation. (With apparent disregard for the need of both Ships to take collision avoiding action).
- The OOW of Hyundai Dominion stated that he sent a text message over AIS asking Sky Hope to keep clear. The OOW of Sky Hope stated that he did not receive this message.
- Hyundai Dominion gave a sound signal before the collision, using the forward whistle. There was no sound signal from Sky Hope before the collision.
- Neither OOW informed their respective masters nor sought their advice prior to the collision.
- Correct emergency procedures were not followed by Hyundai Dominion after the collision.
- Sky Hope resumed passage some 22 minutes after the collision. It is unlikely that a proper assessment of the vessel's condition could have been completed within this time.
- The bridge watchkeepers of Hyundai Dominion lacked a clear understanding of the operation of the engine controls.

The above report also highlights the fact that sound signals for manoeuvring and warning required by Rule 34 are seldom practiced at sea and also the misuse of VHF/AIS communication systems. There are many recommendations from IMO and flag states that these Rules can be applied in silence to prevent collision without resorting to any communication.

6: Multiple vessel situations are not covered by these Rules which restrict themselves to various situations involving two vessels only. In such situations the requirements of Rule 2, as explained earlier, would normally need to be applied in conjunction with Rule 8. As far as possible the closest encounter should be dealt with first but in any such cases early and substantial action would be the key to avoid any confusion, and actions executed should avoid embarrassing other vessels.

If this vessel is 'give-way vessel' for one and 'stand-on vessel' for the other, obviously she cannot do both the acts of a 'stand-on vessel' and of a 'give-way vessel' at the same time.

## PART B, SECTION III:

### CONDUCT OF VESSELS IN RESTRICTED VISIBILITY

Part B Section III consists only of Rule 19.

[TASK: HAVE A QUICK REFRESHER LOOK AT THE BREAK-UP AND APPLICATION OF THESE RULES, ESPECIALLY SECTIONS I, II & III OF PART B, BEFORE PROCEEDING FURTHER.

YOU MAY ALSO MAKE A LIST OF THE RULES AND ANNEXES APPLICABLE IN AND THOSE HAVING A SPECIAL IMPORTANCE IN 'RESTRICTED VISIBILITY' CONDITIONS].

As explained in the introduction, Rules of Part B which prescribe activities for '*preventing collisions*' are divided into three distinct sets. Section I: Rules 4 to 10 apply to all vessels at all times '*in any condition of visibility*'; Section II: Rules 11 to 18 apply to all vessels in visual '*sight of one another*' and Section III: Rule 19 '*applies to vessels not in sight of one another when navigating in or near an area of restricted visibility*'.

The requirements of Rule 19 apply independently but in conjunction with the Rules of Section I of this Part B, that is Rules 4 to 10. Rules 11 to 18 are not applicable when requirements of Rule 19 are activated and applied. The only exception, perhaps, is the definition of '*overtaking*' that is not defined in Rule 19 but is indirectly linked to that given in Rule 13 of Section II; this act has been considered one of '*ordinary practice of seamen*' and upheld by courts.

A large number of navigators tend to analyse '*risk of collision*' situations and decide '*action to avoid collision*' in '*restricted visibility*' conditions using Rules 11 to 18 though these are not applicable to '*vessels not in sight of one another when navigating in or near an area of restricted visibility*'; they apply only to '*vessels in sight of one another*'. Surveys by several nautical bodies and my own experience through the years support this statement. This is because Rules 11 to 18, applicable '*in sight of one another*', are so frequently used by navigators that they become part of their primary thinking and are unknowingly used even in '*restricted visibility*' conditions, which is not correct.

The requirements of Rule 19 differ substantially from the Rules 11 to 18. The differences will get clear as you study Rule 19, some of them are:

- i. In '*restricted visibility*' conditions the responsibility of taking '*action to avoid collision*' rests on both or all the vessels involved; there is nothing like a '*give-way*' or a '*stand-on vessel*'; Rules 16 and 17 prescribing these requirements apply only to vessels in '*sight of one another*'.
- ii. There is no differentiation in the type of vessels involved; Rule 19 applies equally to all types of vessels.
- iii. The cut off sectors of the relative position, or aspect or relative directions of vessels from each other for the application of the Rule 19 'd' & 'e' are different from those used for the various situations in '*sight of one another*'. Other than for a vessel overtaking, the beam direction is predominantly used.
- iv. Instant readiness of engines or propulsion systems is required.
- v. The use of sound signals varies in '*restricted visibility*' conditions, '*manoeuvring and warning signals*' from Rule 34 do not apply, only those in Rule 35 are applicable.



## Rule 19

### Conduct of vessels in restricted visibility

- (a) This Rule applies to vessels not in sight of one another when navigating in or near an area of restricted visibility.
- (b) Every vessel shall proceed at a safe speed adapted to the prevailing circumstances and conditions of restricted visibility. A power-driven vessel shall have her engines ready for immediate manoeuvre.
- (c) Every vessel shall have due regard to the prevailing circumstances and conditions of restricted visibility when complying with the Rules of section I of this part.
- (d) A vessel which detects by radar alone the presence of another vessel shall determine if a close-quarters situation is developing and/or risk of collision exists. If so, she shall take avoiding action in ample time, provided that when such action consists of an alteration of course, so far as possible the following shall be avoided:
  - (i) an alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken;
  - (ii) an alteration of course towards a vessel abeam or abaft the beam.
- (e) Except where it has been determined that a risk of collision does not exist, every vessel which hears apparently forward of her beam the fog signal of another vessel, or which cannot avoid a close-quarters situation with another vessel forward of her beam, shall reduce her speed to the minimum at which she can be kept on her course. She shall if necessary take all her way off and in any event navigate with extreme caution until danger of collision is over.

Watchkeeping practices change the moment a vessel is *'navigating in or near an area of restricted visibility'*. STCW Code A-VIII/2, paragraph 45 on watchkeeping requirements requires:

*When restricted visibility is encountered or expected, the first responsibility of the officer in charge of the navigational watch is to comply with the relevant rules of the International Regulations for Preventing Collisions at Sea, 1972, as amended with particular regard to the sounding of fog signals, proceeding at a safe speed and having the engines ready for immediate manoeuvre. In addition, the officer in charge of the navigational watch shall:*

- .1 inform the master;
- .2 post a proper lookout;
- .3 exhibit navigation lights; and
- .4 operate and use the radar.

A very important and interesting aspect is that this Rule refers to *'vessels'* or to a *'vessel'*. It applies equally to all types of vessels and does not grant any special privileges or status to any particular type of a vessel or the activity she is engaged in.

Paragraph 'e' of this Rule and the STCW Code quoted above use the terms *'fog signal'* and *'fog signals'* respectively. These terms actually refer to Rule 35 that prescribes *'sound signals in restricted visibility'*, not *'fog signals'*, which shall be used by vessels *'in or near an area of restricted visibility'*. This is to do with traditional terminology overflowing into the Rules, the term *'fog signals'* has been used so widely in practice that it has been used in these Rules and legislative requirements too.

Rule 35(c) does prescribe different sound signals for all vessels that have any kind of restriction imposed on them by virtue of their activity or condition. These sound signals give a general indication, are not vessel specific and may be heard at too close a range for comfort. If properly used, AIS systems can be of assistance, if fitted, in determining the status of other vessels in the vicinity for application of *'ordinary practice of seamen'*, but the application of this Rule is common to all types of vessels even then.

[TASK: READ RULE 35 ON 'SOUND SIGNALS IN RESTRICTED VISIBILITY'.]

The definition in Rule 3(k) neither states nor implies any range when *'restricted visibility'* is invoked in practice; on the other hand, visibility is the first point of consideration in deciding *'safe speed'*. The cut off range of visibility to apply provisions of *'restricted visibility'* depend on *'prevailing circumstances and conditions'* and application of *'ordinary practice of seamen'*. Some organisations either define the cut off visibility range as part of their ISM/ISO documented management systems or require Masters to state this in their standing/bridge orders. *'Restricted visibility'* does not mean zero visibility and can be caused due to many reasons, not fog alone.

Sound signals have a low audible range only between 0.5 to 2.0 miles depending on the length of a vessel as prescribed in Annex III of these Rules that too *'with 90% probability in condition of still air' - 'on its forward axis'*. *'In practice the range - is extremely variable and depends critically on weather conditions'*. The actual *'range'* is further subject to *'noise level'* and can be extremely variable, discussed further with paragraph 'e' of this Rule.

a: Explains the applicability of this Rule, vessels shall:

- 1: *'Not be in sight of one another'*;
- and
- 2: *'Navigating in or near an area of restricted visibility'*.

If vessels reach close enough to be *'in sight of one another'*, then as per Rule 11 they are required to follow Rules 11 to 18. *'In or near'* means that vessels, not just within, but also those *'near an area of restricted visibility'* need to comply with this Rule. *'Near'* is not defined numerically, and, as explained for other Rules, has to be decided by the navigators on board. Rule 6(b)(vi), *'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'*, should be used if possible. Firm determination of visibility by sight alone is a difficult task; the analysis can be fairly misleading. Heavy rain and squalls, even if only in the vicinity usually cause a severe reduction in visibility which invokes application of this Rule. These weather aspects can usually be detected well in advance by the proper use of radar.

It has always been held that, just because vessels are not *'in sight of one another'*, it does not invoke application of this Rule if *'risk of collision'* is established by the use of radar alone; *'restricted visibility'* conditions must also exist and the vessels concerned should be *'in or near'* the same, these two requirements invoke the application of this Rule as per paragraph 'a'.

However, Marine Guidance Note, MGN 369 (M+F) on *'Navigation in Restricted Visibility'* published by the MCA of UK in July 2008 states the following interpretation about the application of this Rule, quoted below. This interpretation creates a totally new dimension on the interpretation and application of this Rule. Though Rule 19(a) states, *'this Rule applies to vessels not in sight of one another when navigating in or near an area of restricted visibility'*, the above quoted MGN 369 explains the application as:

*'If you cannot see the other vessel visually, then Rule 19 shall apply, regardless of whether your vessel is in or near an area of restricted visibility.'*

The MGN itself carries a waiver saying *'where this document provides guidance on the law it should not be regarded as definitive'*. Having taken this up with MCA received the following from Forkanul Quader, Nautical Policy Lead, MCA on 18<sup>th</sup> May 2010: *'We do take note of your comments and will take that forward during our review of Guidance Notes. We have a review cycle and among others MGN 369 will also be reviewed/revise. We have also reassured GlobalMet in response to a similar query.'*

Readers and practitioners may be guided by this viewpoint to ensure that they continue to do their best *'to avoid collision'*. The view of the author is that this MGN 369 in its present form does not appear to give the correct interpretation or advice on the application of Rule 19.

The word *'navigating'* is open to several interpretations, but is generally linked with movement. If a vessel is not moving and is stopped in water; though she is *'underway'* she may not be considered to be *'navigating'* and thus not required to comply with this Rule. This aspect is not specifically defined anywhere, neither within these Rules nor in any court ruling. However, it has been held that as per *'ordinary practice of seamen'*, a vessel without an operational radar should stop and not navigate in *'restricted visibility'* as explained with Rule 2. This is also evident in Rule 35 on *'sound signals in restricted visibility'*, which differentiates between a *'power-driven vessel'* when *'making way'* versus, when *'underway but stopped'*. *'Making way'* is like *'navigating'* and the latter, *'underway but stopped'*, as not *'navigating'*.

This aspect on the application of Rule 19 differs from the application of the Rules in Section II which do not use the term *'navigating'*, but it is implied by the terms *'approaching'*, *'overtaking'*, *'meeting'*, *'crossing'* and *'keep her course and speed'* as used in Rules 12, 13, 14, 15 and 17 respectively, which all mean moving. However, all these Rules are applicable to vessels *'in sight of one another'* and *'underway'*; though the term *'underway'* is used only in Rule 18. Rules 6, 9 and 10 - applicable at all times - use the terms *'proceed'*, *'proceeding'*, *'navigate'* and *'navigating'*. A *'vessel at anchor'* is clearly neither *'navigating'* nor *'underway'* and the requirements of sound signals for a vessel at anchor differ from others as stated in Rule 35(g).

b: Is a reflection of Rule 6 on *'safe speed'*, which remains applicable at all times even if it had not been stated in this paragraph. *'Adapted to the prevailing circumstances and conditions of restricted visibility'* is to emphasise the prevailing conditions which may warrant a slower speed as

an additional precaution. *'Safe speed'* is determined by subjective analysis as explained with Rule 6 and applies to all vessels.

In addition, *'a power-driven vessel shall have her engines ready for immediate manoeuvre'*. In practice, this means placing the propulsion systems/engines on *stand-by*, this requirement applies in all waters. This will also ensure compliance with paragraph 'e' of this Rule that a vessel *'shall reduce her speed to the minimum at which she can be kept on her course. She shall if necessary take all her way off'*. Readiness of engines is also required by Rule 8(e), *'if necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion'*.

Diesel engines require their RPM reduced by a certain amount from full speed before they can be manoeuvred. Vessels fitted with variable pitch propellers may also require some reduction in the propeller pitch and/or the engine speed before manoeuvring. Normally it takes some time to bring down the engine speed (RPM) to manoeuvring; as such, engineers should be given maximum possible notice as soon as it is felt that visibility is likely to deteriorate. Navigators on watch should know the *'procedures for the use of main engines to manoeuvre when the main engines are on bridge control'*. (STCW Code A-VIII/2, paragraph 22.4)

*In cases of need, the officer in charge of the navigational watch shall not hesitate to use the helm, engines and sound signalling apparatus. However, timely notice of intended variations of engine speed shall be given where possible or effective use made of UMS engine controls provided on the bridge in accordance with the applicable procedures.* (STCW Code A-VIII/2, paragraph 29)

*When the machinery spaces are in the manned condition, the officer in charge of the engineering watch shall at all times be readily capable of operating the propulsion equipment in response to needs for changes in direction or speed.* (STCW Code A-VIII/2, paragraph 63)

*When the machinery spaces are in the periodic unmanned condition, the designated duty officer in charge of the engineering watch shall be immediately available and on call to attend the machinery spaces.* (STCW Code A-VIII/2, paragraph 64)

*All bridge orders shall be promptly executed. Changes in direction or speed of the main propulsion units shall be recorded, except where an Administration has determined that the size or characteristics of a particular ship make such recording impracticable. The officer in charge of the engineering watch shall ensure that the main propulsion unit controls, when in the manual mode of operation, are continuously attended under stand-by or manoeuvring conditions.* (STCW Code A-VIII/2, paragraph 65)

Do note that Rule 3 definitions use the term *'machinery'* used for *'propelling'* or *'propelled'* and Rule 34 uses the term *'propulsion'*. However, this paragraph 'b' of this Rule uses the term *'engines'*. For all practical purposes, these terms mean the same and refer to the power plants providing the propulsion power to vessels.

c: Simply reminds that Rules 4 to 10 contained in section I of this part B continue to apply with this Rule 19. These Rules are applicable at all times, as explained earlier, even if this paragraph did not state so. *'Shall have due regard to the prevailing circumstances and conditions of restricted visibility when complying with the Rules of Section I of this part'* is pointing towards additional

cautions and precautions may be required for **'restricted visibility'** conditions though nothing is defined or prescribed in this regard.

Some basic extra precautions, which are accepted to reasonably fulfil this requirement are:

- Improved **'look-out'** activity; additional people round the clock, not just in hours of darkness. Their location, not inside the bridge or wheelhouse with doors closed, but outside on the wings or even better in a forward location with means of communication with the bridge.
- Any work, which creates noise, should be stopped so that it does not interfere with audible **'look-out'** functions, a **'vessel shall at all times maintain a proper look-out by sight and hearing'**.
- **'Safe speed'** is determined in compliance with Rule 6 adopted for **'restricted visibility'**.
- Apart from paragraph 'd' of this Rule, Rules on **'look-out'**, **'safe speed'**, and **'risk of collision'** imply or require radar/s to be used. In **'restricted visibility'**, this means use of all radars, change of range scale frequently and maintaining an alert and continuous observation of the display by competent persons. Paragraph 45.4 quoted from the STCW Code A-VIII/2 at the beginning clearly states **'operate and use the radar'**. Use of radar has been explained earlier with Rules 5 and 6.
- Determination of **'risk of collision'** by all **'available means'** in **'restricted visibility'** will depend more on radar than visual or audible **'look-out'**. Interpretation and analysis of all information including from VHF, AIS and other navigational warning systems should also be intelligently used to determine any **'risk of collision'**. The hazard of using VHF for deciding and agreeing to any **'action to avoid collision'** is extremely dangerous; this is also addressed separately in this book. AIS is also not to be considered as fully reliable or used as the only means for **'preventing collisions'** as explained earlier.
- **'Any action to avoid collision'**, continues to be governed by all the requirements of Rule 8. In **'restricted visibility'**, **'to be readily apparent to another vessel'**, **'any alteration of course and/or speed to avoid collision shall'** have to be **'large enough'**, much larger as compared to the quantum of actions in good visibility conditions because vessels would be observing each other by radar alone. ARPA predictions are accurate only when own vessel and the targets are on a steady course and speed for at least 2 to 3 minutes. **'The effectiveness of the action shall be carefully checked until the other vessel is finally past and clear'** required by Rule 8(d) would need careful monitoring by radar alone.

**[QUIZ Q? BY THESE RULES WHAT IS THE RECOMMENDED BEST 'ACTION TO AVOID COLLISION', AN ALTERATION OF COURSE OR AN ALTERATION OF SPEED? WHICH RULE STATES THIS?]**

Rules 9 and 10 on **'narrow channels'** and **'traffic separation schemes'** respectively remain applicable in **'restricted visibility'**. Sound signals for overtaking required by Rule 9(e) and prescribed in Rule 34(c and d) are applicable only to **'vessels in sight of one another'**, not in **'restricted visibility'** conditions when vessels are **'not in sight of one another'**. This reasoning can also be applied for sound signals by vessels when **'nearing a bend...'** stated in Rule 34(e) where visibility aspects on its application are not specifically stated.

d: Is about the use of **'radar alone'** for detection, analysis and avoidance of any **'risk of collision'**. **'A vessel which detects by radar alone the presence of another vessel shall determine if a close-quarters situation is developing and/or risk of collision exists'**.

This paragraph applies to **'preventing collisions'** when this Rule is activated as per the conditions stated in paragraph 'a'. In addition, if another vessel is detected by her sound signals alone, then the requirements of paragraph 'e' of this Rule apply; the latter also implies that the range between the vessels is too close for comfort. However, if vessels get into visual **'sight of one another'**, then Rules 11 to 18 of section II automatically become applicable.

The use of radar has been explained with Rules 5 and 6. Not using or not properly using the radar, especially in **'restricted visibility'**, goes against either an establishment of and/or compliance with the management systems required by the ISM Code. Any vessel irrespective of her type, if fitted with radars as required by SOLAS, should use them as stated in the watchkeeping requirements of STCW Code A-VIII/2 and by these Rules. The former have been quoted as necessary, especially Paragraph 45.4 at the beginning of the explanations of this Rule.

**'A vessel which detects by radar alone the presence of another vessel'** in the prevailing conditions of restricted visibility should immediately act to **'determine if a close-quarters situation is developing and/or risk of collision exists'** with this detected vessel. This is also a requirement by Rule 5 on **'look-out'** but elaborated in Rule 7 on **'risk of collision'**. Paragraph 'b' of the latter Rule explicitly states **'proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects'**.

The next two words of this Rule **'if so'** are very, very important in the understanding and practical application of this paragraph. **'if so'** is to do with the conclusion of the analysis for determining whether **'a close-quarters situation is developing and/or risk of collision exists'** with **'another vessel'**. **'if so'** means that the answer to the analysis is **'YES'**, then the Rule requires **'she shall take avoiding action in ample time'**. It is implied that if the answer of this determination is 'NO', or in other words there is no developing **'close-quarters and/or risk of collision'** with **'another vessel'** then there is also no need to take **'any action to avoid collision'**, assuming that the vessels are passing at a comfortable **'safe distance'**.

**'A vessel'** means any vessel in the area and **'another vessel'** is one whose presence has been detected by the former. **'By ordinary practice of seamen'**, it can be reasonably expected that both vessels should be able to detect each other by radar as are in vicinity of each other, and determine if a **'close-quarters situation is developing and/or risk of collision exists'** between them. **'She'** in **'she shall take avoiding action in ample time'** means both the vessels concerned, **'a vessel'** and **'another vessel'**. This clearly means that both vessels **'shall take avoiding action in ample time'**.

**'Ample time'** is a repetition from Rule 8(a), which is applicable **'in any condition of visibility'**. It has been used to highlight the importance of taking **'early and substantial action'** especially in **'restricted visibility'**.

With Rule 19 in force, Rules 16 & 17 on **'stand-on vessel'** and **'give-way vessel'** are not applicable. The two latter Rules only **'apply to vessels in sight of one another'**.

This Rule does not directly state any preferred **'action to avoid collision'**, leaving it for not navigators to decide the same, be it an **'alteration of course and/or speed'** or any combination thereof. The benefits of changing course have been explained with Rule 8(c). An increase of speed may go against **'safe speed'** concepts and also may not be **'readily apparent to another vessel'**.

All requirements of Rule 8 apply in the application of this Rule 19. Rule 8(b) requirement, 'any alteration of course and/or speed to avoid collision shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing visually or by radar', has a very large influence on the way 'any action to avoid collision' is practically implemented, even in 'restricted visibility'. This recommendation of Rule 8(b) coupled with Rule 8(c), 'if there is sufficient sea room, alteration of course alone may be the most effective action to avoid a close-quarters situation provided that it is made in good time, is substantial, and does not result in another close-quarters situation', suggests that 'alteration of course' is a better choice provided 'there is sufficient sea room'. Changing course is also considered a superior action from ship handling principles as is fast, requires little sea room, usually is 'readily apparent' if 'substantial' and can be executed rapidly, as explained earlier and with basic ship handling.

It is important that if an 'alteration of course' has been initiated, a vessel's speed should not be reduced simultaneously. On the contrary, increasing propulsion power during the duration of the turn will be helpful to achieve a faster and a shorter turn to move away from harm's way. (Refer explanations with Rule 8(c) and in basic ship handling chapter.)

[TASK: REFER TO THE EXPLANATIONS GIVEN WITH RULE 8(B) ON 'READILY APPARENT TO THE OTHER VESSEL'].

'If there is sufficient sea-room' a substantially large 'alteration of course' should be the first preferred action in 'restricted visibility' also, provided it 'does not result in another close-quarters situation'. It will be worth referring to Rule 8(d) about the efficiency and effectiveness that 'action taken to avoid collision with another vessel shall be such as to result in passing at a safe distance. The effectiveness of the action shall be carefully checked until the other vessel is finally past and clear'.

Rule 7(b) requirements remain applicable 'in or near an area of restricted visibility' to vessels 'not in sight of one another'. If development of 'a close-quarters situation' - 'and/or risk of collision' had been confirmed by radar alone, it should normally be at sufficiently long-range and applicable 'action to avoid collision' initiated in 'good time'. Rule 8(a) on 'ample time' and 'observance of good seamanship', coupled with the repetition of 'ample time' in this paragraph 'd' of Rule 19, all point towards taking early action. Vessels should thus take 'avoiding action in ample time'. This means early and effective action much before they reach within the audible range of each other's sound signals, which is dangerous considering their rather low range.

Having left the choice of action to the navigators by the clause 'she shall take avoiding action in ample time' as explained above, this paragraph further states, 'provided that when such action consists of an alteration of course'. If navigators opt for 'an alteration of course', which anyway should be the first preferred action for reasons explained earlier, this Rule restricts certain actions. The Rule does not say what should be done, but just states, 'so far as possible the following shall be avoided':

- (i) an alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken;
- (ii) an alteration of course towards a vessel abeam or abaft the beam.

The 'beam' or 'abeam' direction is the 90° relative direction to the port and starboard of right ahead of the fore-and-aft centreline of a vessel.

[TASK: REFER TO THE DESCRIPTION ON VARIOUS WAYS TO MEASURE RELATIVE BEARINGS EXPLAINED WITH RULE 7(D).]

While advising the navigators 'so far as possible the following shall be avoided' the Rule remains silent in directly giving any advice on the preferred 'action to avoid collision'. Maybe it is to do with the legality affecting the use of the language in the Rules, but the acceptable interpretation of these clauses is; action shall be taken, should take into account the existing circumstances, conditions, and not be contrary to the advice given in this Rule.

'So far as possible' is typical of the many escape clauses used in these Rules and is to take care of situations where the preferred action may not be possible. For example, in the event of other traffic, shallow water or shoals, the latter collectively referred to as 'no go areas'. However, unless the circumstances and conditions do not permit, navigators should take 'action to avoid collision' keeping in mind actions to 'be avoided' as well as the requirements stated or implied in Rules 8 and 2.

d-i: If a vessel analyses, by the use of radar alone, that a 'close-quarters situation is developing and/or risk of collision exists' with another vessel forward of her beam 'she shall take avoiding action in ample time'. If the navigators exercise the option 'provided that when such action consists of an alteration of course' - 'so far as possible the following shall be avoided'. That is 'an alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken'.

The best action then is that this vessel should alter her course to starboard, complying with the requirements of Rule 8.

However, 'other than for a vessel being overtaken' gives an exception to the above. If the vessel forward of the beam is 'being overtaken', then the restriction of avoiding 'an alteration of course to port for a vessel forward of the beam' need not apply. This is provided a vessel overtaking is approaching from a relative direction more than 22.5° abaft the beam of the vessel forward; she may then either alter her course to port or to starboard. Do note that there is a fair amount of similarity here with Rule 13; the 'vessel overtaking' has freedom to decide her action. The responsibility of determining the relative direction of approach or aspect would be on the vessel that has the other forward of her beam.

Courts have held that since this Rule does not define overtaking, the definition given in Rule 13 shall prevail, even though Rule 13 is not applicable in 'restricted visibility' conditions when Rule 19 applies. If a vessel is approaching another from a relative direction more than 22.5° abaft the beam of the one ahead, she is deemed to be 'overtaking'. This is explained with diagrams later.

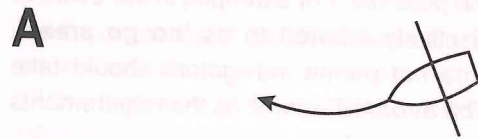
d-ii: Avoid 'an alteration of course towards a vessel abeam or abaft the beam' is simple and straightforward. The explanation of 'shall be avoided' is the same as mentioned above for Rule 19(d)(i) and implies that the vessel taking 'action to avoid collision' should alter away from the other vessel. The best 'action to avoid collision' would be as follows: if the other vessel is on the port beam or abaft the port beam, alter course to starboard and if the other is on the starboard beam or abaft the starboard beam, alter course to port.

As explained, both vessels are required to take 'action to avoid collision'. If an 'alteration of

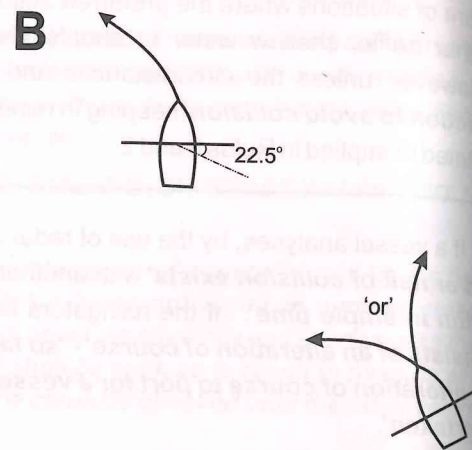
**course'** is the action chosen, it depends on where the vessels are relatively located with respect to each other.

- 1: Forward of the beam;
- or
- 2: Abeam or abaft the beam.

If risk of collision is with a vessel forward of the beam, then the one approaching should determine her relative position - less than or more than 22.5° abaft the beam of the one forward - to determine if she is overtaking or not.



Both vessels have each other forward of their beam; each alters her course to starboard, Rule 19(d)(i)



The one overtaking has a choice of altering her course to port or starboard by Rule 19(d)(I). The one forward can only alter to port by Rule 19(d)(ii)

In the above diagram 'A' the situation looks like **'crossing'**, this analysis would be correct if both the vessels are **'power-driven'** and **'in sight of one another'** considering their relative positions shown, but not in **'restricted visibility'**. The type of vessels has not been stated to highlight the fact that Rule 19 applies to all vessels irrespective of their type.

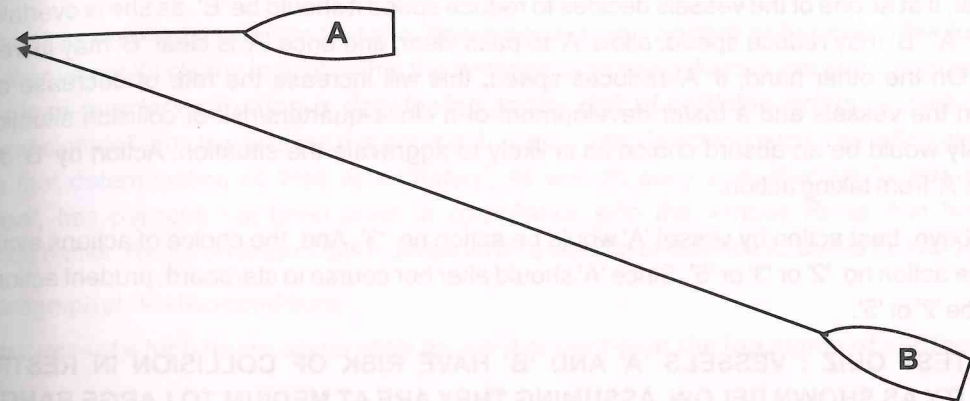
Use of manoeuvring sound signals stated in Rule 34(a) are not applicable **'in or near an area of restricted visibility'**.

Rule 8(c) states, **'if there is sufficient sea room, alteration of course alone may be the most effective action to avoid a close-quarters situation'**; this requirement continues to apply in **'restricted visibility'** and remains the preferred action if circumstances so allow. However, **'alteration of speed'** as an **'action to avoid collision'** is very much a valid and legally correct option at all times including in **'restricted visibility'**. If opted for, changes in speed should be **'large enough to be readily apparent to another vessel observing visually or by radar; a succession of small alterations of course and or speed should be avoided'** as explained. A drastic reduction in speed may be better as will also not go against **'safe speed'** principles.

**SELF TEST QUIZ IN RESTRICTED VISIBILITY:**

Shown below are two vessels navigating in restricted visibility, not in sight of one another, proceeding at safe speed, engines (or propulsion machinery) ready for immediate manoeuvre, range around 8 miles or more and sound signals required in restricted visibility in operation. There is ample navigable sea room, no navigational dangers and no other traffic in the vicinity. **'Risk of collision'** has been established by the use of radar alone. At this range, the vessels cannot hear each other's sound signals.

What do you think should be the very best **'action to avoid collision'** by these vessels in full compliance with these Rules? Mark the best choice's in the box given below. Subsequently compare with the explanation given later. You may mark more than one option but do clarify the same with remarks. 'A' is heading 270° and 'B' is heading 295°, compass bearing between 'A' and 'B' steady at 120° – 300° as observed on the radar(s).



**QUIZ ANSWER BOX**

BY 'A'	BEST ACTION TO TAKE	BY 'B'
	1: Maintain or keep her course and speed.	
	2: Make a large course alteration to port.	
	3: Make a large course alteration to starboard.	
	4: Reduce speed slowly by reducing the propulsion power.	
	5: Reduce speed rapidly by going to minimum propulsion speed or stopping propulsion.	
	6: Reduce speed by reversing the propulsion to maximum power.	
	7: Increase speed by increasing the propulsion power to maximum.	
	8: Sound one short blast on her whistle signal to indicate a course alteration to starboard.	
	9: Sound two short blasts on her whistle signal to indicate a course alteration to port.	
	10: Sound three short blasts on her whistle signal to indicate astern propulsion.	

**EXPLANATION OF THE SELF TEST QUIZ:**

Please read these explanations only after marking your answers in the quiz answer box.

In this case both subparagraphs 'i' and 'ii' of Rule 19(d) apply. The *'as far as possible'* escape clause will not be applicable as no restrictions of any kind exist in the situation shown.

'A' is forward of the beam of 'B', 'B' shall not alter course to port for a vessel forward of her beam, she should alter her course to starboard. Since 'B' is overtaking 'A', approaching from more than 22.5° abaft the beam of 'A', 'B' has the freedom to alter her course to port or starboard.

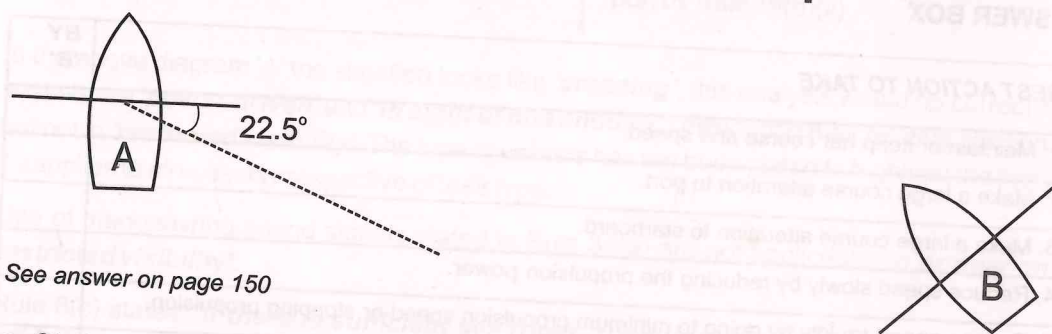
'B' is abaft the port beam of 'A', and 'A' should not alter towards a vessel abeam or abaft the beam, should thus alter her course to starboard.

In the circumstances of this case, a reduction or an increase of speed is not required. A large alteration of course alone will fulfil all requirements and comply with the requirements of Rule 8.

However, if at all one of the vessels decides to reduce speed it should be 'B', as she is overtaking and abaft of 'A'. 'B' may reduce speed, allow 'A' to pass clear, and once 'A' is clear 'B' may increase her speed. On the other hand, if 'A' reduces speed, this will increase the rate of decrease of range between the vessels and a faster development of a close-quarters/risk of collision situation. This obviously would be an absurd choice as is likely to aggravate the situation. Action by 'B' does not absolve 'A' from taking action.

Basis above, best action by vessel 'A' would be action no. '3'. And, the choice of actions available to 'B' will be action no. '2' or '3' or '5'. Since 'A' should alter her course to starboard, prudent actions by 'B' should be '2' or '5'.

**[SELF TEST QUIZ : VESSELS 'A' AND 'B' HAVE RISK OF COLLISION IN RESTRICTED VISIBILITY AS SHOWN BELOW. ASSUMING THEY ARE AT MEDIUM TO LARGE RANGE, NOT IN SIGHT OF ONE ANOTHER AND ARE ACTING BY RADAR ALONE. WHAT IS THE BEST ACTION EACH OF THEM SHOULD TAKE TO AVOID COLLISION?]**



See answer on page 150

e: Starts with *'except where it has been determined that a risk of collision does not exist'*. Determining *'that a risk of collision does not exist'* is the first step and should start when vessels are at sufficiently long range as required by both Rules 5 and 7 on *'look-out'* and *'risk of collision'* respectively. In *'restricted visibility'*, since visual determination is not possible and the audible range of sound signals has a very limited range apart from the various inaccuracies associated with them, the best way to *'determine if a close-quarters situation is developing and/or risk of collision exists'* would be by the use of radar as implied by Rules 5 and 6 and clearly required by Rules 7, 19(d) and the watchkeeping requirements stated in STCW Code A-VIII/2.

Radar remains the primary and perhaps the only reliable means for detecting and assessing the movements of other vessels in the vicinity. However, use of AIS, VHF and ECDIS systems can all be considered under *'all available means'* and used to determine *'risk of collision'*. If the assessment by any of these creates *'any doubt'*, then *'such risk shall be deemed to exist'* as per Rule 7(a). However, caution must be exercised, as explained earlier, that information from such equipment may not be fully reliable and may lead to misleading or wrong conclusions. Be reminded of Rule 7(c), *'assumptions shall not be made on the basis of scanty information, especially scanty radar information'*. Determination of *'risk of collision'* by sound signals alone is a near impossible task, this is explained next. At times, shore based VTS/VTIS systems may also be available, but any advice given by them can at best be regarded as recommendatory and does not absolve the navigators on board vessels of their responsibilities towards safe navigation and *'preventing collisions'*.

**[TASK: PLEASE READ ANNEX III, ESPECIALLY PARAGRAPH 1-C REGARDING THE AUDIBILITY RANGE AND THE EXPLANATORY COMMENTS.]**

If a vessel has reached a situation that she *'hears apparently forward of her beam the fog signal of another vessel'* it clearly indicates that the distance separating them is low and a high probability that *'a close-quarters situation is developing and/or risk of collision exists'*. Audible range of the sound signals being low justifies this approach of this Rule. Reaching such a situation also clearly implies that determination of *'risk of collision'*, as well as early and effective *'action to avoid collision'*, has perhaps not been done in compliance with the various Rules that have been explained earlier. Requirements of this Rule serve as a last line of defence to *'avoid collision'*.

This paragraph states two conditions:

- 1: *'Every vessel which hears apparently forward of her beam the fog signal of another vessel'* and
- 2: *'Or which cannot avoid a close-quarters situation with another vessel forward of her beam'*.

If either of these situations develop, they both indicate that *'a close-quarters situation is developing'*, though it is clearly stated in the Rule only for the latter situation. In both cases, the vessel concerned must take *'action to avoid collision'* - *'except where it has been determined that a risk of collision does not exist'*. The first condition is self-explanatory, too close for comfort and the latter means a confirmed *'close-quarters situation with another vessel forward of her beam'*.

The means to *'determine that a risk of collision does not exist'* are not addressed in this Rule and need not be, as they are covered in Rules 5 and 7, which continue to apply in all conditions of visibility. Paragraph 'd' of this Rule also requires this determination, *'a vessel which detects by radar alone the presence of another vessel shall determine if a close-quarters situation is developing and/or risk of collision exists'*.

In both the conditions, which may occur independently or in conjunction with each other, the vessel concerned *'shall reduce her speed to the minimum at which she can be kept on her course. She shall if necessary take all her way off and in any event navigate with extreme caution until danger of collision is over'*. The first action required is for a vessel to reduce her speed to bare minimum to maintain steering on her course. The minimum speed at which a vessel can be steered to maintain her on her course may vary from vessel to vessel, this could be as near as zero, dead stop in

water, or very close to zero. Even if a vessel is stopped or drifting with her propulsion power at nil, she can still be maintained on her course or heading using rudder and slight propulsion (engine movements). If a vessel is fitted with one, use of her bow and/or stern thrusters can also be used to keep her on her course. A vessel should carry out the reduction of speed by reducing, stopping or even reversing her propulsion power, this should be achieved as quickly as possible in compliance with the general principles outlined in Rule 8.

After reducing speed to **'the minimum'**, the next clause, **'if necessary take all her way off'**, gives a bit of operating freedom to the navigators on board as far as this action to bring the vessel to dead stop is concerned.

This Rule gives no further guidance on **'action to avoid'** the situations. All that the Rule states is, **'in any event navigate with extreme caution until danger of collision is over'**. Since the expected action is neither prescribed nor implied, it makes the job of the navigators difficult after the initial action to reduce speed to **'the minimum'** has been implemented. If further action is required, it should then be as per the guidelines of Rule 2.

Other than sound signals prescribed by Rule 35, no other sound signals should be sounded **'in or near an area of restricted visibility'**. **'Manoeuvring and warning signals'** stated in Rule 34 are required only when **'vessels are in sight of one another'**. These, if sounded along with those stated in Rule 35, would only lead to confusion and absolute chaos.

Fog, mist, haze, rain and smoke patches or other factors that restrict visibility may not have a uniform linear density. Sound waves behave similar to light waves and are subject to both refraction and reflection when passing through these non-uniform mediums and may change direction in the process. To add to this, physical limitations of the human body also affect the analysis made from sound signals. By design, human ear and connected sensory systems have limitations in being able to accurately determine the exact direction sound signals are being received from, leave alone the range. These factors influence the way this paragraph of this Rule is to be interpreted and practically implemented, especially the clause **'every vessel which hears apparently forward of her beam the fog signal of another vessel'**. **'Apparently forward of her beam'** may not be actually forward of the beam; in reality the sound signal may be originating from any direction, even abaft the beam for reasons explained above. Refer to the audible range of sound signals explained before with paragraph 'a' of this Rule.

**[TASK: READ INTRODUCTION TO PART-D 'SOUND AND LIGHT SIGNALS'.]**

Answer to the self test quiz on page 148:

Vessel A alters course to port, Rule 19- d-ii. Vessel B alters course to starboard, Rule 19-d-i, she is not overtaking.

## PART C - LIGHTS AND SHAPES

### INTRODUCTION:

In earlier times, vessels did not exhibit any lights during darkness leading to many collisions. Using lights to show a vessel's presence **'for preventing collisions'** started years ago by use of an oil lantern showing an all round light. Use of lights and shapes has evolved slowly over time; shapes were added much later, though. Lights are a critical component during darkness when a vessel's hull form cannot be seen.

These **'International Regulations for Preventing Collisions at Sea'** are so framed that navigators should be able to judge and determine by sight alone, if not in restricted visibility, be it day or night, the type of the vessel sighted, its aspect and/or likely direction of movement to **'determine if risk of collision exists'** and take **'action to avoid collision'** if so required. Exhibition of lights by vessels greatly assists in determining the type of vessel and the arc of the direction of her heading (or movement) during darkness.

Lights have visible sectors, both vertical and horizontal. The horizontal sectors are of prime importance and are referred to in directions relative to the vessel they are fitted on, measuring from right ahead, abeam or right astern of the vessel. The various methods to measure and/or report the relative directions have been explained earlier with Rule 7(d)(i).

Numerous permutations and combinations of lights can be formed from the requirements stated in these Rules and any one particular light or a combination of lights may depict more than one situation at a time. It is not intended to give an exhaustive explanation of all the many possibilities that may be formed by use of the lights prescribed in these Rules. The requirements have been explained so that with the knowledge and understanding gained, lights and/or shapes displayed by vessels can be analysed and interpreted correctly. The shapes used as day signals are relatively fewer and easier to understand, but usually more difficult to sight visually.

Lights and shapes form an important part of these Rules and do take some time to understand and learn. However, with some practice and exercises the requirements can be well mastered, which is essential and important for the ultimate goal of **'preventing collisions'**.

Several internet sites have self-learning videos and animations to learn the various possibilities of lights; one of them is <http://www.deck-officer.info/rorsimulator.htm>. You may try these sites after learning the requirements about lights to test your knowledge.

Lights required to be exhibited by these Rules are commonly referred to as **'navigational lights'** and sometimes also as 'steaming lights'; the former term has been officially used in IMO publications like the STCW Convention.

Visibility aspects and cut off sectors of the various navigational lights should meet the requirements stated in Rules 21, 22 and 23 of this Part C, but also Rule 34(b), all coupled with annex I and II of these Rules, though annex II only applies to fishing vessels fishing in close proximity. Annex to IMO resolution MSC.253(83), adopted on 8<sup>th</sup> October 2007 on performance standards for navigation lights, navigation light controllers and associated equipment provides further guidance, clarifications and recommends that all such equipment installed on or after 1<sup>st</sup> January 2009 is not to be inferior than these new standards. A few of these requirements are quoted on the following page.

This annex states that the purpose of '**Navigation Lights**' is to identify ships and for them to notify their intentions at sea while the purpose of Navigation Light Controllers is to provide means of control and monitoring of the status of navigation lights onboard the vessel to the Officer of the Watch (OOW). These lights are defined in this resolution as:

**3.5 Navigation Light (NL) means the following lights:**

- .1 *masthead light, sidelights, sternlight, towing light, all-round light, flashing light as defined in Rule 21 of COLREGs;*
- .2 *all-round flashing yellow light required for air-cushion vessels by Rule 23 of COLREGs; and*
- .3 *manoeuvring light required by Rule 34(b) of COLREGs.*

Further under paragraph 4.1 it is stated that:

**4.1.1** *NLs should appear steady and non-flashing.*

**4.1.3** *A masthead light, sidelights and a sternlight installed on board a ship not less than 50 m in length should be duplicated or be fitted with duplicate lamps.*

The luminous intensity requirements are clarified in paragraph 4.2 as follows:

**4.2.1** *In the horizontal directions where decrease of luminous intensity to "practical cut-off" is required by section 9 of Annex I to COLREGs, the luminous intensity should be no more than 10% of the average luminous intensity within the prescribed sector for vessels not less than 12 m in length.*

**4.2.2** *Within the prescribed sector in which the minimum luminous intensity is required by section 9 of Annex I to COLREGs, the horizontal intensity distribution of the light should be uniform in such a way that the measured minimum and maximum luminous intensity values (in candelas) do not differ by more than a factor of 1.5, to avoid luminous intensity changes which may result in the appearance of a flashing light for vessels not less than 12 m in length.*

**4.2.3** *Within the prescribed sector in which the minimum luminous intensity is required by section 10 of Annex I to COLREGs, the vertical intensity distribution of the light should be uniform in such a way that the measured minimum and maximum luminous intensity values (in candelas) do not differ by more than a factor of 1.5, to avoid luminous intensity changes which may result in the appearance of a flashing light for vessels not less than 12 m in length.*

[TASK: READ THE FULL ANNEX 31 OF IMO RESOLUTION MSC.253(83) AT: [http://www.navcen.uscg.gov/pdf/marcomms/imo/msc\\_resolutions/MSC253.pdf](http://www.navcen.uscg.gov/pdf/marcomms/imo/msc_resolutions/MSC253.pdf)

QUIZ QS: WHAT DOES THIS ANNEX SAY ON 'SPECIAL REQUIREMENTS FOR LIGHTS USING LEDs'?

Normally all vessels are fitted with two sets of lights, and sometimes even additional portable lights or lanterns are provided, powered by batteries or electric mains including emergency power, for some of the lights. Oil lanterns for emergency use may still be found on some vessels. However, any failure of a navigational light should be rectified as soon as possible and may even warrant transmitting a navigational warning to other vessels in the vicinity.

## Rule 20

### Application

- (a) Rules in this part shall be complied with in all weathers.
- (b) The Rules concerning lights shall be complied with from sunset to sunrise, and during such times no other lights shall be exhibited, except such lights as cannot be mistaken for the lights specified in these Rules or do not impair their visibility or distinctive character, or interfere with the keeping of a proper look-out.
- (c) The lights prescribed by these Rules shall, if carried, also be exhibited from sunrise to sunset in restricted visibility and may be exhibited in all other circumstances when it is deemed necessary.
- (d) The Rules concerning shapes shall be complied with by day.
- (e) The lights and shapes specified in these Rules shall comply with the provisions of annex I to these Regulations.

a: This paragraph is self explanatory: requirements in the Rules of this part C, '**lights and shapes**', shall be complied in all kinds of weathers, calm seas or storms, skies open or overcast. Visibility, a component of weather, has been addressed later in paragraph 'c' of this Rule.

All vessels are required to exhibit the lights and/or shapes prescribed for their size and type; a vessel without lights cannot be seen and identified during darkness or kept clear of. The display of lights is very important, as some vessels may not show on the radar as explained earlier, and not all are required to carry an AIS device.

b: Requires that Rules '**concerning lights shall be complied with from sunset to sunrise**'; this also includes twilight, i.e. the gradual transition from light to dark and back again.

Important requirements stated here are:

- 1: When lights required by these Rules are displayed, '**during such times no other lights shall be exhibited**'. However, if any others are exhibited, they shall be such that '**cannot be mistaken for the lights specified in these Rules**'. In other words, their characteristics should not be similar or close to any of the lights required by these Rules. And,
- 2: If any other lights are exhibited, they shall neither interfere with the lights required by these Rules nor '**impair their visibility or distinctive character**'. In addition, they shall not '**interfere with the keeping of a proper look-out**'. Visual '**look-out**' is vital and the most important element in navigational watchkeeping, as has been explained and emphasised earlier.

[QUIZ QS. WHICH RULE IS ON 'LOOK-OUT'? DO YOU REMEMBER THE SALIENT POINTS OF MAINTAINING A GOOD 'LOOK-OUT' BY THIS RULE AND THE REQUIREMENTS STATED IN THE STCW CONVENTION CODE A-VIII/2 ON LOOKOUT?]

A good practice on board a vessel is to ensure that accommodation lights and all other lights are blocked so that only the lights required to be exhibited by these Rules can be seen from outside.



c: Requires that apart from the minimum display required *'from sunset to sunrise', 'the lights prescribed by these rules shall' - 'also be exhibited from sunrise and sunset'* when *'in restricted visibility'* and also *'may be exhibited in all other circumstances when it is deemed necessary'*. If the navigators feel that, it will be prudent to display *'the lights prescribed by these rules'* at times other than the prescribed minimum, they may do so. This option is nothing but *'ordinary practice of seamanship'*. For example, the visibility is not good but is not low enough to be described as restricted.

Requirements of Rule 19 apply even *'near an area of restricted visibility'* and paragraph 45 of STCW Code A-VIII/2 states *'exhibit navigational lights' - 'when restricted visibility is encountered or expected'*: these requirements must be complied with.

Though not required by the Rules, many vessels keep the navigation lights on during the day, nothing in these Rules prohibits a vessel from doing so. However, remember to switch them off when *'made fast to the shore'* or alongside. There have been cases of vessels being fined when alongside a berth if navigational lights are left on and/or the vessel status not changed in the AIS.

*'If carried'* is an escape clause for vessels which may not be equipped to display the lights required by these Rules. For example, a vessel designed for daylight operations only. Alternatively, it could be that a vessel carrying out an activity in an emergency is not equipped or capable to display the lights required for the said activity.

d: Requires that shapes, as prescribed by these Rules, shall be *'complied with by day'* or during daylight, which includes twilight time also. It would be prudent and in compliance with *'ordinary practice of seamen'* to display both *'lights and shapes'* during twilight.

e: Requires *'lights and shapes specified in these Rules shall comply with the provisions of annex I to these Regulations'*. Annex I is about *'positioning and technical details of lights and shapes'* and is generally self explanatory. All navigators should read and understand this annex, not just to know the requirements from the design point of view, but also to be able to better judge the lights seen on other vessels.

The minimum intensity of *'Navigation lights'* is calculated using the formula stated in Annex I, section 8, which also contains a caution note that *'the maximum luminous intensity of navigation lights should be limited to avoid undue glare. This shall not be achieved by a variable control of the luminous intensity'*. Compliance with Annex I is required by this paragraph of this Rule.

## Rule 21

### Definitions

- (a) **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° and so fixed as to show the light from right ahead to 22.5° abaft the beam on either side of the vessel.
- (b) **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° and so fixed as to show the light from right ahead to 22.5° abaft the beam on its respective side. In a vessel of less than 20 m in length the sidelights may be combined in one lantern carried on the fore-and-aft centreline of the vessel.
- (c) **Sternlight** means a white light placed as nearly as practicable at the stern showing an unbroken light over an arc of the horizon of 135° and so fixed as to show the light 67.5° from right aft on each side of the vessel.
- (d) **Towing light** means a yellow light having the same characteristics as the **sternlight** defined in paragraph (c) of this Rule.
- (e) **All-round light** means a light showing an unbroken light over an arc of the horizon of 360°.
- (f) **Flashing light** means a light flashing at regular intervals at a frequency of 120 flashes or more per minute.

This Rule lists the lights required to be exhibited by these Rules, their placement and their horizontal sectors. The Rules have not used any general terms for the display of lights: *'navigation lights'* is the modern term used by IMO.

The requirements of paragraphs 'a' to 'f' of this Rule are simple and straightforward. However, a few salient aspects are explained below.

*It is said that the horizontal sectors for the masthead and sidelights more or less match the field of vision of the human eye. Though the eyes normally focus in a narrow horizontal band of about 15°, they do receive data from up to 200°, which is close to the cut off sectors of these lights.*

Paragraph 'b' requires sidelights to be placed on the side of a vessel but also grants a waiver, *'in a vessel of less than 20 m in length the sidelights may be combined in one lantern carried on the fore-and-aft centreline of the vessel'*. *'May be'* allows such small vessels an option to opt for a combined lantern if they so wish; it is not a compulsion.

Lights assist in the practical implementation of these Rules. The determination of situations and the type of vessel during darkness is by analysis of the lights exhibited by the vessel concerned. Lights also assist in determining, with a fair degree of accuracy, the limits of the direction of movement of vessels and their relative aspect (bearing) from each other, which is necessary for the correct application of these Rules. Before the advent of radar and other modern aids like AIS, this was the only way to determine these parameters during darkness.

Some exceptions are allowed in the placement of lights by these Rules. Rule 1(e) allows deviations, but the characteristics of any such deviations should still be as close as possible with the requirements of these Rules. Paragraph 'c' of this Rule states that the sternlight should be placed **'as nearly as practicable at the stern'**, not necessarily exactly on the **'stern'**. It is usual for the **'sternlight'** to be quite some distance from the **'stern'** on supply vessels where the aft deck is very low, serving as working area and exposed to the elements. Similarly, the sternlight need not be placed on the fore-and-aft centreline of a vessel. Rule 23(d)(iii) allows masthead lights to be displaced from the **'fore-and-aft centre line'**, but only **'on a power-driven vessel of less than 12 m in length'**. A masthead light need not be always be placed on a mast, and some vessels may even be exempted from displaying the same in certain conditions, for example, a vessel **'not under command'** is not required to exhibit masthead light/s.

White lights appear slightly yellow in reality; as such, use of a single steady yellow lights is absent in these Rules except for the towing light. In this case, the yellow towing light is placed next to a white sternlight: as such, the variance in colour will be distinct and clear. In Annex I paragraph 7, the lights are not specified by colour but by their technical specifications. The visibility range of different colours of lights, even of the same intensity does vary.

An **'all-round light'** stated in paragraph 'e' may have broken sectors of up to 6°, except for anchor lights as allowed by Annex I paragraph 9(b)(i). This is to take care of the practical limitations of placing a single light with 360° horizontal visibility on board a vessel. If one all-round light fails to fulfil the requirements, two all-round lights may be placed close by such that they practically appear as one all-round light from a distance, refer Annex I paragraph 9(b)(ii).

The flashing light requirement of 120 or more flashes per minute would clearly indicate that it is originating from a vessel and not a light from any navigational aid, for example a buoy or a beacon, where the frequency never exceeds 60 flashes per minute.

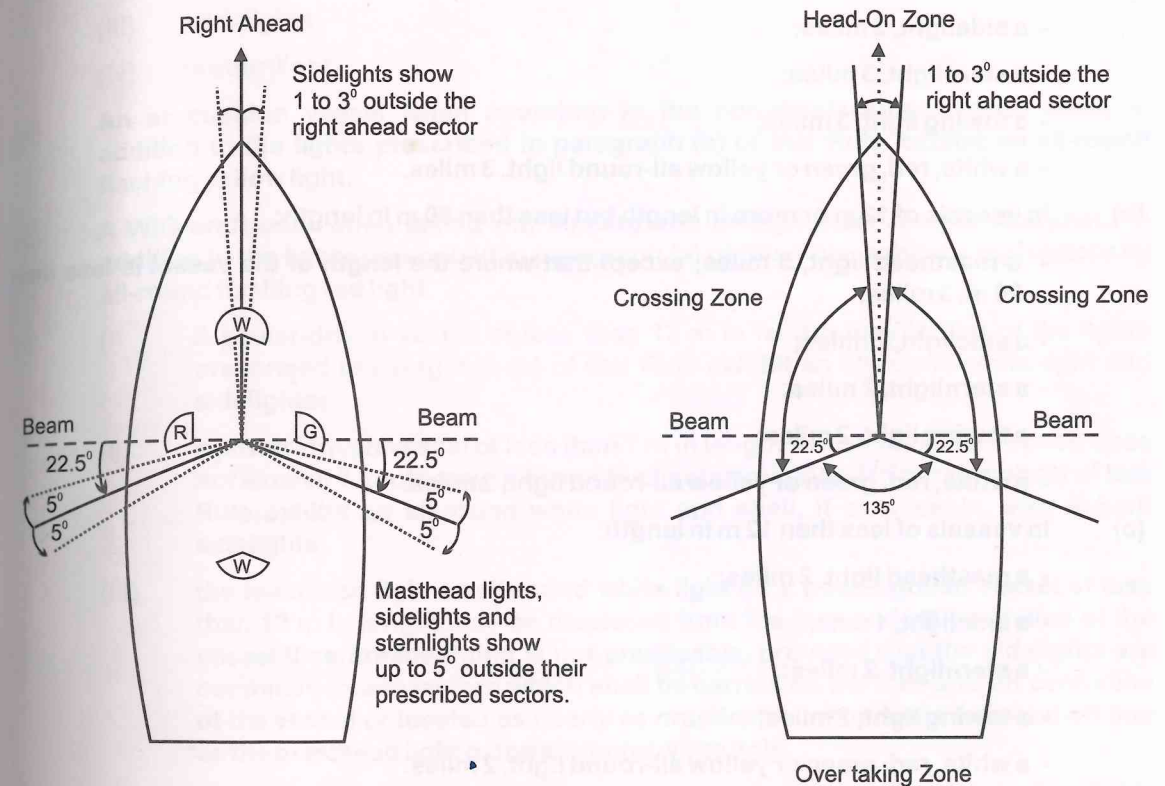
The requirements of lights should be studied in conjunction with Annex I, where all specifications are given in detail including requirements about the placement of lights, their intensity and vertical and horizontal cut off sectors. It is important to note that lights do not cut off exactly at the end of their prescribed horizontal sectors as stated in this Rule, but continue to show a little beyond. Close to the cut off limits, all lights are visible in a small horizontal sector. For example, the side lights in the forward direction are required to show from a minimum of 1° to a maximum of 3° outside the prescribed right ahead direction and in the aft **'22.5° abaft the beam'**, up to a maximum of 5° outside the prescribed sector, with diminishing intensity in the latter. Also refer IMO resolution MSC.253(83) mentioned in the introduction to Part C.

The schematic diagrams which follow show the defined horizontal sectors and the cut off limits of the lights. These match closely with the three main **'risk of collision'** situations when vessels are in sight of one another, namely **'overtaking'**, **'head-on'** and **'crossing'** defined in Rules 13, 14 and 15 respectively, these apply only **'to vessels in sight of one another'** the latter two apply only to **'power-driven vessels'**.

On comparing these, it will be clear that **'head-on situation'** would exist when both the sidelights are seen and the masthead lights are **'in a line or nearly in a line'**, **'overtaking'** when only the sternlight is seen and a **'crossing situation'** is one not covered by the former two. However, since sidelights,

masthead lights and the sternlight can show for a maximum of up to 5° outside their defined limits, though at decreasing intensities, the border between crossing and overtaking can sometimes be confusing when judged by lights alone. Rule 13 states **'when a vessel is in any doubt'**, then the vessel approaching from near about 22.5° abaft the beam of the other **'shall assume that'** she is **'overtaking'** and keep clear; a similar statement on **'doubt'** is there in Rule 14 also.

Comparison Diagrams



[TASK: PLEASE COLOUR THE RED AND GREEN SIDELIGHTS IN THE ABOVE DIAGRAM.]

## Rule 22

### Visibility of lights

The lights prescribed in these Rules shall have an intensity as specified in section 8 of annex I to these Regulations so as to be visible at the following minimum ranges:

- (a) In vessels of 50 m 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.
- (b) In vessels of 12 m or more in length but less than 50 m in length:
- a masthead light, 5 miles; except that where the length of the vessel is less than 20 m, 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.
- (c) In vessels of less than 12 m 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.
- (d) In inconspicuous, partly submerged vessels or objects being towed:
- a white all-round light, 3 miles.

This rule is self-explanatory and requires that *'the lights prescribed in these Rules shall have an intensity as specified in section 8 of annex I'*. Annex I contains guidelines on calculating the luminous intensity of lights, which incorporates the range of visibility required by this Rule and the atmospheric transmissivity or meteorological visibility of 13 nautical miles, which has apparently been considered as reasonably good visibility.

The requirements of this Rule apply to all vessels.

The actual range at which a light is sighted may be higher or lower than prescribed in this Rule depending on the prevailing visibility. Lights would have a better range say in a clear dark night in the middle of an ocean than in a smoggy environment near a big city at night.

The lights should not have their intensity higher than prescribed to avoid unwanted glare; this has been explained with Rule 20.

## Rule 23

### Power-driven vessels underway

- (a) A power-driven vessel underway shall exhibit:
- (i) a masthead light forward;
  - (ii) a second masthead light abaft of and higher than the forward one; except that a vessel of less than 50 m in length shall not be obliged to exhibit such light but may do so;
  - (iii) sidelights;
  - (iv) a sternlight.
- (b) An air-cushion vessel when operating in the non-displacement mode shall, in addition to the lights prescribed in paragraph (a) of this Rule, exhibit an all-round flashing yellow light.
- (c) A WIG craft only when taking off, landing and in flight near the surface shall, in addition to the lights prescribed in paragraph (a) of this Rule, exhibit a high-intensity all-round flashing red light.
- (d)
  - (i) A power-driven vessel of less than 12 m in length may in lieu of the lights prescribed in paragraph (a) of this Rule exhibit an all-round white light and sidelights;
  - (ii) a power-driven vessel of less than 7 m in length whose maximum speed does not exceed 7 knots may in lieu of the lights prescribed in paragraph (a) of this Rule exhibit an all-round white light and shall, if practicable, also exhibit sidelights;
  - (iii) the masthead light or all-round white light on a power-driven vessel of less than 12 m in length may be displaced from the fore-and-aft centreline of the vessel if centreline fitting is not practicable, provided that the sidelights are combined in one lantern which shall be carried on the fore-and-aft centreline of the vessel or located as nearly as practicable in the same fore-and-aft line as the masthead light or the all-round white light.

The requirement that vessels shall exhibit lights, referred to as *'navigation lights'*, starts with this Rule which prescribes the lights applicable to *'power-driven vessels underway'*. Power-driven fishing vessels, when not *'engaged in fishing'* or tugs when assisting a vessel but not actually towing also need to comply with the requirements of this Rule, as in these situations they would be *'a power-driven vessel underway'*. *'A power-driven vessel'* stopped and drifting is also *'underway'* unless it is for some *'exceptional circumstance'* - and is required to comply with this Rule. Details on positioning and other technical aspects of lights are prescribed in Annex I: it is important to know these details which should also be studied.

The requirements of this Rule are generally very straight forward; however, some salient features are explained.

a: *'A power-driven vessel'* of less than 50 m in length is not required to exhibit *'a second masthead light'*, *'but may do so'*. Hence, *'a power-driven vessel'* exhibiting one masthead light is surely less than 50 m in length, but one exhibiting two masthead lights may also be less than 50 m in length.

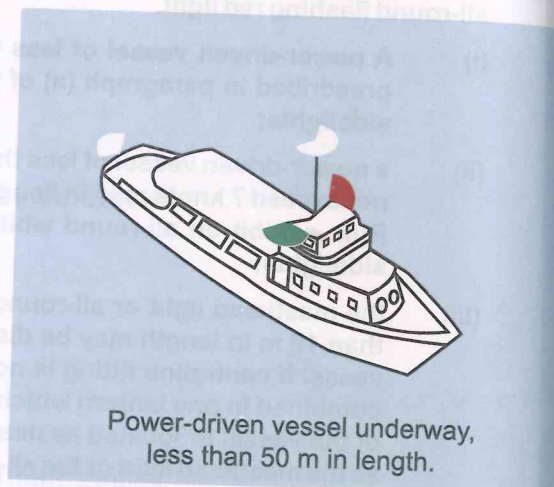
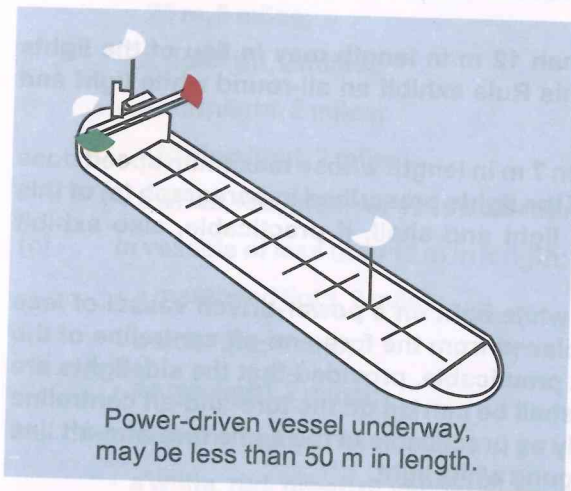
*'A power-driven vessel'* of less than 50 m in length which opts not to exhibit *'a second masthead light'*, should place the single masthead light in the forward position as required by subparagraph 'i' of

this Rule. However, this single light need not comply with the horizontal placing prescribed in Annex I (3)(a) **'when two masthead lights are prescribed'**, but should be in compliance with Annex I (3)(d) requirements on **'only one masthead light'**.

**[TASK: READ THE REQUIREMENTS IN SECTIONS 2 AND 3 OF ANNEX I ON VERTICAL AND HORIZONTAL POSITIONING AND SPACING OF LIGHTS.]**

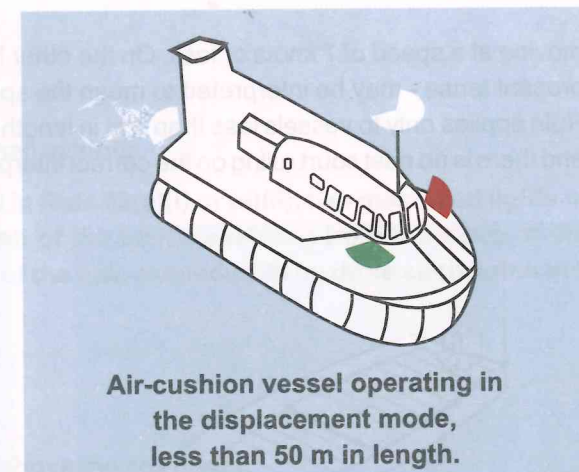
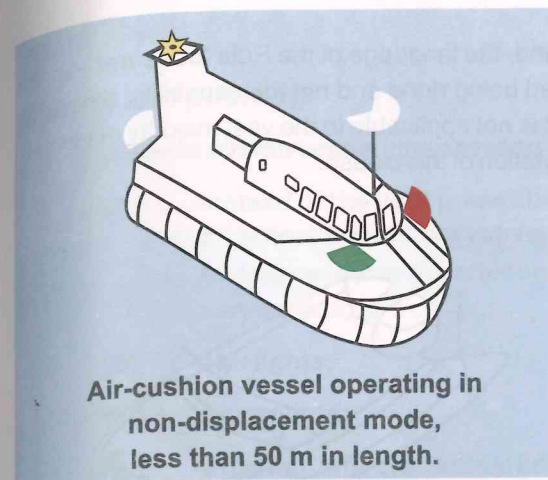
The next Rule 24 prescribes **'two masthead lights'** in a vertical line for **'a power-driven vessel when towing'** or **'pushing ahead or towing alongside'**, but these have to be placed in a vertical line. Sighting two masthead lights sometimes may thus indicate more than one type of a vessel. Confusion can arise when the two masthead lights are seen from a right ahead direction of a vessel they are displayed on. When seen from any other angle, the second masthead light will appear horizontally displaced on **'a power-driven vessel'** but both would continue to remain together vertically if the vessel is **'towing'**, explained later.

The following diagrams show the lights as prescribed by the Rules applicable for the vessel depicted and indicates their visible sectors in the horizontal field.



**b: 'An all-round flashing yellow light'** is to be exhibited only by **'an air-cushion vessel when operating in the non-displacement mode'**, not otherwise. Such vessels usually move at very high speeds, and because of negligible draught, may have a large drift due to prevailing winds, if any. Hence, their course made good may be quite different than that being steered by them or depicted by their lights; in addition, they also may not be able to turn quickly because of their speed. The flashing yellow light is intended to warn other vessels of these special conditions.

Submarines, when underway on the surface, may display in addition to the normal lights of **'a power-driven vessel'** a flashing yellow or amber light for identification purposes but the characteristics of such a light would be different from the one required on **'an air-cushion vessel'**. Submarines would be least effected by wind as they have very low freeboards and sometimes may suddenly disappear if they dive under the surface. (For special lights recommended for naval vessels, refer Mariners Hand Book, Annual Notices to Mariners and other official publications, like the US Code of Federal Regulations.)



**c:** A WIG craft, when operating on the water surface, should follow the Rules applicable to any **'power-driven vessel'** as stated in Rule 18(f)(ii) and exhibit lights as prescribed in paragraph 'a' of this Rule.

Rule 18(f) requires WIG craft to **'keep well clear of all other vessels and avoid impeding their navigation'** but only **'when taking off, landing and in flight near the surface'**. At such times this Rule requires a WIG craft to **'exhibit a high-intensity all-round flashing red light'** in addition to the lights of a **'power-driven vessel'**.

**d:** Subparagraphs 'i' and 'ii' of this Rule allow **'a power-driven vessel of less than 12 m in length'** certain exemptions from the general requirements of this Rule. If she is **'less than 7 m in length whose maximum speed does not exceed 7 knots'** then further relaxations have been granted; these are self explanatory. Subparagraph 'iii' allows some deviations from the requirements on placement of lights on any **'power-driven vessel'** less than 12 m in length.

A single **'all-round white light'** may be substituted in lieu of the masthead light and the sternlight by **'a power-driven vessel of less than 12 m in length'**, but she must exhibit sidelights which **'may be combined in one lantern carried on the fore-and-aft centreline of the vessel'** as per Rule 21(b).

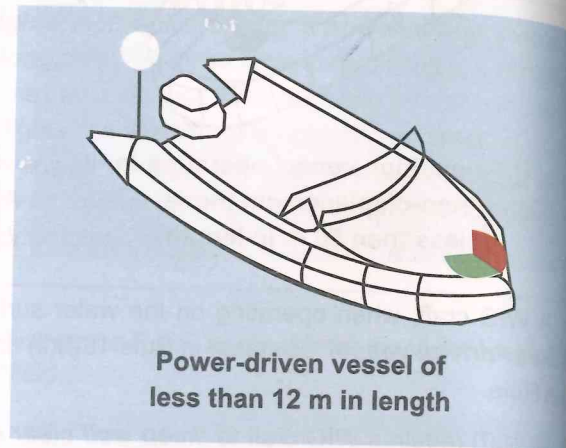
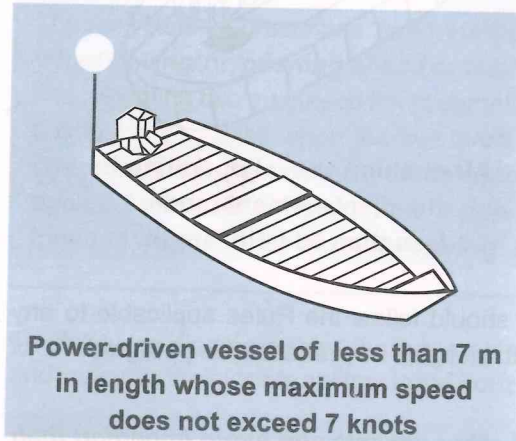
However, **'a power-driven vessel of less than 7 m in length whose maximum speed does not exceed 7 knots may in lieu of the lights prescribed in paragraph (a) of this Rule exhibit an all-round white light and shall, if practicable, also exhibit sidelights'**. This grants an exemption from exhibiting sidelights if not practicable.

There have been two differing interpretations of **'maximum'** as used in the clause **'maximum speed does not exceed 7 knots'**.

- 1: The capability of the vessel, the maximum speed she can achieve by her design is 7 knots; and;
- 2: The speed of a vessel, when it does not exceed 7 knots, may comply with this Rule, even though she is capable of faster speeds.

If a vessel designed for speeds greater than 7 knots complies with the more stringent requirements, then obviously she should also continue to exhibit the lights stated in subparagraph (i) of this Rule at all times. This exemption clause would thus not apply to any vessel capable of higher speeds but

moving at a speed of 7 knots or less. On the other hand, the language of the Rule 'does not' - in the present tense - may be interpreted to mean the speed being done and not the capability. Since this Rule applies only to vessels less than 7 m in length, it is not applicable to the vast majority of vessels and there is no past court ruling on the correct interpretation of this clause.



Subparagraph (iii) allows that a masthead light or the all-round white light *'may be displaced from the fore-and-aft centre line of the vessel if centreline fitting is not practicable'*, but only *'on a power-driven vessel of less than 12 m in length'*. This *may* be done *'provided that the sidelights are combined in one lantern which shall be carried on the fore-and-aft centreline of the vessel or located as nearly as practicable in the same fore-and-aft line as the masthead light or the all-round white light'*. However, if this vessel meets the less than 7 m and 7 knots criteria of subparagraph 'ii' of this Rule, she may or may not exhibit sidelights.

Smaller vessels may find complying with the Rules difficult and thus have been granted these exceptions. They may not have sufficient electrical power capacity to operate the lights required and may also have difficulty in the placement of lights as required by this Rule and Annex I. However, do note that the alternatives given suggest closest possible compliance with the basic requirements.

In conclusion, some of the vessels would appear as shown below when exhibiting the lights prescribed by this Rule.

Rule & Vessel	Shape	When viewed from			Sound signals in restricted visibility, at intervals of not more than 2 minutes.
		Port	Ahead	Starboard	
Rule 23 Power-Driven Vessels underway	None	 Vessel underway  Hovercraft less than 50m  Vessel less than 7m & less than 7kts underway  Vessel less than 50m underway	 Under 50m  Vessel less than 50m underway	 Vessel underway  Hovercraft less than 50m  Vessel less than 50m underway  Vessel less than 7m & less than 7kts underway	Making way through the water Underway but stopped

## Rule 24

### Towing and pushing

- (a) A power-driven vessel when towing shall exhibit:
- (i) instead of the light prescribed in Rule 23(a)(i) or (a)(ii), two masthead lights in a vertical line. When the length of the tow, measuring from the stern of the towing vessel to the after end of the tow, exceeds 200 m, three such lights in a vertical line;
  - (ii) sidelights;
  - (iii) a sternlight;
  - (iv) a towing light in a vertical line above the sternlight;
  - (v) when the length of the tow exceeds 200 m, a diamond shape where it can best be seen.
- (b) When a pushing vessel and a vessel being pushed ahead are rigidly connected in a composite unit they shall be regarded as a power-driven vessel and exhibit the lights prescribed in Rule 23.
- (c) A power-driven vessel when pushing ahead or towing alongside, except in the case of a composite unit, shall exhibit:
- (i) instead of the light prescribed in Rule 23(a)(i) or (a)(ii), two masthead lights in a vertical line;
  - (ii) sidelights;
  - (iii) a sternlight.
- (d) A power-driven vessel to which paragraph (a) or (c) of this Rule applies shall also comply with Rule 23(a)(ii).
- (e) A vessel or object being towed, other than those mentioned in paragraph (g) of this Rule, shall exhibit:
- (i) sidelights;
  - (ii) a sternlight;
  - (iii) when the length of the tow exceeds 200 m, a diamond shape where it can best be seen.
- (f) Provided that any number of vessels being towed alongside or pushed in a group shall be lighted as one vessel,
- (i) a vessel being pushed ahead, not being part of a composite unit, shall exhibit at the forward end, sidelights;
  - (ii) a vessel being towed alongside shall exhibit a sternlight and at the forward end, sidelights.

- (g) An inconspicuous, partly submerged vessel or object, or combination of such vessels or objects being towed, shall exhibit:
- (i) if it is less than 25 m in breadth, one all-round white light at or near the forward end and one at or near the after end except that dracones need not exhibit a light at or near the forward end;
  - (ii) if it is 25 m or more in breadth, two additional all-round white lights at or near the extremities of its breadth;
  - (iii) if it exceeds 100 m in length, additional all-round white lights between the lights prescribed in subparagraphs (i) and (ii) so that the distance between the lights shall not exceed 100 m;
  - (iv) a diamond shape at or near the aftermost extremity of the last vessel or object being towed and if the length of the tow exceeds 200 m an additional diamond shape where it can best be seen and located as far forward as is practicable.
- (h) Where from any sufficient cause it is impracticable for a vessel or object being towed to exhibit the lights or shapes prescribed in paragraph (e) or (g) of this Rule, all possible measures shall be taken to light the vessel or object towed or at least to indicate the presence of such vessel or object.
- (i) Where from any sufficient cause it is impracticable for a vessel not normally engaged in towing operations to display the lights prescribed in paragraph (a) or (c) of this Rule, such vessel shall not be required to exhibit those lights when engaged in towing another vessel in distress or otherwise in need of assistance. All possible measures shall be taken to indicate the nature of the relationship between the towing vessel and the vessel being towed as authorized by Rule 36, in particular by illuminating the towline.

'Power-driven vessels towing' are covered by paragraphs 'a' to 'e' of this Rule and 'a vessel or object being towed' by paragraphs 'e' to 'h'. 'Towing' is not defined but traditionally means when one vessel is pulling another vessel or an object astern of her, usually connected by a line. The Rules differentiate between towing, and a vessel being pushed ahead or being towed alongside by prescribing different lights and shapes for the latter situations.

'A vessel engaged in a towing operation' is not granted any special right of way. The exhibition of lights and shapes specified in this Rule is just to indicate her special condition. However, if 'restricted in her ability to manoeuvre' applicable only and only when the activity 'severely restricts the towing vessel and her tow in their ability to deviate from their course', then she must, in addition to the requirements of this Rule, also exhibit the lights or shapes prescribed by Rule 27(b). The intensity of the lights and their minimum range of visibility should be as prescribed in Rule 22.

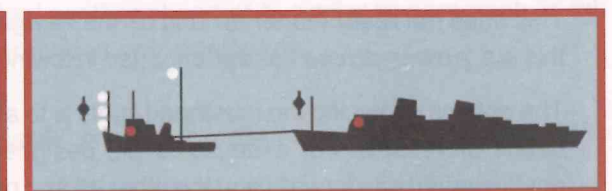
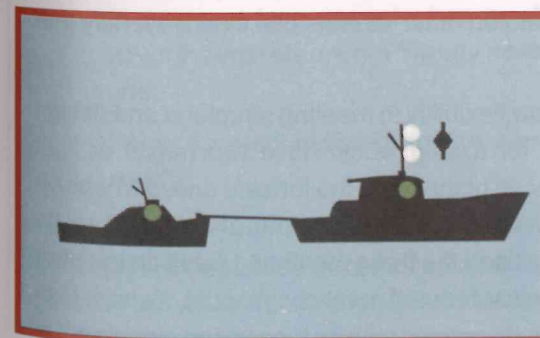
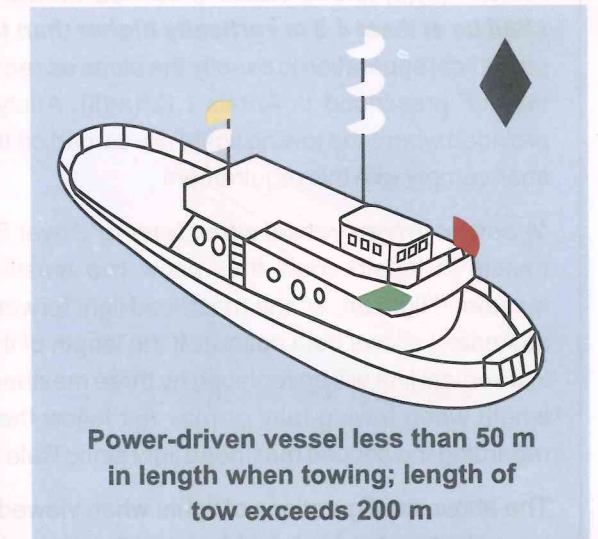
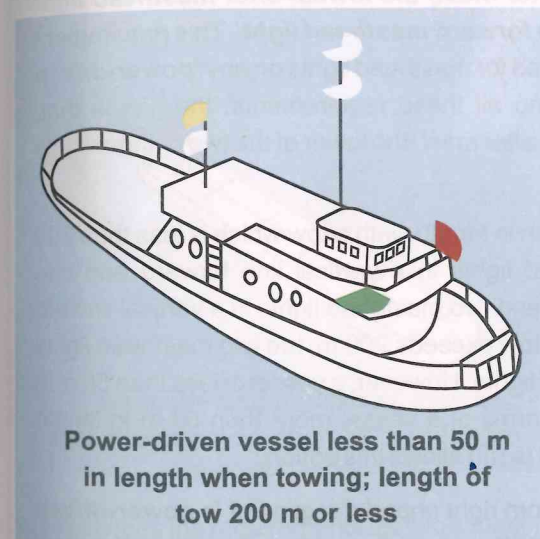
The requirements of this rule are generally self-explanatory. They would be better understood by sketching the requirements after studying the explanations given below.

a: Subparagraph 'i' of this Rule states, 'instead of the light prescribed in Rule 23(a)(i), or (a)(ii), two masthead lights in a vertical line. When the length of the tow, measuring from the stern of the towing vessel to the after end of the tow exceeds 200 m, three such lights in a vertical line'. It is the length until the extreme end of the tow measured from the stern of the vessel towing that

determines the number of masthead lights to be exhibited. The reason is obvious; this is to indicate the overall length of the tow to other vessels in the vicinity.

'A power-driven vessel when towing' shall continue to show 'sidelights', 'a sternlight' and, in addition, exhibit 'a towing light vertically above the sternlight' as required by subparagraphs 'ii', 'iii' and 'iv' of this Rule 24(a). Further, 'when the length of the tow --- exceeds 200 m, a diamond shape where it can best be seen'. The latter is to be complied with during the day as stated in Rule 20(d).

Paragraphs 'a' and 'c' of this Rule deactivate the application of both subparagraphs 'i' and 'ii' of Rule 23(a) on masthead lights. However, paragraph 'd' of this Rule 24 again reactivates 'a second masthead light abaft of and higher than the forward one' with paragraphs 'a' and 'c' of this Rule. This requirement is the same as stated in Rule 23(a)(ii), as such in effect there is no change and this requirement applies equally to a 'power-driven vessel when towing'; a must for a vessel more than 50 m in length and optional for a vessel less than this length.



Note: Towing vessel is probably over 50 m because the display of a second masthead light is mandatory only for a vessel over 50 m in length.

[TASK: IN THE PREVIOUS SCENARIO IS IT POSSIBLE FOR THE TOWING VESSEL TO EXHIBIT ONE MASTHEAD LIGHT FORWARD AND THREE AFT? OR TWO FORWARD AND TWO AFT? ANSWER THIS BEFORE READING THE CONTENTS IN THE TEXT BOX.]

Only the requirements of masthead lights prescribed for a *'power-driven vessel'* by Rule 23(a) are dispensed with or made redundant by subparagraph 24(a)(ii). The Rule does not specify if the 2 or 3 masthead lights in a vertical line have to be displayed at the forward or the aft masthead light locations. However, Annex I, paragraph 2(e) on the vertical positioning and spacing of lights states *'one of the two or three masthead lights'*, - *'shall be placed in the same position as either the forward masthead light or the after masthead light'*. This clearly means that the 2 or 3 masthead lights required by this Rule may be placed together either in the forward or aft masthead light positions.

By Rule 23(a)(ii), the second masthead light, if required, is to be *'abaft of and higher than the forward one'*, and this may imply that the 2 or 3 masthead lights in a vertical line should be placed forward since this Rule about a single and second masthead light also applies. But Annex I (2)(e) further states *'if carried on the after mast, the lowest after masthead light shall be at least 4.5 m vertically higher than the forward masthead light'*. This requirement on vertical separation is exactly the same as required for masthead lights on any *'power-driven vessel'* prescribed in Annex I (2)(a)(ii). Analysing all these requirements, the gist is that, provided where the towing lights are carried on the after mast, the lower of the two or three lights shall comply with this requirement.

*'A power-driven vessel when towing'* if over 50 m in length, with a tow which is less than 200 meters in length could thus show two masthead lights in a vertical line forward and one masthead light aft, or one masthead light forward and two masthead lights in a vertical line aft, as Annex I allows both options. If the length of the tow exceeds 200 m, the two masthead lights in a vertical line will be replaced by three masthead lights. However, a vessel of less than 50 m in length when towing may or may not follow the norms of a vessel more than 50 m in length regarding the second masthead light since Rule 23 (a) (ii) allows this option.

The above configurations of lights when viewed from right ahead direction of *'a power-driven vessel when towing'* would appear the same, but differ when viewed from any other direction. This does not really matter as long as the navigators on other vessels can clearly identify that this is a *'power-driven vessel'* engaged in towing.

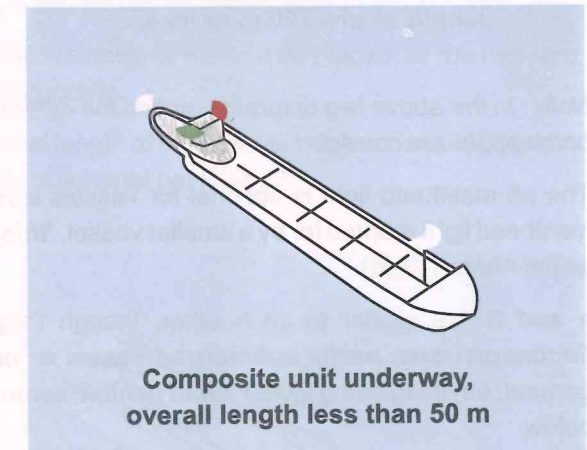
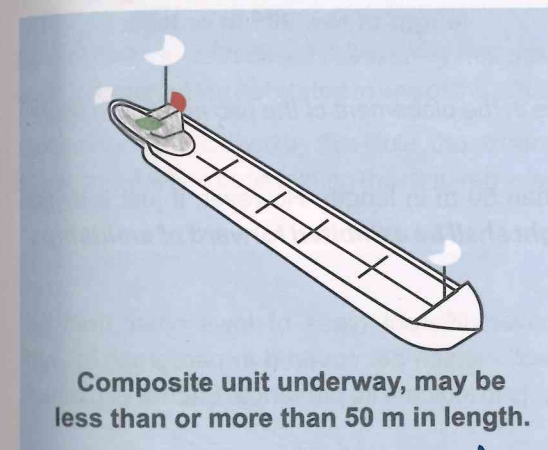
The options of placing the masthead lights is to allow flexibility in meeting structural and design needs of vessels. For example, a tug designed for towing would have two masts or light posts/stands: one forward and the other aft and placed higher than the forward one, perhaps on top of the bridge. Such tugs usually have a smaller fore deck but a large open afterdeck. It will be convenient on such a vessel to design the fitment to carry the three masthead lights on the after mast and the single masthead light placed on the lower forward mast or light post. If she is less than 50 m in length, then the forward fitment may be dispensed with as long as the placement is *'forward of amidships'* required by Annex I (3)(d).

[TASK: DRAW DIAGRAMS SHOWING PLACEMENT OPTIONS OF LIGHTS ON A POWER-DRIVEN VESSEL OVER 50 M TOWING, LENGTH OF TOW EXCEEDING 200 METRES BEHIND HER STERN.

ALSO DRAW DIAGRAMS TO SHOW THE LIGHTS AS THEY MAY BE VISIBLE ON THIS VESSEL WHEN SEEN FROM RIGHT AHEAD, SEEN FROM ABOUT 60° OF HER PORT SIDE AND SEEN FROM ABOUT 60° OF HER STARBOARD SIDE. YOU MAY ALSO MAKE DIAGRAMS FOR OTHER VIEWING DIRECTIONS]

b: The Rule is a requirement for certain specialised vessels, for example tug and barge combinations when *'rigidly connected in a composite unit they shall be regarded as a power-driven vessel and exhibit the lights prescribed in Rule 23'*. That is, like any normal *'power-driven vessel'* and they thus should not follow any of the other requirements in this Rule 24.

*'Rigidly connected in a composite unit'* are constructions so designed that the pushing vessel's bow fits into a matching slot on the stern of the other being pushed. Normally these are tug and barge combinations designed to fit together mutually as one vessel and can be interlocked together so rigidly that they lose their independence of individual motion. They appear and behave like a single vessel.



c: Prescribes the requirements for two situations.

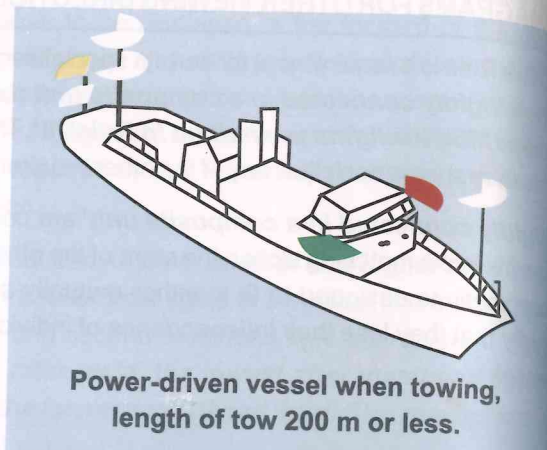
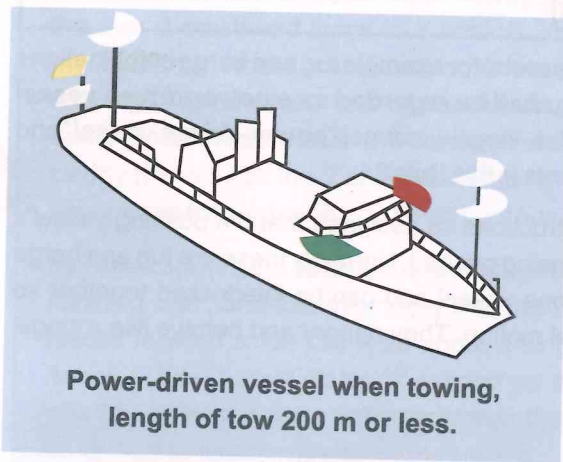
- 1: *'A power-driven vessel when pushing'* another ahead of it, similar to paragraph 'b' but when the vessels are not *'rigidly connected in a composite unit'* and;
- 2: When a vessel is being *'towed alongside'* and not *'rigidly connected in a composite unit'*

In both situations, the requirements of masthead lights prescribed for a *'power-driven vessel'* by Rule 23(a) are dispensed with and replaced by the requirements of this Rule. That is *'two masthead lights in vertical line'*, *'sidelights'* and *'a sternlight'*.

There is no requirement of any additional masthead light linked with the length of the vessel being pushed ahead or towed alongside. There is also no requirement of a towing light to be exhibited by a vessel pushing; that light is only required when she is towing.

The configuration of lights shall be similar for a power-driven vessel less than 50 m in length when towing; length of tow 200 m or less, except that the yellow towing light shall not be there.

d: Reactivates the application of Rule 23 (a)(ii), the requirement of **'a second masthead light abaft of and higher than the forward one'** if applicable, where ever paragraphs 'a' and 'c' of this Rule apply. Both paragraphs 'a' and 'c' state that Rule 23 (a)(i) and (a)(ii) do not apply in the conditions covered by them. The reactivation of 23 (a)(ii) has been explained with paragraphs 'a' and 'c'.

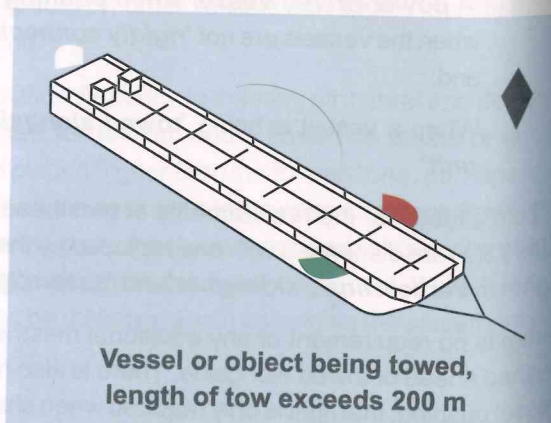
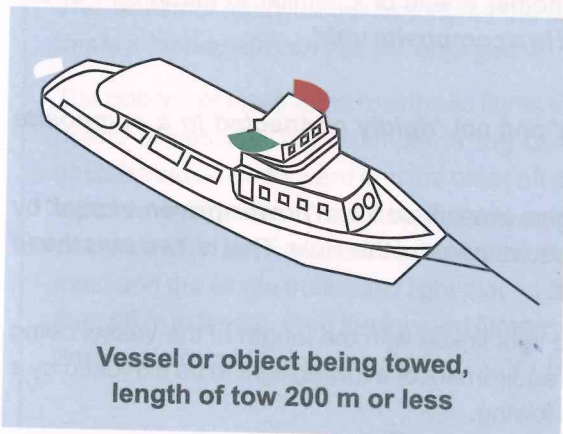


Note : In the above two diagrams, notice the difference in the placement of the two masthead lights, both options are correct.

The aft masthead light is optional for vessels less than 50 m in length. However, if just a single masthead light is opted for by a smaller vessel, **'this light shall be exhibited forward of amidships'** as per Annex I (3)(d).

e and f: Are similar to each other, though they cover different types of tows other than an **'inconspicuous, partly submerged vessel or object'** - which get covered in paragraph 'g'. In general, anything being towed **'shall exhibit'** some lights to indicate its presence. Each is explained below.

e: Any **'vessel or object being towed'**, other than those **'being towed alongside or pushed'** covered by paragraph 'f', must display **'sidelights'** and a **'sternlight'**. If **'the length of the tow'**



**exceeds 200 m'**; the tow shall also display the day signal of a diamond. The day signal is independent of the one required on a vessel towing by subparagraph (a)(v) of this Rule. In effect, if the length of the tow exceeds 200 m, then a **'power driven vessel when towing'** as well as the **'vessel or object being towed'** shall display this day signal.

f: Applies in two conditions: 1: to vessels **'being towed alongside'**;

Or

2: being **'pushed in a group'**.

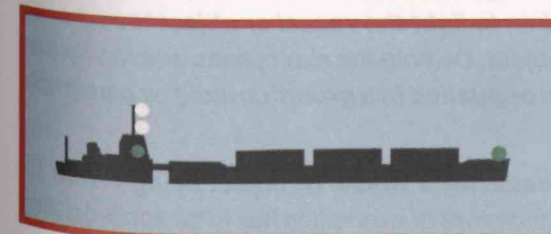
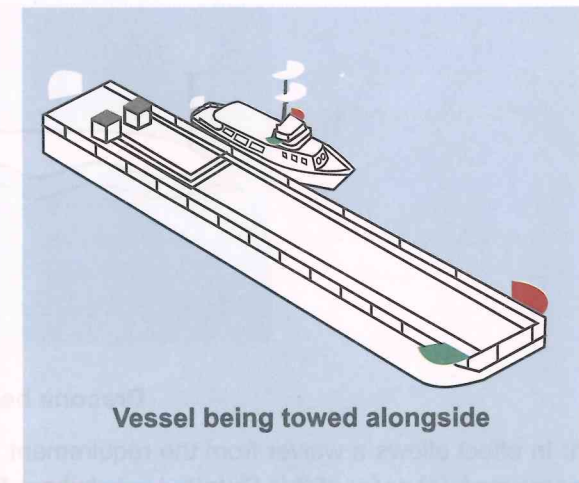
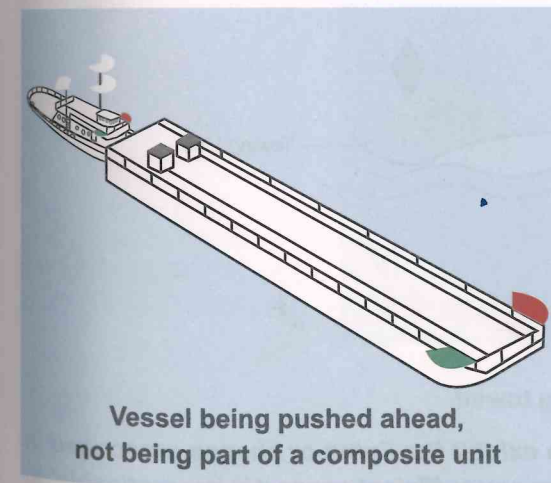
Even if there is more than one vessel, in both cases, the full group shall be considered and **'lighted as one vessel'**.

A **'vessel being pushed ahead'** is quite logically exempted from showing a sternlight - it will not be visible to anyone, and so she is only required to exhibit **'at the forward end, sidelights'**. This applies only if the vessels are not joined as **'a composite unit'**. If they **'are rigidly connected in a composite unit'**, the two combined are considered as a single **'power-driven vessel'** as per paragraph 'b' of this Rule.

If it is **'a vessel being towed alongside'**, she shall in addition to the above **'exhibit a sternlight'**.

Do note that, in both cases covered by this paragraph, sidelights have to be placed **'at the forward end'**, a requirement not stated in any of the other paragraphs.

In conditions prescribed by this Rule, the extreme total length of the vessels involved should be taken into account when determining the required intensity of lights as per Rule 22.



A power-driven vessel less than 50 m pushing ahead (or towing alongside), other than a composite unit, as seen from the starboard side. Refer Rules 24(c) and (f).



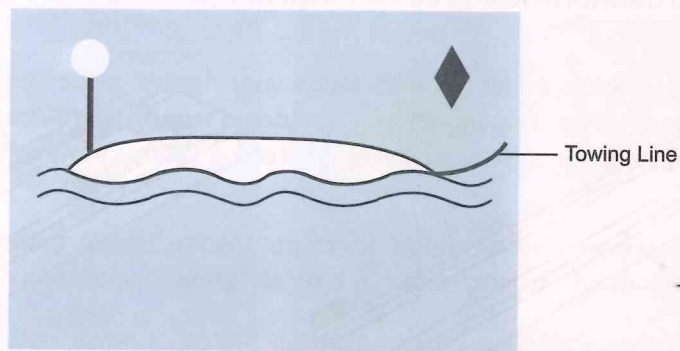
**g:** Is about lighting any *'inconspicuous, partly submerged vessel or object, or combination of such vessels'* when under tow. These vessels or objects, for the nature of their work are of a design that it may be difficult to properly equip them with conventional sidelights and sternlight prescribed in paragraphs 'e' or 'f' of this Rule.

*'Dracones'* are large flexible bags or barges used for transporting liquids. When filled, these usually would be very close to being or may actually be fully submerged in water. Though not stated in the Rule, by the same principle and implication, this term could also include timber floats or other vessels or objects being towed which consist of inconspicuous or partly submerged objects, and the requirements of this Rule applied to them too.

Subparagraph 'i' of this Rule requires *'one all-round white light at or'* as close as possible on the forward and aft ends of such a towed vessel. However, *'dracones'* are partially exempted, they *'need not exhibit a light at or near the forward end'*. Those exceeding a breadth of 2.5 m are in addition required to display *'two additional all-round white lights'* to mark the extremity of the breadth as per subparagraph 'ii'.

Subparagraph 'iii' requires such vessels exceeding a length of 100 m to exhibit *'additional all-round white lights between the lights prescribed in subparagraphs (i) and (ii) so that the distance between the lights shall not exceed 100 m'*. In other words, there should not be an unlit span of more than 100 meters, and in addition, compliance with subparagraphs 'i' and 'ii' of this Rule explained above should also be ensured.

Subparagraph 'iv' requires a diamond shape to be displayed *'at or near the aftermost extremity of the last vessel or object being towed'* and *'if the length of the tow exceeds 200 m an additional diamond shape where it can best be seen and located as far forward as is practicable'*.



Dracone being towed

**h:** In effect allows a waiver from the requirement *'to exhibit the lights or shapes prescribed in paragraph (e) or (g) of this Rule'* but only *'where from any sufficient cause it is impracticable'*. In such a situation, *'all possible measures shall be taken to light the vessel or object towed or at least to indicate the presence of such vessel or object'*. Do note the exemptions granted by this Rule do not apply to *'vessels being towed alongside or pushed in a group'* covered by paragraph 'f'.

The term *'sufficient cause'*, that makes it *'impracticable for a vessel or object being towed to exhibit the lights or shapes'* is not clearly defined. This waiver or exemption has to be applied using

the principles of *'ordinary practice of seamen'* or *'special circumstances'* from Rule 2. For example, a disabled vessel with her lights broken because of an accident, or if she is suffering a total loss of power or any other similar circumstances.

In all such cases *'all possible measures shall be taken to light the vessel or object towed or at least to indicate the presence of such vessel or object'*. No guidelines are given; this may be done by using searchlights from the towing vessel focused on the tow or the towed vessels own deck lights and use of radar transponders *'to indicate the presence of such vessel or object'*. In addition, the guidelines prescribed in Rule 36 should always be followed.

**[TASK: PLEASE READ RULE 36, 'SIGNALS TO ATTRACT ATTENTION' TO UNDERSTAND THE REQUIREMENTS STATED THERE.]**

i: Paragraphs 'a' and 'c' of this Rule prescribe the lighting requirements for a *'power-driven vessel when towing', 'pushing ahead or towing alongside'*. This Rule allows waivers from these requirements but only *'for a vessel not normally engaged in towing operations'*, by this paragraph.

Such towing operations are also sometimes referred to as *'Good Samaritan'* towing undertaken by a vessel not designed to be *'normally engaged in towing'* but is assisting another vessel by taking her in tow having found her *'in distress or otherwise in need of assistance'*. This Rule exempts such a vessel so that she *'shall not be required to exhibit those lights'* normally required of a towing vessel. However, *'all possible measures shall be taken to indicate the nature of the relationship between the towing vessel and the vessel being towed as authorized by Rule 36, in particular by illuminating the towline'*.

## Rule 25

### *Sailing vessels underway and vessels under oars*

- (a) A sailing vessel underway shall exhibit:
- (i) sidelights;
  - (ii) a sternlight.
- (b) In a sailing vessel of less than 20 m in length the lights prescribed in paragraph (a) of this Rule may be combined in one lantern carried at or near the top of the mast where it can best be seen.
- (c) A sailing vessel underway may, in addition to the lights prescribed in paragraph (a) of this Rule, 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 being red and the lower green, but these lights shall not be exhibited in conjunction with the combined lantern permitted by paragraph (b) of this Rule.
- (d) (i) A sailing vessel of less than 7 m in length shall, if practicable, exhibit the lights prescribed in paragraph (a) or (b) of this Rule, but if she does not, she shall have ready at hand an electric torch or lighted lantern showing a white light which shall be exhibited in sufficient time to prevent collision.
- (ii) A vessel under oars may exhibit the lights prescribed in this Rule for sailing vessels, but if she does not, she shall have ready at hand an electric torch or lighted lantern showing a white light which shall be exhibited in sufficient time to prevent collision.
- (e) A vessel proceeding under sail when also being propelled by machinery shall exhibit forward where it can best be seen a conical shape, apex downwards.

*Note: All diagrams pertaining to this Rule are shown at the end of the explanations.*

a: Only 'sidelights' and 'a sternlight' are required to be exhibited by 'a sailing vessel underway'. This is perhaps to do with the design of a sailing vessel: the sails are hoisted right up close to the top end of the masts and are likely to obscure and render the 'masthead lights' useless, even if these were to be exhibited. However, and very importantly, this requirement also helps differentiate 'sailing vessels' from other vessels when seen at night, when sails would not be visible. The lights exhibited give no indication about the length of 'a sailing vessel'.

b: Rule 21(b) states 'in a vessel of less than 20 m in length the sidelights may be combined in one lantern carried on the fore-and-aft centreline of the vessel'. Similarly, this Rule allows 'in a sailing vessel of less than 20 m in length the lights prescribed in paragraph (a) of this Rule may be combined in one lantern carried at or near the top of the mast where it can best be seen'. Being right on top, this combined lantern, sometimes referred to as 'tricolour', is least likely to be obscured by sails and may also require lesser power with perhaps just one bulb in use.

c: 'A sailing vessel underway may, in addition' 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 being red and the lower green'. These lights are optional, may or may not be exhibited, and are additional to the requirement

of exhibiting 'sidelights' and 'a sternlight' prescribed by paragraph 'a' of this Rule. **'But these lights shall not be exhibited in conjunction with the combined lantern permitted by paragraph (b) of this Rule'.**

Paragraph 'b' prescribes that the combined lantern is to be 'carried at or near the top of the mast where it can best be seen'. This paragraph 'c' also has a similar requirement 'exhibit at or near the top of the mast, where they can best be seen'. It obviously would be difficult to practically comply with both these requirements at the same time, and if done would surely create confusion to those seeing such a combination of lights. Therefore, if the 'two all-round lights' prescribed by this Rule are carried on a sailing vessel less than 20 m in length, then the vessel shall not use the combined lantern or vice versa.

d(i): A small 'sailing vessels of less than 7 m in length shall, if practicable, exhibit the lights prescribed in paragraph (a) or (b) of this Rule'. However, if this requirement is not practicable, for any reason, 'she shall have ready at hand an electric torch or lighted lantern showing a white light which shall be exhibited in sufficient time to prevent collision'. The onus is on the sailing vessel to display her presence 'in sufficient time to prevent collision'. Such a small sailing vessel may also be a weak radar target.

This option is perhaps a poor substitute for the 'sidelights' and 'sternlight' that are exhibited continuously, which would help other vessels to identify such small 'sailing vessels' in good time to keep clear of, if so required, but is allowed by these Rules only if the continuous display of the lights is not practicable or possible.

d(ii): Applies to 'a vessel under oars'. The requirements are similar to those of a small 'sailing vessel' described above. However, unlike those, there is no stipulation on the length for 'a vessel under oars'.

Mariners should remain cautious when navigating; they may suddenly encounter such a small 'sailing vessel' or 'a vessels under oars', which may not even be lighted at night and indicates her presence only 'in sufficient time to prevent collision'. 'Action to avoid collision' in such cases would need to be very prompt and large.

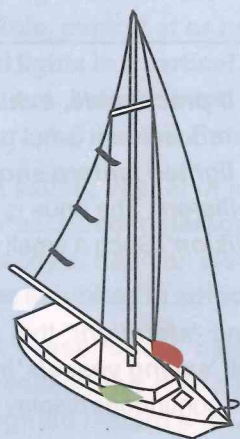
*'A personal experience I had as a third officer in 1980: a small vessel suddenly flashed her lights close right ahead. She had not been sighted earlier neither visually nor on the radar and appeared rather close. A hard over alteration was immediately executed, and as the vessels swinging bows cleared this small vessel, the wheel was turned hard over to the opposite side to move the vessels stern away from her, which otherwise may have hit her. It was a scary near miss.'*

The importance of visual look-out has been repeatedly emphasised in the explanations as the first and foremost duty of an OOW and other bridge team members. **'It is of special importance that at all times the officer in charge of the navigational watch ensures that a proper lookout is maintained. In a ship with a separate chartroom, the officer in charge of the navigational watch may visit the chartroom, when essential, for a short period for the necessary performance of navigational duties, but shall first ensure that it is safe to do so and that proper lookout is maintained.'** (STCW Code A-VIII/2, paragraph 32)

e: Requires that during day 'a vessel proceeding under sail when also being propelled by machinery shall exhibit forward where it can best be seen a conical shape, apex downwards'.

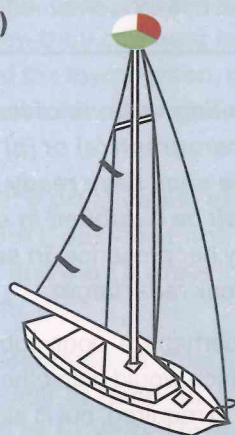
By reverse implication of Rule 3(c) definition, 'a sailing vessel' if using her propelling machinery, would no more be a sailing vessel but a 'power-driven vessel'. This is the accepted norm and thus she would be required to display the lights as defined in Rule 23, appearing at night clearly as a 'power-driven vessel'. However, during the day it would be the reverse, as only the sails would be visible. To ensure that other vessels can correctly judge a sailing vessel 'also being propelled by machinery' as a 'power-driven vessel', the day signal serves to identify her correct status for 'preventing collisions'.

Rule 25(a)



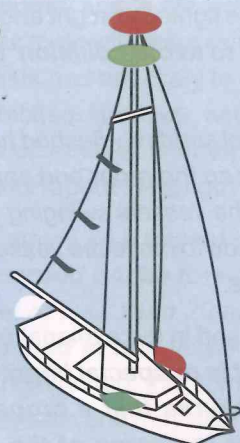
A sailing vessel underway

Rule 25(b)



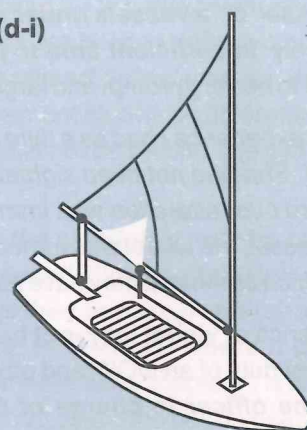
A sailing vessel underway - less than 20 m in length using the combined lantern

Rule 25(c)



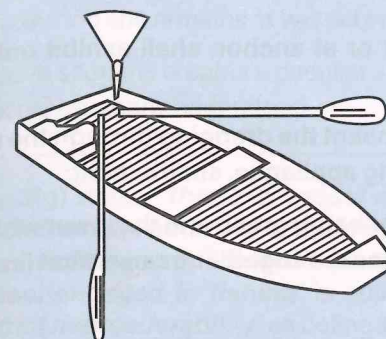
A sailing vessel underway exhibiting the optional all round lights

Rule 25(d-i)



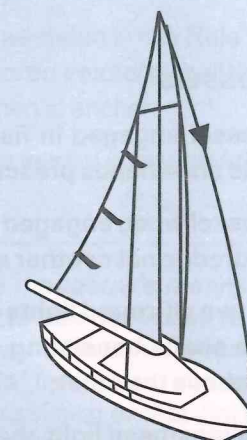
A sailing vessel underway, less than 7 m in length

Rule 25(d-ii)



A vessel under oars

Rule 25(e)



A vessel proceeding under sail when also being propelled by machinery

To sum up, the following diagram should be of help in understanding the requirements of this Rule as applicable to 'a sailing vessel'.

Rule & Vessel	Shape	When viewed from			Sound signals in restricted visibility, at intervals of not more than 2 minutes.	
		Port	Ahead	Starboard		
Rule 25 Sailing Vessels underway	 Under both sail & power	 Less than 7m	 If not showing navigation lights, hand held torch shown in time to prevent collision	 Less than 7m	 If not showing navigation lights, hand held torch shown in time to prevent collision	



A sailing vessel but being propelled by machinery - notice the conical shape, apex downwards, exhibited forward

## Rule 26

### Fishing vessels

- (a) A vessel engaged in fishing, whether underway or at anchor, shall exhibit only the lights and shapes prescribed in this Rule.
- (b) A vessel when engaged in trawling, by which is meant the dragging through the water of a dredge net or other apparatus used as a fishing appliance, shall exhibit:
- two all-round lights in a vertical line, the upper being green and the lower white, or a shape consisting of two cones with their apexes together in a vertical line one above the other;
  - a masthead light abaft of and higher than the all-round green light; a vessel of less than 50 m in length shall not be obliged to exhibit such a light but may do so;
  - when making way through the water, in addition to the lights prescribed in this paragraph, sidelights and a sternlight.
- (c) A vessel engaged in fishing, other than trawling shall exhibit:
- two all-round lights in a vertical line, the upper being red and the lower white, or a shape consisting of two cones with apexes together in a vertical line one above the other;
  - when there is outlying gear extending more than 150 m horizontally from the vessel, an all-round white light or a cone apex upwards in the direction of the gear;
  - when making way through the water, in addition to the lights prescribed in this paragraph, sidelights and a sternlight.
- (d) The additional signals described in annex II to these Regulations apply to a vessel engaged in fishing in close proximity to other vessels engaged in fishing.
- (e) A vessel when not engaged in fishing shall not exhibit the lights or shapes prescribed in this Rule, but only those prescribed for a vessel of her length.

'A vessel engaged in fishing' means 'fishing vessels' fishing in a manner 'which restrict manoeuvrability' as defined in Rule 3(d): only then will the requirements of this Rule apply. When in sight and 'if risk of collision exists', then, as per Rule 18 (c) 'a vessel engaged in fishing when underway shall, so far as possible, keep out of the way of' 'NUC' and 'RAM' vessels commonly referred to as 'hampered vessels'; 'fishing vessels' have been given a high degree of privilege by these Rules. However, in restricted visibility, the requirements of Rule 19 'for preventing collisions' apply equally to all vessels with no exceptions whatsoever.

At other times when not 'engaged in fishing', 'fishing vessels' must conduct themselves like any other vessel as per the requirements of these Rules and also exhibit the lights and/or shapes relevant and applicable to the size and type of vessel, not the lights and shapes stated in this Rule 26.

a: As per this Rule, 'whether underway or at anchor', 'a vessel engaged in fishing' - 'shall only exhibit the lights and shapes prescribed in this Rule' and none other. The use of the word 'only' and its placement in the latter half of the Rule leads to this interpretation. 'A vessel engaged in

*fishing*' is not allowed to exhibit any other lights or shapes except as stated in this Rule whether she is 'underway or at anchor'. The requirements of Rule 30 on 'anchored vessels' shall thus not apply to her provided she remains 'a vessel engaged in fishing' even when at anchor.

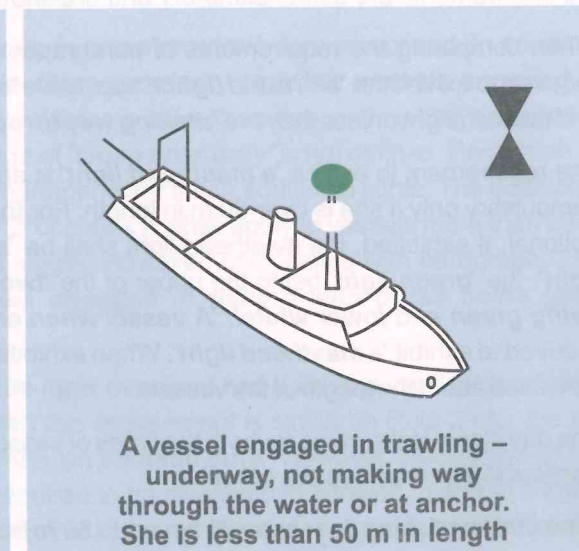
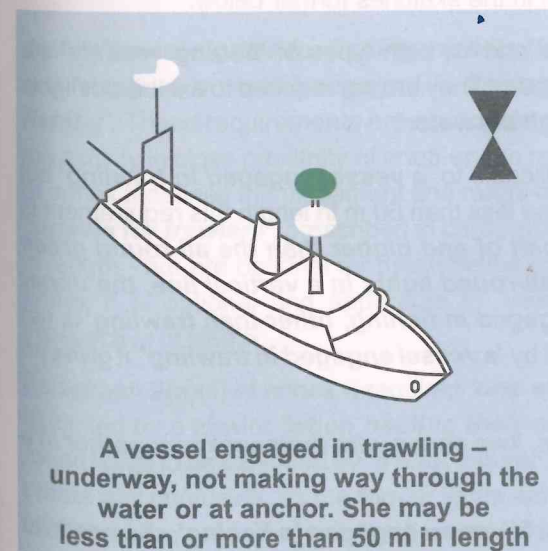
The above scenario creates a peculiar situation applicable only to 'a vessel engaged in fishing' and this should be clearly understood.

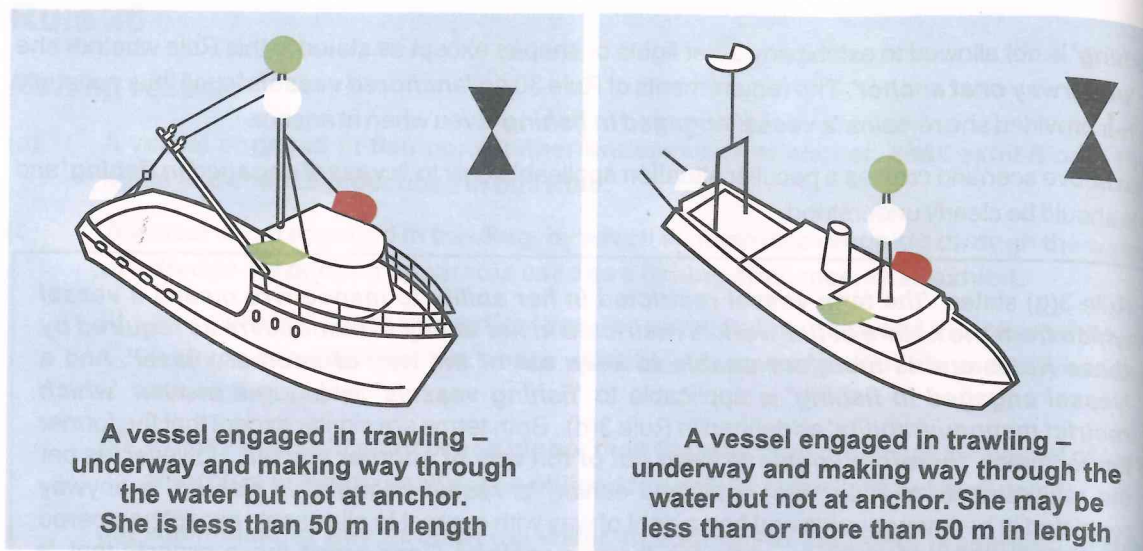
Rule 3(g) states, 'the term vessel restricted in her ability to manoeuvre means a vessel which from the nature of her work is restricted in her ability to manoeuvre as required by these Rules and is therefore unable to keep out of the way of another vessel'. And a 'vessel engaged in fishing' is applicable to 'fishing vessels' fishing in a manner 'which restrict manoeuvrability' as defined in Rule 3(d). Both terms are similar except that the former further states 'therefore unable to keep out of the way of another vessel'. However, as per the requirements of Rule 18(c) explained earlier, 'a vessel engaged in fishing' is anyway restricted in her manoeuvres and has a right of way with respect to all vessels except hampered vessels; and that too with a waiver 'so far as possible'. Considering these aspects that 'a vessel engaged in fishing' is anyway restricted in 'manoeuvrability' and is most unlikely to ever fit the 6 conditions stated in Rule 3(g), she may never be required to exhibit 'RAM' lights or signals. In fact, some experts on this subject suggest she never should, though the Rules do not explicitly state anything to support this expert viewpoint.

This Rule further separates these vessels into two classes: 'engaged in trawling' and 'engaged in fishing, other than trawling'. The requirements for both types further differentiate these vessels 'when making way through the water' or not. The term 'making way' has been explained with Rule 3(i) defining 'underway'.

[TASK: REVISE THE EXPLANATIONS GIVEN FOR RULE 3(I)].

b: Applicable to 'a vessel when engaged in trawling'. 'Trawling' is explained in this paragraph and the requirements are self-explanatory; the requirements of lights are shown in the sketches below.





A vessel engaged in trawling – underway and making way through the water but not at anchor. She is less than 50 m in length

A vessel engaged in trawling – underway and making way through the water but not at anchor. She may be less than or more than 50 m in length

The requirements for 'a vessel when engaged in trawling' may be summed up as shown below.

Rule & Vessel	Shape	When viewed from			Sound signals in restricted visibility, at intervals of not more than 2 minutes.
		Port	Ahead	Starboard	
Rule 26 Trawling vessels underway or at anchor		 Less than 50m	 Less than 50m	 Less than 50m	
Rule 26 Fishing Vessels Trawling <small>See also Annex II</small>		 making way & trawling	 Less than 50m making way & trawling	 Less than 50m making way & trawling	

c: The requirements are applicable to 'a vessel when engaged in fishing, other than trawling'; the requirements are self-explanatory and are shown in the sketches further below.

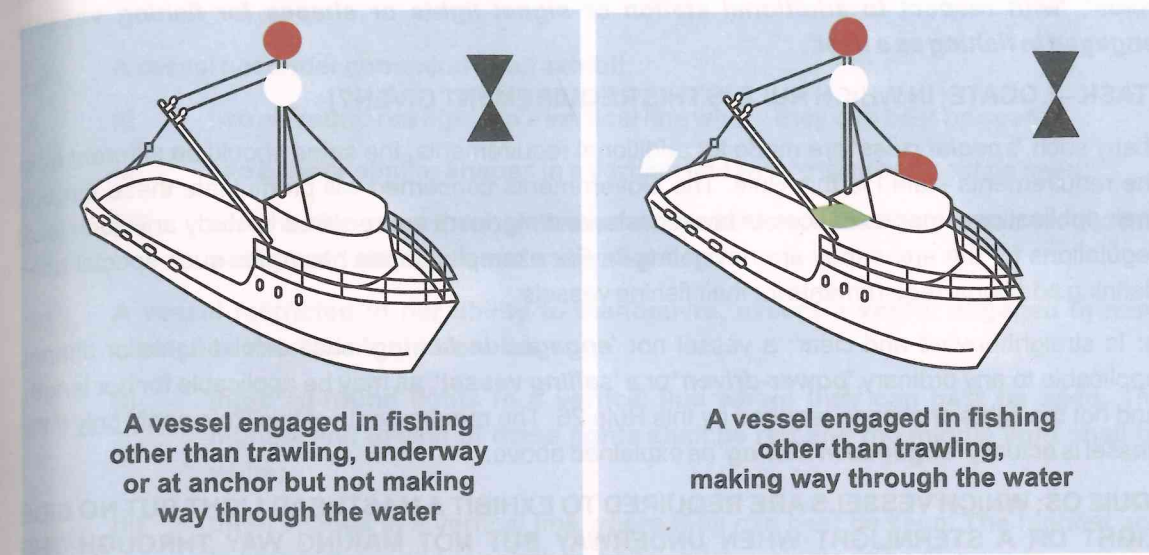
When comparing the requirements of paragraphs 'b' and 'c', both types of 'fishing vessels' are required to exhibit the 'all-round lights' applicable to them. They are not required to exhibit sidelights and the sternlight unless they are 'making way through the water'.

The requirement to exhibit 'a masthead light' is applicable to 'a vessel engaged in trawling' but compulsory only if she is over 50 m in length. For those less than 50 m in length this requirement is optional. If exhibited, the masthead light shall be 'abaft of and higher than the all-round green light', the 'green light' being the upper of the 'two all-round lights in a vertical line, the upper being green and lower white'. 'A vessel when engaged in fishing, other than trawling' is not required to exhibit 'a masthead light'. When exhibited by 'a vessel engaged in trawling', it gives no indication about the length of the vessel.

The day signal is the same for both the types of vessels, 'two cones with their apexes together in a vertical line one above the other'.

If the outlying fishing gear extends beyond 150 m from 'a vessel engaged in fishing', she needs to

indicate this by an additional 'all-round white light or a cone apex upwards in the direction of the gear'.



A vessel engaged in fishing other than trawling, underway or at anchor but not making way through the water

A vessel engaged in fishing other than trawling, making way through the water

The requirements for 'a vessel when engaged in fishing, other than trawling' may be summed up as shown below.

Rule & Vessel	Shape	When viewed from			Sound signals in restricted visibility, at intervals of not more than 2 minutes.
		Port	Ahead	Starboard	
Rule 26 Fishing Vessels Other than Trawling <small>See also Annex II</small>		 Fishing Vessels with outlying gear extended more than 150m (on port side), underway or at anchor	 Fishing Vessels with outlying gear extended more than 150m (on port side), making way	 making way + outlying gear (on port side)	
		 Fishing Vessels underway or at anchor	 Fishing Vessels making way	 Fishing Vessels making way	

d: 'Additional signals for fishing vessels fishing in close proximity' are prescribed 'in annex II' and 'apply to a vessel engaged in fishing in close proximity to other vessels engaged in fishing'. These requirements are applicable only if there is more than one such vessel engaged in the activity in close proximity of another; the range of 'close proximity' is not defined. Paragraph '1' of annex II defines the placement and range requirements for these additional lights. The additional 'signals for trawlers', prescribed in paragraph '2' of annex II, shall apply to vessels more than 20 m in length - but are optional for those below this length. However, compliance with paragraph '3' of annex II is optional and applicable to 'vessels engaged in fishing with purse seine gear' irrespective of length.

Paragraph 2(a)(ii) of annex II requires 'one white light over one red light in a vertical line' to be exhibited by a trawler 'when hauling their nets'; this requirement is similar to Rule 29 for the all-round lights to be exhibited by 'a pilot vessel' when 'on pilotage duty'. However, the two should not create any confusion, as the former lights are required to be displayed in addition to and at a lower level than the green over white all-round light required to be exhibited by subparagraph 'b-i' of this

Rule for *'a vessel when engaged in trawling'*. (Further, they shall also not be as bright since they are required to have a lower range of visibility.)

These Rules have earlier stated that the *'Government of any State'* is authorised to make *'special rules'*, *'with respect to additional station or signal lights or shapes for fishing vessels engaged in fishing as a fleet'*.

**[TASK – LOCATE: IN WHICH RULE IS THIS REQUIREMENT GIVEN?]**

If any such *'special rules'* are made for additional requirements, the same should be different from the requirements stated in this Rule. The Governments concerned will promulgate these through their publications, marine notices or broadcasts, and mariners are required to study any such local regulations for the areas they are navigating in. For example, Japan has made such special rules defining additional requirements for their fishing vessels.

e: Is straightforward and clear: a vessel not *'engaged in fishing'* shall exhibit lights or shapes applicable to any ordinary *'power-driven'* or a *'sailing vessel'*, as may be applicable for her length, and not the lights or shapes required by this Rule 26. The requirements of this Rule apply only if the vessel is actually *'engaged in fishing'* as explained above.

**(QUIZ QS: WHICH VESSELS ARE REQUIRED TO EXHIBIT A MASTHEAD LIGHT BUT NO SIDE LIGHT OR A STERNLIGHT WHEN UNDERWAY BUT NOT MAKING WAY THROUGH THE WATER?)**

**QUIZ QS: FOR THE ABOVE VESSELS HOW WOULD THE REQUIREMENTS CHANGE IF SHE WERE TO ANCHOR WITHOUT CHANGING HER STATUS?)**


**Rule 27**

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

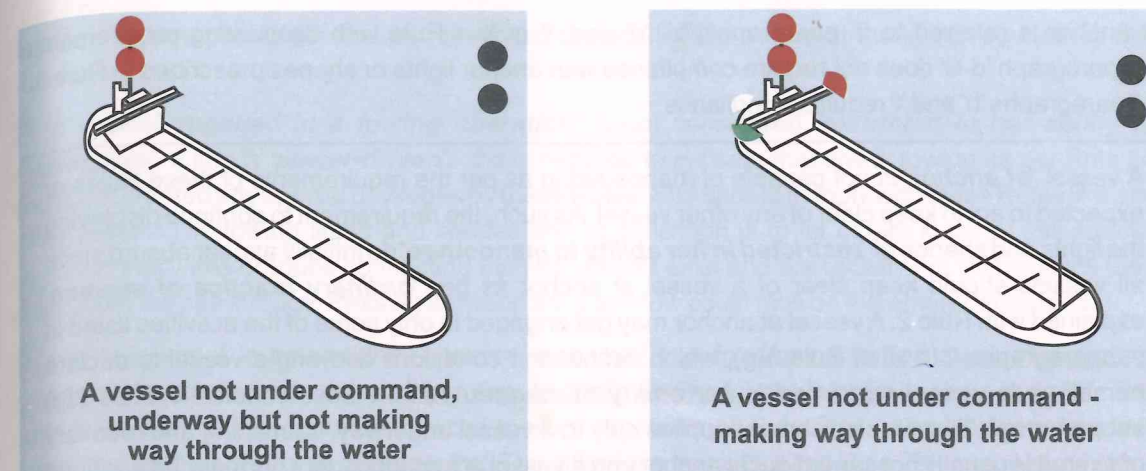
- (a) A vessel not under command shall exhibit:
  - (i) two all-round red lights in a vertical line where they can best be seen;
  - (ii) two balls or similar shapes in a vertical line where they can best be seen;
  - (iii) when making way through the water, in addition to the lights prescribed in this paragraph, sidelights and a sternlight.
- (b) A vessel restricted in her ability to manoeuvre, except a vessel engaged in mine clearance operations, shall exhibit:
  - (i) three all-round lights in a vertical line where they can best be seen. The highest and lowest of these lights shall be red and the middle light shall be white;
  - (ii) three shapes in a vertical line where they can best be seen. The highest and lowest of these shapes shall be balls and the middle one a diamond;
  - (iii) when making way through the water, a masthead light or lights, sidelights and a sternlight, in addition to the lights prescribed in subparagraph (i);
  - (iv) when at anchor, in addition to the lights or shapes prescribed in subparagraphs (i) and (ii), the light, lights or shape prescribed in Rule 30.
- (c) A power-driven vessel engaged in a towing operation such as severely restricts the towing vessel and her tow in their ability to deviate from their course shall, in addition to the lights or shapes prescribed in Rule 24(a), exhibit the lights or shapes prescribed in subparagraphs (b)(i) and (ii) of this Rule.
- (d) A vessel engaged in dredging, or underwater operations, when restricted in her ability to manoeuvre, shall exhibit the lights and shapes prescribed in subparagraphs (b)(i), (ii) and (iii) of this Rule and shall in addition, when an obstruction exists, exhibit:
  - (i) two all-round red lights or two balls in a vertical line to indicate the side on which the obstruction exists;
  - (ii) two all-round green lights or two diamonds in a vertical line to indicate the side on which another vessel may pass;
  - (iii) when at anchor, the lights or shapes prescribed in this paragraph instead of the lights or shape prescribed in Rule 30.
- (e) Whenever the size of a vessel engaged in diving operations makes it impracticable to exhibit all lights and shapes prescribed in paragraph (d) of this Rule, the following shall be exhibited:

- (i) three all-round lights in a vertical line where they can best be seen. The highest and lowest of these lights shall be red and the middle light shall be white;
  - (ii) a rigid replica of the International Code flag “A” not less than 1 m in height. Measures shall be taken to ensure its all-round visibility.
- (f) A vessel engaged in mine clearance operations shall in addition to the lights prescribed for a power-driven vessel in Rule 23 or to the lights or shape prescribed for a vessel at anchor in Rule 30 as appropriate, exhibit three all-round green lights or three balls. One of these lights or shapes shall 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 m of the mine clearance vessel.
- (g) Vessels of less than 12 m in length, except those engaged in diving operations, shall not be required to exhibit the lights and shapes prescribed in this Rule.
- (h) The signals prescribed in this Rule are not signals of vessels in distress and requiring assistance. Such signals are contained in annex IV to these Regulations.

Two similar types of vessels - '*a vessel not under command*', defined in Rule 3(f) as '*which through some exceptional circumstance is unable to manoeuvre as required by these Rules*', and '*a vessel restricted in their ability to manoeuvre*', defined in Rule 3(g) as '*which from the nature of her work is restricted in her ability to manoeuvre as required by these Rules*' are covered by this Rule. The concluding remark in both definitions is the same, '*therefore unable to keep out of the way of another vessel*', though the reasons for not being able to do so are slightly different. Being '*unable to*' and '*restricted in her ability to manoeuvre*' respectively, these vessels cannot physically comply with the usual requirements of these Rules to take '*any action to avoid collision*' and as such have been granted special privileges. When '*in sight of one another*', Rule 18 requires all other vessels to keep out of the way of these two types of vessels, traditionally called '*hampered vessels*'.

This Rule applies to vessels more than 12 m in length '*except those engaged in diving operations*' as stated in paragraph 'g' of this Rule. The term '*making way*' used in this rule has been explained earlier; a vessel not '*making way*' if '*not at anchor, or made fast to the shore, or aground*' is still very much '*underway*'.

a: Applies to any vessel which declares herself '*not under command*', (NUC) due to '*some exceptional circumstance*' explained with Rule 3(f). When '*not under command*', the requirement of lights to be exhibited vary between a vessel stopped and drifting versus '*when making way through the water*'. In the latter case, such a vessel is also required to exhibit '*sidelights and a sternlight*'. The day signal described in this Rule is common to both. Since masthead lights are not required to be exhibited, the other lights give no indication about the probable length of a vessel '*not under command*'.



Rule & Vessel	Shape	When viewed from			Sound signals in restricted visibility, at intervals of not more than 2 minutes.
		Port	Ahead	Starboard	
Rule 27 Vessels not under command	● ● ●				— ..
Rule 27 Vessels not under comm'd making way through water	● ● ●				— ..

b: This generally covers all vessels '*restricted in her ability to manoeuvre except a vessel engaged in mine clearance operations*', usually referred to as '*RAM*' vessels. The latter paragraphs of this Rule contain additional specific requirements for several other types of vessels covered under '*restricted in her ability to manoeuvre*'. These requirements apply to all such vessels.

For '*a vessel restricted in her ability to manoeuvre*', the requirements of lights and shapes change when she is '*underway*', '*making way*' or '*at anchor*'. Only when '*making way*' are such vessels required to exhibit '*a masthead light or lights, sidelights and a sternlight*'.

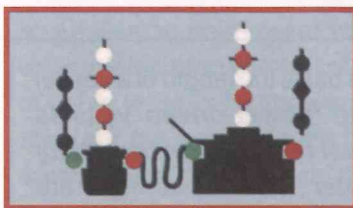
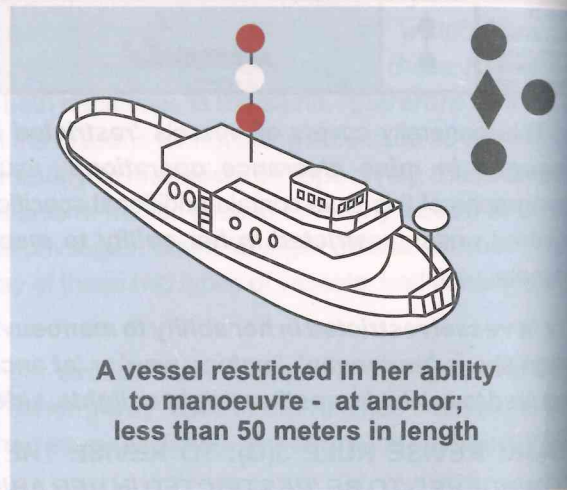
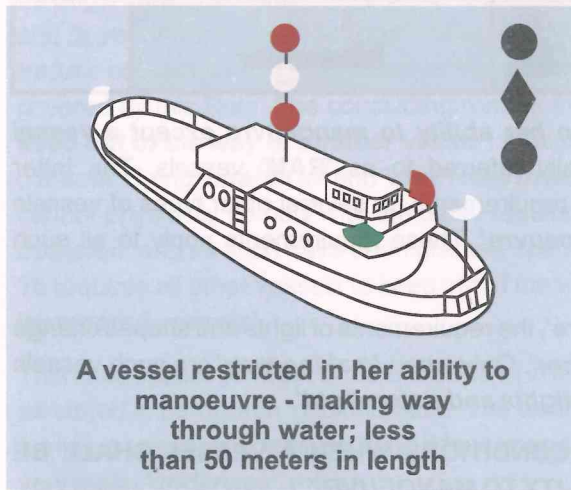
[TASK: REVISE RULE 3(G): TO REVISE THE CONDITIONS WHEN A VESSEL SHALL BE CONSIDERED TO BE '*RESTRICTED IN HER ABILITY TO MANOEUVRE*']

Though not stated in this Rule, '*a masthead light or lights*' should be basis the length of a vessel and in compliance with Rule 23(a). While Rule 23(a) applies to '*power-driven vessels underway*', the requirements of this Rule 27(b)(iii) apply to any '*vessel restricted in her ability to manoeuvre*' but only when she is '*making way through the water*'. The requirements are otherwise self-explanatory. Basis this Rule it appears that a sailing vessel, when carrying out any task defined in Rule 3(g) and declaring herself as '*a vessel restricted in her ability to manoeuvre*', should display '*a masthead light or lights*' when '*making way through the water*'.

At anchor is referred to in paragraphs 'b', 'd' and 'f' of this Rule with contrasting requirements. Subparagraph 'd-iii' does not require compliance with anchor lights or shapes prescribed in Rule 30 but paragraphs 'b' and 'f' require compliance.

A vessel **'at anchor'** is not capable of manoeuvring as per the requirements of these Rules or expected to act to keep clear of any other vessel. As such, the requirement to continue displaying the lights and shapes of **'restricted in her ability to manoeuvre'** do initially appear absurd since all vessels should keep clear of a vessel at anchor as per **'ordinary practice of seamen'** explained with Rule 2. A vessel at anchor may get engaged in only some of the activities listed in subparagraphs 'i to vi' of Rule 3(g), which defines the conditions allowing a vessel to declare herself as **'a vessel restricted in her ability to manoeuvre'**. Of these conditions, Rule 3(g) subparagraph 'iii' on replenishment applies only to a vessel underway. Launching and recovery of aircraft is usually not carried out at anchor and a vessel at anchor cannot normally be engaged in towing as per Rule 3(g) subparagraphs 'iv' and 'vi' respectively.

The requirement for such vessels to exhibit **'restricted in her ability to manoeuvre'** status even at anchor in certain conditions appears to be to caution other vessels of their special status even at anchor so that they pass well clear of them.



Two vessels engaged in replenishment, restricted in their ability to manoeuvre, making way through the water, both may be less than or more than 50 m in length as seen from right ahead.

Rule & Vessel	Shape	When viewed from			Sound signals in restricted visibility, at intervals of not more than 2 minutes.
		Port	Ahead	Starboard	
Rule 27 Vessels restricted in her ability to manoeuvre					

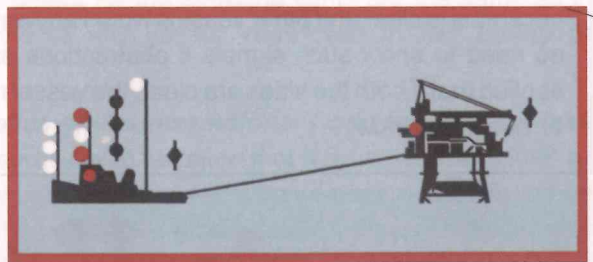
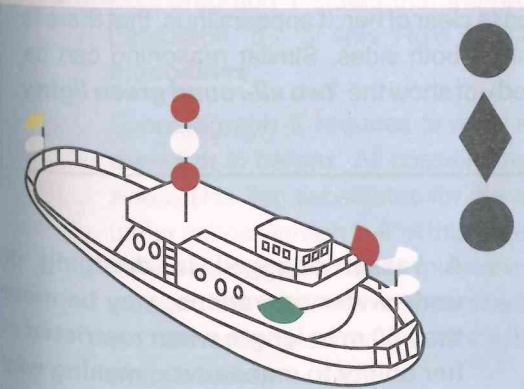
Annex I, paragraphs 2(f)(ii) and 3(c) prescribe the positioning details of the lights required by this Rule.

**c: 'A vessel engaged in a towing operation'** is not considered **'restricted in her ability to manoeuvre'**. If she is **'power-driven'**, she is required to indicate that she is towing as per Rule 24 and is not granted any special privileges by these Rules. She should comply with these Rules like any other vessel. The towing lights and shapes are an indication is to let others know of this special condition that wires or ropes connecting the two vessels exist and are usually not visible since they pass under the sea surface. Passing between a tug and tow could thus be extremely dangerous.

This Rule is about **'a power driven vessel engaged in a towing operation such as severely restricts the towing vessel and her tow in their ability to deviate from their course'**. The underlined part of this clause is a word-to-word repetition of Rule 3(g) (vi) describing **'vessels restricted in their ability to manoeuvre'**. The difference being that this Rule 27(c) applies only to **'a power-driven vessel engaged in a towing operation'**, when she shall **'in addition to the lights or shapes prescribed in Rule 24(a) exhibit the lights or shapes prescribed in subparagraphs (b)(i) and (ii) of this Rule'**. The same are self-explanatory.

It must be noted that subparagraphs 'iii' and 'iv' of Rule 27(b) have quite logically not been referred to in this Rule 27(c). Rule 27(b)(iii) is on exhibiting **'when making way through the water a masthead light or lights, sidelights and a sternlight'**. A vessel engaged in towing should be exhibiting these lights in compliance with Rule 24(a) and (d). And, Rule 27(b)(iv) is about lights to be displayed by a **'vessel restricted in their ability to manoeuvre'**, **'when at anchor'**. At anchor, she should not be considered **'engaged in towing'**, and as such it would be absurd to seek compliance with this subparagraph. Though a vessel at anchor may have a tow attached.

In effect, lights required by both these Rules 24(a) and 27(b) are required to be exhibited, but only when the **'severely restricts'** clause is applicable and not otherwise. The requirements of this Rule apply only to **'a power-driven vessel engaged in a towing operation'**, and not to the vessel or vessels being towed.



A vessel engaged in towing, maybe over 50 m in length, length of tow exceeds 200m, restricted in their ability to deviate from their course, seen from their port side.

A power-driven vessel engaged in a towing operation such as severely restricts her and her tow in their ability to deviate from their course; length of tow does not exceed 200 meters; towing vessel less than 50 meters in length.

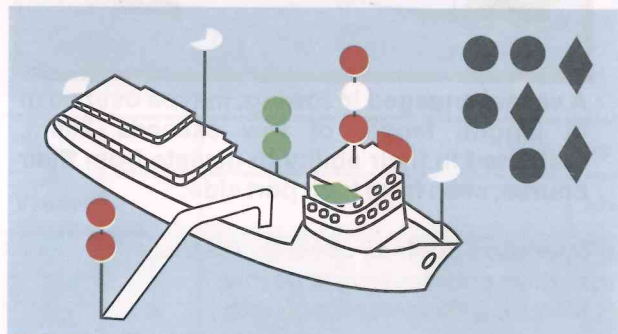


d: The first part of this Rule is quite straightforward: *'a vessel engaged in dredging or underwater operations, when restricted in her ability to manoeuvre, shall exhibit the lights and shapes prescribed in subparagraph (b)(i), (ii) and (iii) of this Rule'*. That is, the 'RAM' lights and/or day signals are to be exhibited when *'underway'* and the additional lights when *'making way'*.

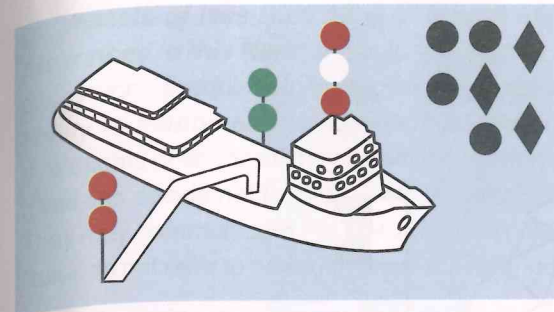
*'When an obstruction exists'*, such vessels should comply with subparagraphs 'i to iii' of this Rule 27(d) which states *'and shall in addition, when an obstruction exists, exhibit...'*. This clause is silent on what to do if the obstruction exists on one side or both, but by implication of subparagraphs 'i and ii' of this Rule, it appears that these additional lights and shapes should only be exhibited if there is an obstruction on one side and the other side is clear. That is *'to indicate the side on which the obstruction exists'*, and *'to indicate the side on which another vessel may pass'*. The obstruction could be a dredging arm or a float or other equipment used to support underwater operations. The requirements on the positioning of the lights for the above are stated in Annex I paragraph 4(b).

This Rule 27(d) requires compliance with Rule 27(b) subparagraphs 'i to iii' but not with subparagraph 'iv'. As such, there is no clarity on the requirement with respect to exhibition of lights and shapes if such a vessel were to anchor when no *'obstruction exists'*. Since subparagraph 'b-iv' is not referred to, it can be inferred that such a vessel need not exhibit anchor lights or shapes when at anchor. On the other hand, it can also be argued that nothing is mentioned prohibiting her from complying with the requirements of Rule 30 applicable to a vessel at anchor. It may thus be concluded that *'a vessel engaged in dredging or underwater operations, when restricted in her ability to manoeuvre'* (from Rule 27d) when no *'obstruction exists'*, if at anchor, should as a matter of good seamanship comply with the requirements of Rule 30. Though subparagraph 'iii' of this Rule 27(d) clearly states that anchor lights and shapes are not to be displayed, but this requirement is applicable only *'when an obstruction exists'*.

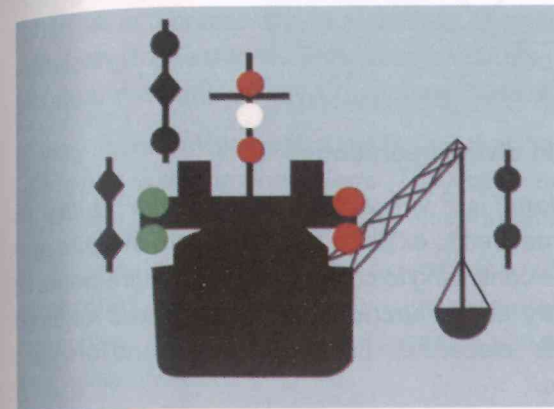
This Rule does not provide any guidance if there is an obstruction on both the sides, having just stated *'when an obstruction exists'*. If it were so, should this vessel then display *'two all-round red lights or two balls in a vertical line'* on each side and not *'two all-round green lights or two diamonds'*? Even if she were not to show the obstruction signals on both sides, her status is clear and other vessels would anyway pass clear of her. It appears thus, that there is no need to show such signals if obstructions exist on both sides. Similar reasoning can be applied that if both the sides are clear, the vessel need not show the *'two all-round green lights or two diamonds'*.



A vessel engaged in dredging or underwater operations, may be more than 50 m in length when restricted in her ability to manoeuvre; making way through the water with an obstruction on her starboard side.



A vessel engaged in dredging or underwater operations, when restricted in her ability to manoeuvre; underway but not making way through the water with an obstruction on her starboard side.



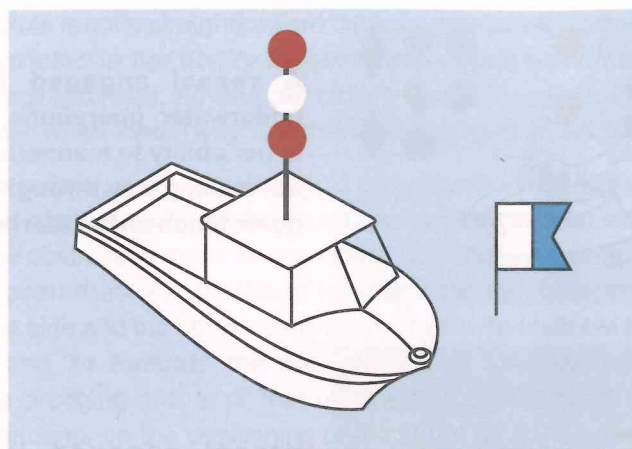
Vessel engaged in dredging or underwater operations when restricted in her ability to manoeuvre; underway but not making way through the water with an obstruction on her starboard side, as seen from right ahead.

e: *'The size of vessel engaged in diving operations'*: the size is not stated in this Rule. However, paragraph 'g' of this Rule 27, while exempting vessels of less than 12 m from the requirements of this Rule, does not exempt *'those engaged in diving operations'*. As such, it implies that these alternate arrangements are for rather small vessels that find *'it impracticable to exhibit all lights and shapes prescribed in paragraph (d) of this Rule'*.

Such a vessel may in lieu of the requirements stated in paragraph 'd' exhibit the requirements stated in this paragraph 'e' of this Rule as follows:

- Subparagraph 'i' states that the requirement for the all-round lights are the same as in paragraph 'b-i' of this Rule applicable to any vessel *'restricted in her ability to manoeuvre'*.
- Subparagraph 'ii' requires *'a rigid replica of the International Code flag "A" not less than 1 m in height'*. All possible measures are to be taken that this flag is visible from all sides. This flag substitutes for the standard day signal of a ball-diamond-ball prescribed under subparagraph 'b-ii' of this Rule. Though Annex I paragraph 6(c) allows a reduced size for the day signal shapes for vessels less than 20 m in length, by this Rule the rigid flag smaller than 1 meter is not permitted even for a small vessel. This size may appear huge for a small vessel; but from a distance, this may still go unnoticed when seen from the bridge of a large vessel.

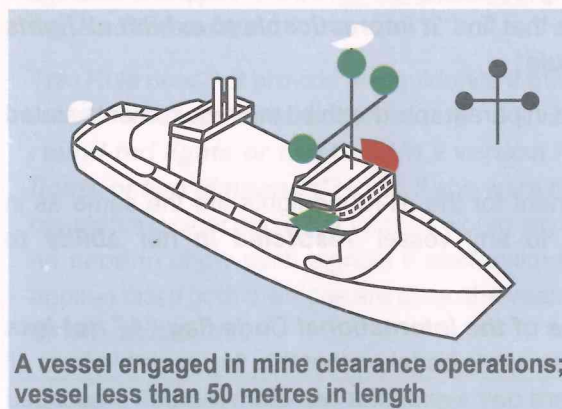
The stricter requirements, for a *'vessel engaged in diving operations'*, do not allow a complete waiver from compliance with these Rules and appear to give due priority to the safety of life of the divers.



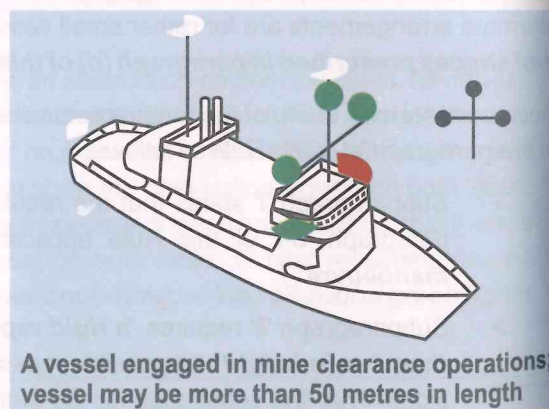
A small vessel engaged in diving operations

f: 'A vessel engaged in mine clearance operations' is a vessel 'restricted in her ability to manoeuvre' defined by Rule 3(g). However, she is required to exhibit a unique pattern of lights and shapes to exhibit when engaged in this activity. While continuing to comply with the requirements of Rules 23 and 30 as 'a power-driven vessel underway' and 'at anchor' respectively, she is required to 'exhibit three all-round green lights or three balls', placed near her foremast head and fore yard as described, and not the usual 'RAM' lights or shapes.

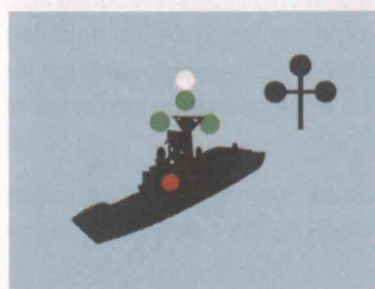
An interesting aspect of this Rule is that it specifies the minimum safe passing distance from such a vessel. 'These lights or shapes indicate that it is dangerous for another vessel to approach within 1000 m of the mine clearance vessel'. This is unique, as these Rules otherwise do not state any numerical values for purpose of 'preventing collisions'.



A vessel engaged in mine clearance operations; vessel less than 50 metres in length



A vessel engaged in mine clearance operations; vessel may be more than 50 metres in length



A Vessel engaged in mine clearance operations; vessel less than 50 metres in length seen from her port side

g: 'Vessels of less than 12 m in length shall not be required to exhibit the lights & shapes prescribed in this Rule'. Vessels less than 12 metres in length are exempt from displaying the lights or day signals required to be shown by a 'vessel not under command' or a 'vessel restricted in her ability to manoeuvre'. However, the Rule does not restrict such smaller vessels from displaying these lights or shapes if they so desire, though this is not mentioned in these Rules in so many words. If vessels decide not to display these signals, then they also cannot claim the applicable privileges. They may communicate the status of their predicament to other vessels by other means to but these Rules do not refer to any such alternate arrangements.

Using the guidance given in Rule 2, it is thus recommended that the bigger vessels should try, if possible and practicable, to keep clear of small vessels as the latter may be 'NUC' or 'RAM' but not exhibiting those signals. This recommendation may be considered as a best practice advice and has no clear-cut legal sanctity as per these Rules or otherwise.

A very important element of this Rule is that these above exemptions are not available to any 'vessel engaged in diving operations'. They must continue to comply with the requirements of this Rule 27, but may opt for the alternate requirements stated in paragraph 'e' as explained above.

h: This final paragraph makes it clear that even though a 'vessel not under command' or a 'vessel restricted in her ability to manoeuvre' may actually be in distress, the lights and shapes prescribed by this Rule are not meant to and do not indicate distress or imply that the vessels need any assistance.

If vessels are in distress, they should use one or more of the signals from in Annex IV to communicate their distress situation and need for assistance. These issues are generally outside the purview of these Rules meant for 'preventing collisions', except that the 'distress signals' are listed in Annex IV of these Rules.