



NAVIGATION IN RESTRICTED VISIBILITY

RESTRICTED VISIBILITY IS DEFINED IN THE CONVENTION ON THE INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA, 1972 (COLREGS), RULE 3, AS A CONDITION IN WHICH VISIBILITY IS RESTRICTED BY FOG, MIST, FALLING SNOW, HEAVY RAINSTORMS, SANDSTORMS, OR ANY OTHER SIMILAR CAUSES.

The Safety Management System (SMS), in conjunction with the master's standing orders and night orders, should specify the distance at which visibility is considered as a concern for the officer of the watch (OOV) and outlines the circumstances under which the master should be called to the bridge. There are also likely to be some immediate actions to take, such as switching to hand steering and posting additional look outs (usually incorporated in a checklist).



NAVIGATING IN CONDITIONS OF RESTRICTED VISIBILITY PRESENTS SIGNIFICANT CHALLENGES IN MARITIME OPERATIONS. THE FOLLOWING FACTORS ARE AMONGST THOSE THAT SHOULD BE CONSIDERED:

PASSAGE PLANNING: Plan the passage, as far as practicable, to avoid heavy traffic areas during seasons or areas when fog is expected. This is particularly important in areas with fishing and small craft traffic, which may not be easily detectable by radar, for example, the South China Sea and Yellow Sea in fog season. Consider the ability for independent position fixing when navigating in a river or for port entry. Identify suitable areas to anchor safely if restricted visibility makes continued sailing dangerous.

MONITORING WEATHER AND TRAFFIC INFORMATION: Constantly monitor navigation warnings, ice reports, and traffic information. Modify the passage plan as needed to avoid heavy traffic upon receiving warnings of fog, rainstorms, or sandstorms.

SHIPS MANOEUVRING CHARACTERISTICS: The officer on the watch (OOW) should be familiar with the ship's manoeuvring characteristics and be prepared to take necessary actions in restricted visibility conditions.

MANNING AND LOOKOUTS: Ensure that appropriate bridge watchkeeping levels are maintained, considering the geographical area and traffic density. The master should post additional lookouts as required by the vessel's SMS procedures. Solo watchkeeping by the OOW is not permitted in or near areas of restricted visibility and during hours of darkness. Keep the bridge door open or the sound reception system on.

ENGINE READINESS: Keep engines on standby for immediate manoeuvring and confirm engine room manning.

SAFE SPEED: The vessel should proceed at a safe speed in accordance with visibility conditions and traffic density, as per COLREGS (1972) Rule 19(b). Excessive speed is a major reason for collision incidents in fog. Commercial pressure or perceived commercial pressure to meet the estimated time of arrival or similar concerns must not be used as a reason to proceed at excessive speed. The master has overriding authority as per SOLAS and the ISM Code, and should be empowered to make operational decisions for the safety of the crew and ship.

USE OF EQUIPMENT: Ensure that all necessary navigational equipment, including radars, AIS, and fog signalling devices, are operational and properly used. Correctly set up the radars on the appropriate range scale and pulse length and apply the correct anti-sea clutter and rain clutter settings as required. Whilst some new navigational situational-awareness technologies claim that their equipment can assist in restricted visibility, we suggest that caution is exhibited, and that the tried and tested methods remain the primary means of hazard detection.

POSITION PLOTTING AND NAVIGATIONAL AIDS: Regularly plot positions and understand the limitations of navigational aids in restricted visibility. Use parallel indexing and clearing ranges/bearings techniques to cross-check the position. Recent examples of satellite navigation interference and disruption show the limits of relying upon only this method of position fixing or AIS for ship detection.

FOG SIGNALS: Sound the appropriate signals as per COLREGS (1972) Rule 35 when approaching, navigating, or anchoring in areas of restricted visibility.

VHF WATCH: Monitor VHF Channel 16 and all other relevant VHF channels as required in coastal areas. The use of VHF for collision avoidance should be avoided, especially when navigating in restricted visibility.

DECK WORK: Minimise deck work, particularly any work close to or over the side. Avoid any lone working.

COLLISION REGULATIONS: Navigating a ship in restricted visibility requires a thorough understanding of and compliance with COLREGS 1972. In Part B (Steering and Sailing Rules) of COLREG 1972, both Section I (Rules 4 to 10 inclusive) – Conduct of vessels in any condition of visibility, and Section III (Rule 19) – Conduct of vessels in restricted visibility, are applicable.

If there is a risk of collision or a close-quarters situation developing between vessels, both vessels should take avoiding action, as there are no 'stand-on' vessels under Rule 19. If the target vessel poses a risk of collision or a close-quarters situation, take the following actions:

- If the target vessel is forward of the beam, avoid altering course to port for that vessel, unless your own vessel is overtaking it
- In case the target vessel is abeam or abaft the beam, avoid altering course towards it.

CONCLUSION:

When a ship sails in or near areas of restricted visibility, all ships must abide by COLREGS 72, as well as the requirements of the coastal state, the port state, and relevant IMO instruments. The OOW should make full use of all appropriate available means, maintain a proper lookout, use radars correctly and effectively for observation and radar plotting or its equivalent systematic observation, make accurate judgments about the traffic situation, and take effective avoidance measures in ample time to prevent collisions or the development of a close-quarters situation.