भारत सरकार / GOVERNMENT OF INDIA
पत्तन, पोत परिवहन और जलमार्ग मंत्रालय
MINISTRY OF PORTS, SHIPPING AND WATERWAYS
नौवहन महानिदेशालय, मुंबई
DIRECTORATE GENERAL OF SHIPPING, MUMBAI

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DGS Circular 46 of 2025

Casualty Branch Circular – 05 of 2025

Collision / Contact damage between

MANTA NIGAR and JAG RADHA at P & V anchorage, Mumbai on 02.08.2024

1. Background:

This circular is issued to underscore the increasing incidence of vessel collisions within the port jurisdiction, which demand urgent and effective remedial measures. The recent collision event involving M.V. Manta Nigar and M.V. Jag Radha at P & V anchorage, Mumbai, on 02.08.2024, has highlighted the heightened risks associated with vessel manoeuvring in congested anchorage zones, particularly under adverse monsoon conditions.

Figure 1: Manta Nigar Collision

The Directorate regards such incidents with the utmost seriousness, as they compromise navigational safety, endanger the lives of seafarers, disrupt port operations and pose environmental risks such as marine pollution and damage to sensitive ecosystems. Accordingly, it is imperative to examine the circumstances of

this case and reinforce preventive protocols to ensure that all stakeholders remain vigilant and that similar incidents are averted in the future.

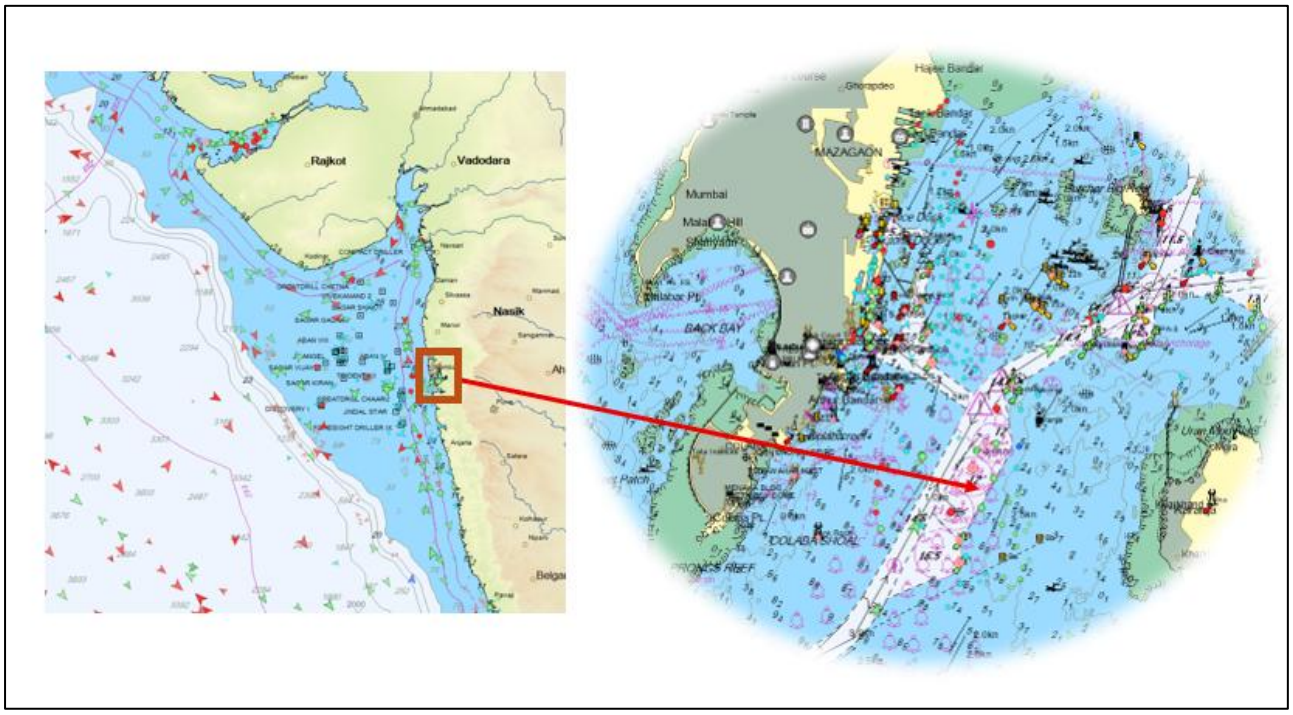

Figure 2: Location of the incident – Mumbai Port Anchorage area

2. Incident Description

Vessel M.V. Manta Nigar, Bulk Carrier was conducting cargo operations at berth no. 18 in Mumbai Port.

At 0645 hours on 02.08.2024, due to a change in vessel scheduling, she was temporarily shifted to an inner anchorage.

At 0845 hours on 02.08.2024, the pilot boarded to facilitate her subsequent shift to berth no. 20 for completion of the remaining cargo operations, with the anchor being aweigh at 0900 hours. In consultation with Vessel Traffic Services (VTS), the pilot initiated a turn to port using ahead engine movement. However, due to strong winds (21 knots) and currents (3 knots), the vessel was unable to safely execute the turn toward the berth. To prevent a rapid approach towards other anchored vessels, the master and pilot then decided to turn to starboard using astern engine movement.

At 0919 hours, while manoeuvring towards the berth, the M.V. Manta Nigar's propeller became entangled with the port anchor chain of the anchored vessel M.V. Jag Radha. As a result, M.V. Manta Nigar's port quarter struck M.V. Jag Radha's port bow in the forecastle area. The master and pilot of M.V. Manta Nigar immediately stopped the engine.

Consequently, both vessels sustained hull damage. In addition, M.V. Manta Nigar suffered damage to her accommodation area, deck railings, fish plate, cargo securing post, port side lifeboat deck, and propeller blades.

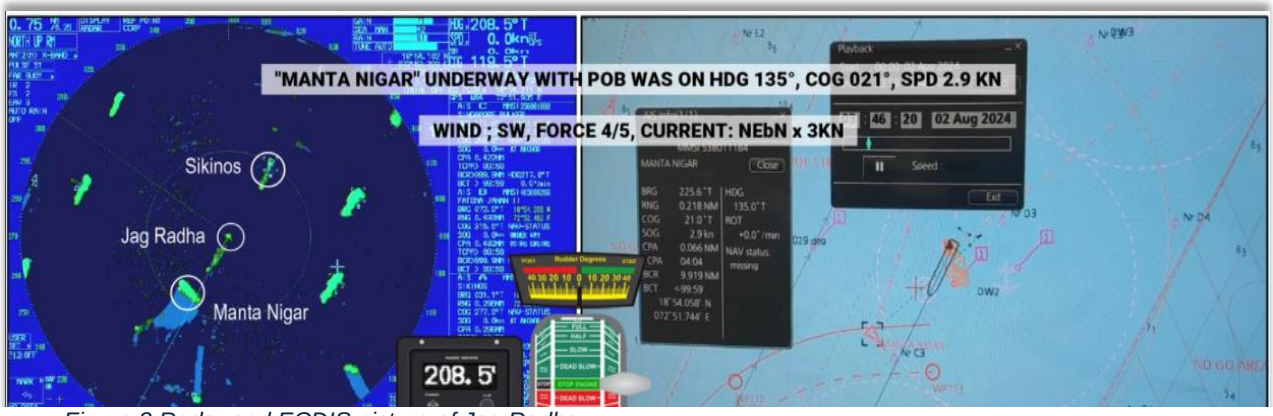

Figure 3 Radar and ECDIS picture of Jag Radha

Figure 4: Damages observed on board Vessel Manta Nigar

Figure 5: Damages seen from port side on vessel Manta Nigar

Following the contact, both vessels began swinging to port and came dangerously close. To maintain separation, the master of M.V. Manta Nigar dropped the starboard anchor at 0947 hours.

Mumbai Port subsequently deployed four tugs[1] to assist in clearing the trapped anchor. By 1048 hours, Manta Nigar's starboard anchor was heaved up, and by 1055 hours, tugs KNK Jyoti (forward) and Ocean Legend (aft) had secured alongside. The starboard anchor was again dropped at 1105 hours and heaved up at 1126 hours. Both vessels were fully cleared at 1239 hours and anchored anew at 1249 hours, with the pilot disembarking at 1320 hours.

3.Causal Analysis

The investigation identifies four primary causes that led to the incident:

a. Environmental & Navigational Conditions

- Strong southwest winds combined with northeast-directed tidal currents, particularly during monsoon season adversely affected vessel manoeuvrability, particularly for a vessel in transit.
- Insufficient consideration was given to the unique characteristics of Mumbai Port's anchorage areas, which are known for complex tidal interactions requiring precise course corrections and speed management.

b. Human & Decision-Making Factors

- The pilotage and navigational decisions made during Manta Nigar's movement critically influenced the unfolding of events. The bridge team failed to adequately anticipate the rapid development towards collision.

[1] **Tug (boat)**: Tugs are small, powerful vessels that assist larger ships by **towing, pushing, and guiding** them into and out of ports. They are essential for the safe manoeuvring of cargo ships, container ships, and other large vessels.

- **Bridge resource management (BRM)**[2] practices followed onboard both vessels including communication effectiveness and reaction time were ineffective, which ultimately contributed to collision.

- The response of the Officer on Watch aboard M.V. Jag Radha was also inadequate to prevent the collision.

C. Traffic & Anchorage Management

- The incident raises concerns regarding lack of awareness of **anchorage area congestion** and the proximity of activities like discharging vessels near an active navigation route.

- The **coordination between Mumbai Port authorities, VTS[3], pilots, and the vessels** regarding safe manoeuvring zones were minimal.

d. Technical & Mechanical Considerations

- M.V. Manta Nigar's propulsion and steering response, including engine response times and speed adjustments during manoeuvres, influenced the progression of the event.

4.Observations:

- The Master and Pilot of Manta Nigar misjudged the effects of wind and current while heaving up the anchor.
- Manta Nigar should have checked the vessel's drift astern by giving substantially good revolutions ahead on the engine. The engines were reported to have a slow response, which further necessitated earlier and substantial ahead engine movement.
- The anchor was aweigh at 0900 hours, and the collision occurred at 0919 hours. This 19-minute interval afforded sufficient time for visual detection of the vessel's closing proximity to MV Jag Radha and to initiate corrective action through decisive engine manoeuvres. The bridge team failed to recognize the vessel's astern drift while heaving anchor and approaching Jag Radha.
- A subsequent critical error was the alteration of course to starboard to execute the turn, which brought Manta Nigar dangerously close to Jag Radha, resulting in the collision.

- It is evident that both the pilot and master experienced significant difficulty in handling the vessel under the prevailing environmental conditions.

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[2] **Bridge Resource Management (BRM) or Bridge Team Management (BTM)** onboard commercial ships refers to the set of procedures, protocols, and tools used by the crew of a vessel to ensure safe navigation and efficient operation of the ship. The bridge is the central command center of a ship where navigation and communication equipment is installed, and the ship is controlled. Effective bridge management is essential to ensure the safety of the crew, the ship, and the environment.

[3] **Vessel Traffic Systems (VTS)** are established by port authorities to monitor and manage vessel movements in confined and busy waterways, similar to air traffic control for aircraft. The primary purpose of VTS is to provide navigational advice and active monitoring to prevent collisions, groundings, and other maritime accidents.

5. Lessons learnt:

- **Enhancing Traffic Coordination:** Improved communication protocols between vessels in congested anchorages are paramount.
- **Weather-Based Risk Mitigation:** Decision making frameworks for manoeuvring in adverse conditions to be improved.
- **BRM & Crew Training Enhancements:** Focused training on emergency response during near-miss situations to be introduced.
- **Technical Assessments:** Adequacy of engine and rudder response times of vessels to be tested prior to such movements in congested waters.

6. Recommendations to ports and terminals

- The frequent movements in the port may be avoided as far as possible in peak of the monsoon[4] season.
- The Pilots designated and deputed for each movement must be adequately trained to handle such situations in monsoon. Each Pilot shall be assigned movements after they had demonstrated skills and gained sufficient experience in handling alone a normal situation, progressively changing to emergency. Ports should consider having a mock-drill for pilots to be carried out by HM or Senior Pilots for testing the efficiency in skills to identify such scenario, a normal job developing into emergency by external factors. Operations of VTS/VTMS should be supervised by pilots on rotational basis, to monitor and identify close quarters situations and early avoiding actions.
- More opportunities of advanced simulator training on real time basis could be explored for Pilots, VTS/VTMS team.
- VTS to be more vigilant and effective in monitoring vessel movements in port and warning them in advance before any such approaches in harbour Masters and Tech Managers
- There has to be adequate lookout on the bridge to warn the Master and Pilot beforehand.
- Risk assessment encompassing all vulnerabilities to be carried out for all such manoeuvres in peak of the monsoon. Shifting of vessels in congested anchorages should be postponed till the time weather improves and the currents are favourable.

(Capt. Harinder Singh)
Nautical Surveyor and DDG(Tech)

[4] A **monsoon** is a **seasonal change in wind direction** that typically brings significant changes in weather, particularly heavy rainfall.

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To,
All stakeholders through the DGS Website
Ship Owner/ Ship Operators/ Ship Manager/ Ship Masters