



Technical Circular

No.: 035/2025

Date: 18th December 2025

Subject: Lessons Learned from the Main Engine Damage Incident

1. This circular highlights the safety concerns arising from a main engine damage incident on a vessel, which was caused by propeller fouling. In recent past, main engine damage incident reported for one of the ship under IRS class. During operations, abnormal sound and excessive vibration were reported from the port main engine. The underwater inspection confirmed that the starboard propeller was fouled with fishing nets, while the port propeller was severely fouled with a combination of fishing nets and mooring ropes.

The incident resulted in abnormal vibration and shock loads, rendering the main engine non-operational due to critical damage sustained by the port main engine crankshaft, thereby necessitating immediate repairs.

2. The main engine failure, resulted due to propeller fouling, appeared to be the probable cause of the incident, which induced abnormal vibration and shock loads and resulted in critical damage to the port main engine crankshaft.
3. Based on lessons learned from this incident, implementing the following measures can significantly mitigate the risk of recurrence:
 - a) Ensuring adequate route and operations planning, incorporating debris and fishing gear hazard mapping together with time-of-day routing preferences including appropriate speed and maneuvering limitations adopted in identified high-risk zones.
 - b) Periodic inspection and verification of stern/propeller visual checks where safe and permissible. After operating in high-risk areas, scheduling prompt diving/CCTV inspections for early identification of propeller fouling or any abnormalities including assessment of propeller protection arrangements for their satisfactory condition.
 - c) Conducting focused training on fouling recognition, communication, rapid response, and post-event inspection.
 - d) Standing orders for abnormal vibration to ensure prompt action upon abnormal vibration, reduce to minimum safe speed, isolate affected engine, notify bridge/office, and initiate inspection/diving as per procedure.
 - e) Establishing baseline vibration signatures, set conservative alarm thresholds, and institute immediate action criteria (speed reduction, engine isolation, and return to base).



. This Technical Circular and the material contained in it is provided only for the purpose of supplying current information to the reader and not as an advice to be relied upon by any person.

. While we have taken utmost care to be as factual as possible, readers/ users are advised to verify the exact text and content of the Regulation from the original source/ issuing Authority.

4. Owners & Managers are to take note of above in order that corrective actions can be taken to avoid similar situations in future.

Enclosure: Nil.

Whilst the utmost care has been taken in the compilation of the Technical Information, neither Indian Register of Shipping, its affiliates and subsidiaries if any, nor any of its directors, officers, employees or agents assume any responsibility and shall not be liable to any person for any loss, damage or expense caused in any manner whatsoever by reliance on the information in this document.