F.No.3(1)/2025-CNS (Section)
GOVERNMENT OF PAKISTAN
MINISTRY OF MARITIME AFFAIRS
DIRECTORATE GENERAL PORTS & SHIPPING
****

Karachi, 10th February, 2026.

FINAL ACCIDENT INVESTIGATION REPORT

Subject: Fatality of Bosun /CPO and Injury to P/MAN on board MT BOLAN

1. PARTICULARS OF THE CASE

1.1 **Vessel Name:** MT BOLAN
1.2 **Flag State:** Islamic Republic of Pakistan
1.3 **Company / Operator:** Pakistan National Shipping Corporation (PNSC)
1.4 **Type of Vessel:** Oil/Chemical Tanker
1.5 **Incident Type:** Fatal Accident during Enclosed Space (Cargo Tank) Entry
1.6 **Date of Incident:** 19 December 2025
1.7 **Location:** At Sea, en route to Sitra Terminal, Bahrain (Diverted to Gwadar)
1.8 **Casualty:** Fatality of Mr. Mushtaq Hussain Khan (CPO/Bosun). Unconsciousness of Pumpman Mr. Syed Faiz Abbas Rizvi during rescue.
1.9. **Investigation Directed by** : Principal Officer Mercantile Marine Department (MMD)
1.10 **Investigating Authority:** Directorate General Ports & Shipping (DGPS)
1.11 **Investigating Officer:** Chief Nautical Surveyor (CNS)

2. PURPOSE AND SCOPE OF INVESTIGATION

2.1 This formal investigation was initiated under the authority of the **Merchant Shipping Ordinance (MSO) 2001, Sections 470 & 471** to determine the direct and root causes of the fatal accident aboard MT BOLAN.
2.2 The scope encompasses a systemic examination of:
- The operational execution of the enclosed space entry.
- The effectiveness of the vessel's and Company's **Safety Management System (SMS)** under the **International Safety Management (ISM) Code**.
- The safety culture prevalent onboard and within shore management.
- The adequacy of training, procedures, and oversight.
- The role and effectiveness of the Internal Audits by Company.
- Recommendations to Prevent Similar Accident in future.

3. DOCUMENTS AND EVIDENCE ANALYZED

3.1 The investigation is based on a comprehensive review of submitted materials, including:
- Initial DGPS Request for Documents (Email)
- List of Documents provided by PNSC (MT BOLAN)
- Master’s Incident Investigation Report.

- Individual statements from: Master, Chief Officer, 2nd Officer, 3rd Officers (multiple), GPIs (Nabeel, Haider, Waleed), Deck Cadet, Pumpman (Mr. Faiz - vessel and head office versions), and other crew.
- PNSC Management submissions and correspondence.
- Vessel's Safety Management Certificate (SMC Bolan.pdf).
- Company SMS Manual - Enclosed Space Entry Procedure (SMS PROCEDURE)
- Enclosed Space Entry Drill Records & Permit (HSE 023, HSE 035, HSE 008) from 06.12.2025.
- Official Log Book, Deck Log Book, and Medical Log Book extracts.
- Tank cleaning plan, risk assessments, muster list, PPE records.
- Crew List and relevant certification copies.

4. SUMMARY DESCRIPTION & SEQUENCE OF EVENTS

4.1 On 19 December 2025, MT BOLAN was underway for loading after completing cargo tank cleaning (mop drying). A decision was made to enter a cargo tank, a defined enclosed space, for inspection/final preparation.

4.2 The Bosun (deceased) entered the tank. Available evidence suggests critical safety procedures were circumvented. The atmosphere was not verified as safe through a **fail-safe** process.

4.3 The Bosun was later found unresponsive on an internal platform. The Pumpman, attempting rescue, was also overcome by the atmosphere and lost consciousness.

4.4 A rescue operation was initiated. The Pumpman was successfully recovered. The Bosun was retrieved with no vital signs. Despite immediate first aid (O2, CPR) and remote medical consultation, resuscitation efforts failed, and he was declared deceased. The vessel diverted to Gwadar., and body of Deceased Bosun Handed over to Shore /port Authority GPA for further procedures and finally handed over to Family.

5. FINDINGS OF FACT

5.1 Safety Culture and ISM Implementation

5.1.1 A profound **lack of understanding and compliance with a positive safety culture** was evident onboard. Safety was perceived as a paperwork exercise rather than an operational imperative.

5.1.2 The ISM system existed on paper, as evidenced by a valid SMC, but its **implementation was fundamentally broken and ineffective** in practice.

5.2 Failures in Enclosed Space Entry Procedure

5.2.1 The **Enclosed Space Entry (ESE) procedure was not Fail-Safe**. The investigation found no documentary evidence of:

a) A final, verified approval by the **Master** immediately prior to entry.

b) Written authorization from the **Company (PNSC)** accepting the shore-based risk, as required by the company's own SMS for **non-routine entries.**

5.2.2 The **Drill Enclosed Space Entry Permit (HSE 008)** used in the incident drill (06.12.2025) shows all signatures (Master, Responsible Person, Attendant, Entrants) timed identically (1110 hrs). This indicates a **pro-forma, retrospective completion of the permit**, not a real-time control check.

5.2.3 **Atmosphere verification was critically deficient**. The procedure requires testing at multiple levels. Statements and records conflict on whether this was done. The repeated atmosphere check

logs in the permit appear as uniform computer-typed entries, not real-time handwritten recordings, casting serious doubt on their authenticity.

5.2.4 The **Risk Assessment was a formality**. It allegedly ensured adequate lighting, yet the Bosun reportedly removed his SCBA mask because he **"could not see,"** indicating the planned controls (lighting, approved torches) were either inadequate or not provided.

5.3 Command, Control, and Supervision

5.3.1 The **Master did not exercise overriding authority** as mandated by the ISM Code to stop unsafe work.

5.3.2 Supervision and control roles during the entry were ambiguous and poorly executed.

5.4 Discrepancies in Evidence and Statements

5.4.1 Significant **discrepancies exist between the Pumpman's statement given onboard and the one given later at the PNSC head office**. The onboard statement appears to have been given under duress or coaching, undermining its reliability.

5.4.2 The collective timing of signatures on the **drill permit** points to a **systemic practice of falsifying safety documents**.

5.4.3 No **substantive statements** were provided from **engineering officers on duty** at the time, creating a gap in understanding the full operational context.

5.5 ISM Certification and Flag state Oversight

5.5.1 The vessel's valid **Safety Management Certificate (SMC-01/2024-25)** is rendered meaningless by the actual conditions and practices found.

5.5.2 This represents **deep-seated non-compliance and ineffective SMS during its regular Verification audits.**

6. ANALYSIS AND ROOT CAUSES

6.1 Immediate Cause

Unauthorized and uncontrolled entry into an enclosed space with an unsafe atmosphere.

6.2 Underlying Causes

6.2.1 **Ineffective SMS Implementation:** Procedures were known but ignored. The permit-to-work system was not a control tool but a paperwork hurdle.

6.2.2 **Deficient Safety Culture:** Prioritization of operational progress over safety. Lack of psychological safety for crew to **stop work.**

6.2.3 **Inadequate Training & Competence:** Training drills (e.g., 06.12.2025) were tick-box exercises without cultivating genuine competency or situational awareness for real emergencies.

6.3 Organizational & Root Causes

6.3.1 **Failure of Management:** Inadequate **Management Review** of the **SMS's effectiveness.** Lack of visible safety assurance from shore.

6.3.2 **Failure of the Regular Verification Audit :** Ineffective audits that failed to penetrate beyond documentation to assess real-world safety practices and culture.

7. IDENTIFIED ISM CODE NON-CONFORMITIES

The investigation identifies **Non-Conformities** against the following ISM Code objectives:

ISM 1.2: Safety and Environmental Protection Policy (not implemented).

ISM 6: Resources and Personnel (inadequate training, competence, and communication).

ISM 7: Shipboard Operations (development of plans for enclosed space entry was ineffective).
ISM 8: Emergency Preparedness (rescue plans and drills were inadequate for a real event).
ISM 12: Company Verification, Review, and Evaluation (Company internal monitoring failed).

8. CONCLUSIONS

8.1 The death of Bosun Mr. Mushtaq Hussain Khan was **entirely preventable**.
8.2 The accident resulted from **systemic failures** across multiple levels: an **ineffective safety culture** onboard, **non-functional SMS implementation**, **inadequate management oversight** by Company.
8.3 The ISM system on MT BOLAN and within Company for this vessel was **broken, representing breakdown in the safety net** intended by international convention.

9. RECOMMENDATIONS

9.1 Regulatory and Certification Actions

9.1.1 The Company must immediately issue a **Circular** to all Vessels under its Management highlighting the unfortunate death of Bosun and stressing compliance with Enclosed Space Entry procedure to confirm the Company and ISGOT minimum requirements in accordance with ISM Code guidelines.
9.1.2 A **Nonconformity to Vessel** shall be issued for non-compliance with the SMS. An additional special internal audit must be conducted by auditors not previously involved with the vessel/company and must focus on practical implementation and safety culture.

9.2 Directives to Pakistan National Shipping Corporation (PNSC)

9.2.1 PNSC must immediately conduct a **comprehensive Management Review of its SMS**, with specific focus on the effectiveness of permit-to-work systems, enclosed space entry, and safety culture metrics, and Accident investigation report procedures to be implemented.
9.2.2 PNSC shall revise its **Enclosed Space Entry Procedure** to incorporate **fail-safe controls**, mandating that all data entry in all sections of the forms are verified by the **Safety Officer** of the vessel.
a) A **final, written verification and approval by the Master** immediately before entry, confirming all checks are complete in all sections of the Enclosed Space entry form and data information is verified by him.
b) **Mandatory written authorization from the Designated Person Ashore (DPA)** for any non-routine enclosed space entry, confirming shore-based risk acceptance.
9.2.3 Company must reinforce that **atmosphere testing** must be physically conducted and recorded in real-time at **three levels (Upper, Middle, and Bottom)** of the space, with handwritten entries on the permit.
9.2.4 Although Company has established a policy that the **investigating officer for any serious incident or accident must be independent /Impartial** , and not from the **same department or direct line of management of those involved, but failed to implement it**
9.2.5 PNSC shall undertake a comprehensive review and revision of its Safety Management System (SMS) to explicitly shift the primary risk identification and mitigation responsibility onto the vessel for all critical operations, especially enclosed space entry. This revision must integrate the principles of Behavior Based Safety (BBS). An online, real-time reporting

system for BBS observations (both safe and at-risk behaviors) shall be implemented, mandatory for use by all crew. These reports shall be immediately available to the vessel's safety committee and Master for action, and to the DPA for oversight, to foster a proactive safety culture and prevent similar accidents.

9.3 Operational Safety Enhancements

9.3.1 Although the procedures explicitly forbid entry without continuous mechanical ventilation and real-time atmospheric monitoring by a stationed attendant with a calibrated, remote sampling device, but **not implemented**

9.3.2 All permits (ESE, etc.) required to be displayed at the worksite must be **completed in real-time, with original handwritten data entries**. Retrospective or pre-filled forms are prohibited.

9.3.3 Risk Assessments must be task-specific, reviewed with the work team immediately before commencement, and must address **real-world contingencies** (e.g., failure of primary lighting, communication breakdown).

9.4 Training and Safety Culture Development

9.4.1 Implement mandatory, immersive enclosed space entry and rescue training that moves beyond tick-box drills to develop critical decision-making and emergency response skills.

9.4.2 Although company have clear **"Stop Work Authority "** in SMS however same need to be enforced on board for all personnel, backed by unwavering management support.

9.4.3 Leadership must set **clear safety-focused job objectives** for masters and senior officers, measured by leading indicators (e.g., quality of safety interventions, crew safety feedback, BBS participation rates) not just lagging indicators (e.g., zero accidents).

10. CLOSING

This report is issued to discharge the statutory duty of the Flag State under MSO 2001 and international conventions. Its purpose is to ascertain the causes of this tragic loss of life and to prescribe necessary corrective and preventive actions to safeguard lives at sea and prevent recurrence.

The Directorate General Ports & Shipping expects full and timely compliance with the above recommendations from Company and the all concerned, .

Issued by

Rafaqat Hussain
Chief Nautical Surveyor
Directorate General of Ports and Shipping (DGPS)
Ministry of Maritime Affairs
Government of Pakistan