



UNITED STATES COAST GUARD

**REPORT OF THE INVESTIGATION
INTO THE
TANK SHIP MTM DUBLIN (IMO NO. 9335824)
CREWMEMBER LOSS OF LIFE IN MASSACHUSETTS
BAY, APPROXIMATELY 6 NMI EAST OF NAHANT, MA
ON SEPTEMBER 26, 2023**



MISLE ACTIVITY NUMBER: 7798704

U.S. Department of
Homeland Security

United States
Coast Guard



Commandant
United States Coast Guard

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16732/IIA #7798704
10 December 2024

**THE LOSS OF LIFE ONBOARD THE SINGAPORE FLAGGED TANK SHIP MTM
DUBLIN (IMO #9335824) IN MASSACHUSETTS BAY APPROXIMATELY SIX
NAUTICAL MILES EAST OF NAHANT, MA ON SEPTEMBER 26, 2023**

ACTION BY THE COMMANDANT

The record and the report of the investigation convened for the subject casualty have been reviewed. The record and the report, including the findings of fact, analysis, conclusions, and recommendations are approved subject to the following comments. This marine casualty investigation is closed.

ACTION ON ADMINISTRATIVE RECOMMENDATIONS

Recommendation 1: As a result of findings from this investigation, recommend MTM Ship Management take the following proposals into consideration:

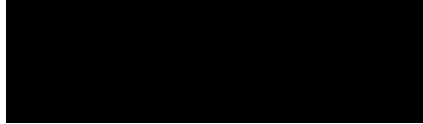
- Conduct refamiliarization with crews focused on the PPE requirements related to working near ship's side and over the side in accordance with SMS procedures. The refamiliarization should reinforce the need for safety harnesses to be worn at all times for both of these operations and emphasize the need to reassess safety risks if there are changes in the operational parameters such as a change in work assignments or change in environmental conditions.
- Assess the possibility for reconfiguring the combination arrangement for pilot embarkation to meet the recommended minimum 5 meters height of the accommodation ladder's lower platform in accordance with SOLAS Regulation V/23 and IMO Resolution A.1045(27).

Action: The Coast Guard will provide a copy of this investigation report and recommendations to MTM Ship Management for their consideration.

Recommendation 2: Formal recognition for crew of the AMERICA by USCG Sector Boston for their unwavering assistance in the search and recovery of the Able Seaman (AB) from the MTM DUBLIN. The AMERICA responded immediately to the MTM DUBLIN's mayday radio broadcast, searching for the AB in the darkness and hazardous weather conditions with only flashlights. When they located and recovered the AB, the crew tirelessly performed CPR for nearly two hours while the master of the AMERICA transported the AB to the Boston Fish Pier

where an ambulance was waiting to transfer him to the hospital. Although the outcome was not what everyone had hoped for, the crew of the AMERICA made every effort to save the AB.

Action: This recommendation was issued to Sector Boston. The Sector Boston Officer in Charge, Marine Inspection concurred with this recommendation and has taken action to formally recognize the crew of the AMERICA.



E. B. SAMMS
Captain, U.S. Coast Guard
Chief, Office of Investigations & Casualty Analysis (CG-INV)



16732

**TANK SHIP MTM DUBLIN (IMO NO. 9335824) CREWMEMBER LOSS OF LIFE IN
MASSACHUSETTS BAY APPROXIMATELY 6 NMI EAST OF NAHANT, MA ON
SEPTEMBER 26, 2023**

**ENDORSEMENT BY THE COMMANDER,
FIRST COAST GUARD DISTRICT**

The record and the report of the investigation convened for the subject casualty have been reviewed. The record and the report, including the findings of fact, analysis, conclusions, and recommendations are approved subject to the following comments. It is recommended that this marine casualty investigation be closed.

ENDORSEMENT/ ACTION ON RECOMMENDATIONS

Administrative Recommendation 1. As a result of the findings from this investigation, recommend MTM Ship Management take the following proposals into consideration:

1.1 Conduct refamiliarization with crews focused on the PPE requirements related to working near ship's side and over the side in accordance with SMS procedures. The refamiliarization should reinforce the need for safety harnesses to be worn at all times for both of these operations and emphasize the need to reassess safety risks if there are changes in the operational parameters such as a change in work assignments or change in environmental conditions; and

1.2 Assess the possibility for reconfiguring the combination arrangement for pilot embarkation to meet the recommended minimum 5 meters height of the accommodation ladder's lower platform in accordance with SOLAS Regulation V/23 and IMO Resolution A.1045(27).

Endorsement: Concur; the company and its leadership need to consider wide-ranging commitment to mitigation of such future avoidable mishaps by focusing on refamiliarization of its crews with safety protocols when working near or over-the-side. Updated and increased efforts to ensure that the company's crew understands the dangers and mitigation factors associated with working near or over-the-side in strict accordance with its SMS will likely decrease the chance of repeat casualties. In particular, strict adherence to the procedural outline for mandates of harnesses will undoubtedly develop a safety layer for operations. Furthermore, greater attention to the aforementioned SOLAS regulations and IMO resolutions will reduce risk factors for the company's crew during complex and inherently dangerous, yet necessary, operations such as the preparation for pilot embarkation.

Administrative Recommendation 2. Formal recognition for crew of the AMERICA by USCG Sector Boston for their unwavering assistance in the search and recovery of the AB from the broadcast, searching for the AB in the darkness and hazardous weather conditions with only flashlights. When they located and recovered the AB, the crew tirelessly performed CPR for nearly two hours while the master of the AMERICA transported the AB to the Boston Fish Pier where an ambulance was waiting to transfer him to the hospital. Although the outcome was not what everyone had hoped for, the crew of the AMERICA made every effort to save the AB.

Endorsement: Concur: operational assets rely on the support of commercial fishermen to conduct a wide range of missions, in particular Search and Rescue missions. The assistance and assiduousness, despite the heavy weather conditions, of the master and crew of the AMERICA gave the Able Seaman his best chance of survival. Cooperative and courageous efforts like those of the crew and master of the AMERICA will undoubtedly increase the effectiveness of the US Coast Guard in all of its missions. Drafting of recognition for the crew and master of the AMERICA is an appropriate action by US Coast Guard Sector Boston.

Administrative Recommendation 3. It is recommended that the investigation be closed.

Endorsement: I concur with this recommendation. The US Coast Guard Investigating Officers and supporting investigation agencies conducted a thorough and comprehensive inquiry into the events and actions that led to this tragic loss of life at sea. The investigation garnered heightened examination due to the fact that there was an element of international coordination to ensure visibility was available to the deceased Able Seaman's native country as well as the flag state of the subject vessel and company. The Investigators should be commended for their diligence in their efforts and meticulousness.



Commander, U.S. Coast Guard
Chief of Prevention (acting), First Coast Guard District



16732/24-071

**TANK SHIP MTM DUBLIN (IMO NO. 9335824) CREWMEMBER LOSS OF LIFE IN
MASSACHUSETTS BAY APPROXIMATELY 6 NMI EAST OF NAHANT, MA ON
SEPTEMBER 26, 2023**

ENDORSEMENT BY THE OFFICER IN CHARGE, MARINE INSPECTION

The record and the report of the investigation convened for the subject casualty have been reviewed. The record and the report, including the findings of fact, analysis, conclusions, and recommendations are approved. It is recommended that this marine casualty investigation be closed.

ENDORSEMENT/ACTION ON RECOMMENDATIONS

Administrative Recommendation 1. As a result of the findings from this investigation, recommend MTM Ship Management take the following proposals into consideration:

1.1 Conduct refamiliarization with crews focused on the PPE requirements related to working near ship's side and over the side in accordance with SMS procedures. The refamiliarization should reinforce the need for safety harnesses to be worn at all times for both of these operations and emphasize the need to reassess safety risks if there are changes in the operational parameters such as a change in work assignments or change in environmental conditions; and

1.2 Assess the possibility for reconfiguring the combination arrangement for pilot embarkation to meet the recommended minimum 5 meters height of the accommodation ladder's lower platform in accordance with SOLAS Regulation V/23 and IMO Resolution A.1045(27).

Endorsement: I concur with this recommendation.

Administrative Recommendation 2. Formal recognition for crew of the AMERICA by USCG Sector Boston for their unwavering assistance in the search and recovery of the AB from the MTM DUBLIN. The AMERICA responded immediately to the MTM DUBLIN's mayday radio broadcast, searching for the AB in the darkness and hazardous weather conditions with only flashlights. When they located and recovered the AB, the crew tirelessly performed CPR for nearly two hours while the master of the AMERICA transported the AB to the Boston Fish Pier where an ambulance was waiting to transfer him to the hospital. Although the outcome was not what everyone had hoped for, the crew of the AMERICA made every effort to save the AB.

Action: I concur with this recommendation. Sector Boston will draft public service awards to recognize the crew of the fishing vessel AMERICA.

Administrative Recommendation 3. It is recommended that the investigation be closed.

Endorsement: I concur with this recommendation.



K. J. BENSON
Captain, U.S. Coast Guard
Officer in Charge, Marine Inspection

Enclosures: (1) Investigating Officer's Report

LIST OF ACRONYMS

Acronym	Title
AB	Able Seaman
CG	Coast Guard
C/O	Chief Officer
CFR	Code of Federal Regulations
CPR	Cardiopulmonary Resuscitation
°F	degree, Fahrenheit
EMT	Emergency Medical Technician
GT	Gross Tons
HP	Horsepower
IMO	International Maritime Organization
nmi	Nautical Mile
OS	Ordinary Seaman
PPE	Personal Protective Equipment
SCC	Sector Command Center
SMS	Safety Management System
SOLAS	Safety of Life at Sea
USC	United States Code
USCG	United States Coast Guard
VDR	Voyage Data Recorder



16732
March 8, 2024

**TANK SHIP MTM DUBLIN (IMO NO. 9335824) CREWMEMBER LOSS OF LIFE IN
MASSACHUSETTS BAY APPROXIMATELY 6 NMI EAST OF NAHANT, MA ON
SEPTEMBER 26, 2023**

EXECUTIVE SUMMARY

On September 26, 2023, at approximately 0415, deck crew onboard the Singapore-flagged chemical tank ship MTM DUBLIN (IMO NO. 9335824) began setting up the accommodation ladder and pilot ladder for the pilot to embark later that morning for transit into Twin Rivers Technologies Terminal in Quincy, MA. The MTM DUBLIN had arrived the previous evening and anchored in Massachusetts Bay approximately 6 nautical miles East of Nahant, MA carrying coconut oil and palm oil products for discharge. After both ladders were lowered off the starboard side of the vessel, the pumpman walked down the accommodation ladder to secure the two ladders to the side of the vessel with magnets. Several minutes later, the pumpman called up to the able seaman (AB) to tighten the rope handrail on the accommodation ladder. The AB made two trips down the accommodation ladder to assist. On his second trip, the AB was approximately halfway down the ladder, when multiple successive waves hit the starboard beam of the vessel. The first wave knocked the AB and pumpman down onto the ladder. The pumpman looked up to see a second larger wave hit the ladder. The second wave swept the AB off the ladder and into the water, and then swept the pumpman partially off the lower platform of the ladder. The pumpman remained attached to the ladder due to his safety clip. The deck crew heard the pumpman yelling for help and immediately threw two life rings with lights attached into the water. The deck crew spotted the AB drifting in the water, face-down, appearing to be unconscious. Meanwhile, the pumpman had pulled himself back up onto the lower platform of the ladder and walked back up on deck uninjured.

At 0437, the master of the MTM DUBLIN transmitted a mayday call on channel 16 and stated the vessel had a man overboard. U. S. Coast Guard (USCG) Sector Boston responded and coordinated response resources from USCG Station Boston and USCG Air Station Cape Cod. The commercial fishing vessel AMERICA and the Boston Pilots heard the vessel's mayday call and transited to the MTM DUBLIN to assist in search efforts. The AMERICA recovered the unresponsive AB from the water and immediately began CPR. Two crewmembers from USCG Station Boston and an EMT from the Boston Fire Department transferred aboard the AMERICA to provide medical assistance. After arriving at the Boston Fish Pier, the AB was transferred to an ambulance and transported to Massachusetts General Hospital where he was pronounced deceased.

As a result of its investigation, the Coast Guard has determined the initiating event for this casualty to be when the AB fell into the water with his subsequent loss of life. Contributing factors to the casualty were determined to be: 1) hazardous weather conditions, 2) the failure of

the AB to wear proper safety gear, 3) inadequate deck crew supervision and adherence to safety procedures, 4) the lower platform of the accommodation ladder below recommended height, 5) the lifejacket failed to fully inflate, and 6) the accidental drowning of AB from fall in water, with blunt force head injuries from the fall being a contributory cause of death.



16732
March 8, 2024

**TANK SHIP MTM DUBLIN (IMO NO. 9335824) CREWMEMBER LOSS OF LIFE IN
MASSACHUSETTS BAY APPROXIMATELY 6 NMI EAST OF NAHANT, MA ON
SEPTEMBER 26, 2023**

INVESTIGATING OFFICER'S REPORT

1. Preliminary Statement

1.1. This marine casualty investigation was conducted and this report was submitted in accordance with Title 46, Code of Federal Regulations (CFR), Subpart 4.07, and under the authority of Title 46, United States Code (USC) Chapter 63.

1.2. No individuals, organizations, or parties were designated as parties-in-interest for this investigation in accordance with 46 CFR Subsection 4.03-10.

1.3. The United States Coast Guard (USCG) was the lead agency for this investigation. Massachusetts State Police and USCG Investigative Service provided assistance with the investigation.

1.4. The Transportation Safety Investigation Bureau of Singapore was designated as a substantially interested state for this investigation.

1.5. All times listed in this report are in Eastern Daylight Time using a 24-hour format.

1.6. All measurements listed in this report remain original to the supporting documentation from which it was derived; therefore, both the metric system and imperial system are used throughout the report and notated as such. Any conversions provided were calculated as prescribed in the U.S. Government Printing Office Style Manual (2016).

2. Vessels Involved in the Incident

Official Name:	MTM DUBLIN
Identification Number:	9335824
Flag:	Singapore
Vessel Class/Type/Sub-Type:	Tank Ship/Chemical Tank Ship/ Oil & Chemical Tank Ship
Build Year:	2007
Gross Tonnage:	19,391 GT
Length:	557.7 feet
Beam/Width:	87.3 feet
Draft/Depth:	37.1 feet/52.5 feet
Propulsion:	Slow Speed Diesel/Diesel Direct/ 10,701 HP
Owner:	MTM DUBLIN PTE LTD Singapore
Operator:	M.T.M. Ship Management PTE LTD Singapore



Figure 1. Chemical tank ship MTM DUBLIN (Source: VesselFinder.com).

3. Deceased, Missing, and/or Injured Persons

Relationship to Vessel	Sex	Age	Status
Able Seaman (AB) – MTM DUBLIN	Male	33	Deceased

4. Findings of Fact

4.1. The Incident

4.1.1. On September 25, 2023, at 2248, after transiting from Newark, New Jersey, the MTM DUBLIN anchored in Massachusetts Bay approximately 6 nautical mile (nmi) East of Nahant, Massachusetts as indicated by the yellow pin in Figure 2. Arrangements were made to embark a harbor pilot the following morning at 0530 for transit into Twin Rivers Technology Terminal in Quincy, Massachusetts to offload the vessel's cargo of coconut oil and palm oil products.



Figure 2. Locations where AB went overboard, was recovered from the water, and transferred to ambulance on shore (Source: USCG).

4.1.2. On September 26, 2023, at 0415, the deck crew mustered on deck and began preparations for embarking the harbor pilot, to include lowering the accommodation ladder and pilot ladder off the starboard side of the vessel. The deck crew consisted of the bosun, able seaman (AB), pumpman, ordinary seaman (OS), and an OS in training.



Figure 3. Photos of accommodation ladder (left) and pilot ladder (right) in stowed position, onboard the MTM DUBLIN taken September 27, 2023 (Source: USCG).

4.1.3. The bosun supervised the deck crew and ensured the appropriate permits were completed prior to lowering the accommodation ladder.

4.1.4. The pumpman donned a hard hat, inflatable lifejacket, safety harness and a safety line with an attached clip (Figure 4) in preparation for working over the side. The AB donned a hard hat and an inflatable lifejacket over his orange coveralls.

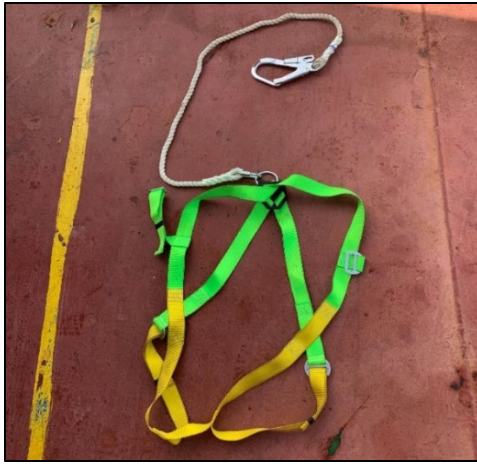


Figure 4. Photo of safety harness with clip similar to the one worn by the pumpman on the MTM DUBLIN, taken September 27, 2023 (Source: USCG).

4.1.5. At 0421, the accommodation ladder had been lowered and the deck crew began lowering the pilot ladder.

4.1.6. At 0425, the pumpman walked down the accommodation ladder to the lower platform to attach magnets to the pilot ladder and accommodation ladder which functioned secure the ladders to the side of the vessel. The lower platform was approximately 2 to 3 meters above the waterline (Figure 5).

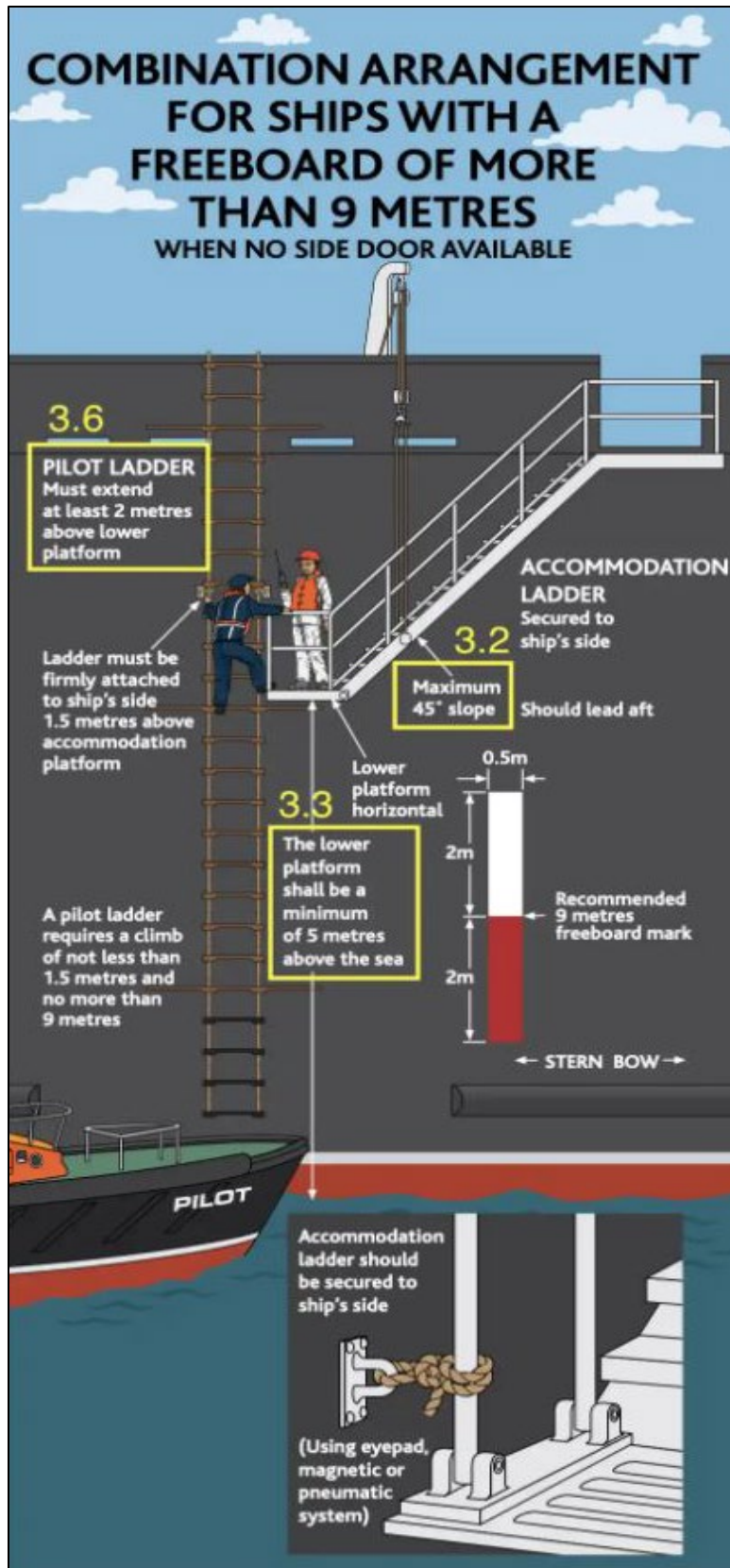


Figure 5. Diagram showing accommodation ladder and pilot ladder arrangement for pilot boarding in accordance with SOLAS Regulation V/23 and International Maritime Organization (IMO) Resolution A.1045(27) (Source: IMO/International Maritime Pilots' Association).

4.1.7. As the pumpman was attaching the magnets, he observed slack in the rope handrail of the accommodation ladder and called up to the AB to firmly secure the rope handrail. The pumpman did not call for the AB to come down the ladder. Typically, only one person on the deck crew would work over the side during set up.

4.1.8. At 0429, the AB walked down the accommodation ladder to assist the pumpman. Approximately 2 minutes later, he walked back up to the deck and removed the slack from the rope handrail, while other members of the deck crew completed other tasks on deck.

4.1.9. At 0433, the AB walked back down the accommodation ladder, while the pumpman was still on the lower platform of the accommodation ladder. The pumpman observed the AB stop approximately halfway down the accommodation ladder at an approximate height of 3 to 4 meters above the waterline.

4.1.10. At 0434, two successive waves hit the accommodation ladder coming from the bow of the vessel. The first wave knocked the AB and pumpman down onto the ladder. The pumpman looked up to see a second larger wave exceeding his height hit the accommodation ladder. The second wave swept the AB off the ladder and into the water, and then swept the pumpman partially off the lower platform of the accommodation ladder. The pumpman remained attached to the accommodation ladder due to his safety clip.

4.1.11. The deck crew observed the waves hitting the accommodation ladder and, after the second wave had cleared, they did not see either the AB or the pumpman on the ladder but could hear the pumpman yelling for help.

4.1.12. The deck crew immediately threw two life rings with lights into the water in proximity of the lower platform of the accommodation ladder.

4.1.13. The bosun alerted the second mate on the bridge of a man overboard via his handheld radio at 0435. The second mate called the master in his stateroom and sounded the general alarm.

4.1.14. At 0436, the deck crew observed the man overboard drifting face down in the water, appearing to be unconscious, towards the starboard stern of the vessel. The lifejacket appeared to be inflated. At that point, the deck crew realized the man overboard was the AB and not the pumpman.

4.1.15. The pumpman pulled himself back up onto the lower platform of the accommodation ladder and walked back up on deck.

4.1.16. At 0437, the master of the MTM DUBLIN transmitted a mayday on channel 16 for the man overboard in position 42° 24.3' N, 070° 46.9' W (Figure 2). The vessel's digital selective calling alert was also activated on the bridge.

4.1.17. At 0438, the MTM DUBLIN's mayday was acknowledged by the USCG Sector Boston Command Center (SCC), and search and rescue efforts were initiated.

4.1.18. At 0439, the commercial fishing vessel AMERICA (Figure 6) responded to the mayday radio transmission as they were transiting back from the fishing grounds,

approximately 2.5 nmi from the MTM DUBLIN, and offered to assist in the search for the man overboard.



Figure 6. The AMERICA (Source: MarineTraffic.com).

4.1.19. At 0440, the SCC launched the small boat, CG 45659, from USCG Station Boston to assist in the search efforts.

4.1.20. At 0445, the SCC transmitted an urgent marine information broadcast (UMIB) for the man overboard. The Boston Pilots responded to the UMIB that they were currently disembarking a pilot from an outbound vessel and would then proceed to the MTM DUBLIN to assist in the search efforts.

4.1.21. At 0446, the AMERICA confirmed with the SCC that the nature of the distress was a man overboard and relayed they were transiting towards the MTM DUBLIN to assist in the search efforts.

4.1.22. Both the AMERICA and the Boston Pilots reported via radio the weather conditions in the area were extremely rough. The master on the AMERICA observed 8 foot seas and 30 knot winds.

4.1.23. The deck crew on the MTM DUBLIN attempted to launch the starboard rescue boat to recover the AB on two separate occasions (Figure 7). The first attempt was at 0450 and the second attempt was at 0458, but weather conditions were too rough to lower the rescue boat safely.



Figure 7. Photo of starboard rescue boat onboard the MTM DUBLIN taken September 29, 2023 (Source: USCG).

4.1.24. At 0451, the deck crew on the MTM DUBLIN launched flares to illuminate the area.

4.1.25. At 0457, the Boston Fire Department reported they were responding with the fire boat JOHN S. DAMRELL.

4.1.26. At 0506, the AMERICA arrived on scene and found the two life rings with energized lights that were previously thrown from the MTM DUBLIN off the starboard stern of the MTM DUBLIN. The AMERICA recovered the life rings and remained in the vicinity searching with flashlights for the man overboard.

4.1.27. At 0513, USCG Air Station Cape Cod launched a helicopter to assist in the search.

4.1.28. At 0514, Sector Boston Command Center confirmed with the MTM DUBLIN that the AB had fallen off the starboard side accommodation ladder. The master on the MTM DUBLIN relayed the AB was wearing a red inflatable lifejacket with a light on it.

4.1.29. At 0520, the Boston Pilots began communicating via marine radio with the AMERICA to vector a potential position of the man overboard based on the location where the life rings were found. Anticipating the man overboard would be moving slower than the life rings, they began to search the area between the life rings and the MTM DUBLIN.

4.1.30. At 0523, the master on the MTM DUBLIN corrected the AB's inflatable lifejacket color to yellow after verifying the type of lifejacket he was issued.

4.1.31. At 0531, the crew on the AMERICA spotted the man overboard face down in the water and unconscious, in position 42° 23.440' N 070° 47.250' W (Figure 2). They immediately began attempting to recover him.

4.1.32. At 0538, the AB was recovered onto the deck of the AMERICA and was reported as unresponsive with no pulse. The crew of the AMERICA began cardiopulmonary resuscitation (CPR), and the master began transiting towards Boston.

4.1.33. The crew of the AMERICA observed the AB's lifejacket to be only partially inflated, both in the water and when they recovered him onto the deck.

4.1.34. At 0555, USCG Station Boston and the Boston Fire Department rendezvoused with the AMERICA. Due to rough weather conditions, it was determined the best course of action would be for the AB to remain onboard the AMERICA. Two crewmembers from USCG Station Boston and an EMT from the Boston Fire Department transferred aboard the AMERICA to provide medical assistance. The AB remained unresponsive during revival attempts through use of CPR and an automatic external defibrillating device.

4.1.35. Between 0646-0701, alcohol testing was conducted for all crewmembers onboard the MTM DUBLIN. The corresponding results were negative for all crewmembers.

4.1.36. At 0722, the AMERICA arrived at Boston Fish Pier (Figure 2) where the AB was transferred to an ambulance and transported to Massachusetts General Hospital. The ambulance reported the AB was still unresponsive with no pulse detected.

4.1.37. Between 0727-0749, officers from the Massachusetts State Police arrived on scene at Boston Fish Pier to aid in the investigation.

4.1.38. At 0730, after the AMERICA arrived at Boston Fish Pier, the AB's personal belongings were placed in a bag and transported with the AB to the Massachusetts General Hospital, except for his coveralls and lifejacket which had been cut to perform CPR and were left onboard the AMERICA.

4.1.39. Later that morning, both the coveralls and lifejacket were discarded by a crewmember of the AMERICA.

4.1.40. At 0820, the AB was declared deceased by an attending physician at Massachusetts General Hospital.

4.1.41. On September 28, 2023, the MTM DUBLIN submitted the CG-2692 series of reports required to be submitted to USCG Sector Boston.

4.1.42. On January 24, 2024, USCG Sector Boston received both the autopsy report and the toxicology report from the Massachusetts Office of the Chief Medical Examiner. The cause and manner of death of the AB was determined to be accidental drowning from submersion in a body of water following fall from tanker ship, with blunt force head injuries from the fall being a contributory cause of death. The toxicology results did not detect alcohol or drugs.

4.2. Additional/Supporting Information

4.2.1. The MTM DUBLIN provided USCG marine casualty investigators with the Voyage Data Recorder (VDR) file and a copy of the recording from the vessel's starboard wing video camera system which assisted marine casualty investigators in accurately capturing the timeline of events. The VDR file spanned a period between 0418 through 0516 and contained bridge audio, navigation, vessel systems, and weather information from the vessel. The video camera system spanned a period between 0421 through 0436¹ and showed a view of the deck where the crew was working; however, the lower half of the accommodation ladder and the entire pilot ladder were obscured from view once they were lowered over the side of the vessel.

4.2.2. Weather conditions in the area of the incident were 6 to 9 foot seas, winds out of the northeast at 20 knots with gusts up to 30 knots. The air temperature was 59°F and the water temperature was 64°F. A small craft warning was in effect for the area that morning.

4.2.3. Heavy weather was defined by the MTM Ship Management's Safety Management System (SMS) as any condition with winds of Beaufort Scale 6² or higher and a wave height of 4 meters, approximately 13.12 feet. The MTM DUBLIN was not operating under heavy weather guidelines when the incident occurred.

4.2.4. Two permits were required to be completed prior to lowering the accommodation ladder in accordance with the SMS (Figure 8). Permit S108A was required for conducting work over the side of the vessel. Permit S108C was required for conducting work near the ship's side. Both permits were completed prior to commencing operations.

TYPE OF WORK	PERMIT REQUIRED	FORM	TITLE OF FORM
Working on Pressurized Systems / Equipment	YES	S107	Permit for Maintenance of Pressurized Systems / Equipment
Lifting Operations	YES	S107A	Lifting Operations Permit
Work involving diving	YES	S107B	Diving Operations Permit
Working on Deck / Unprotected Space in Heavy Weather	YES	S108	Permit to Work on Deck / Unprotected Space in Heavy Weather
Working Over-Side (Outboard)	YES	S108A	Working Over-Side
Working at height (working in a location where there is a risk of falling)	YES	S108B	Working Aloft/Outboard Permit
Working near Ship side eg. on shipside rails, razor wire rigging, gangway rigging etc	YES	S108C	Working near ship side
Work on Electrical Circuits/Equipment	YES	S109	Electrical Isolation Certificate
Entry into tanks/voids/enclosed spaces	YES	S110	Entry into Enclosed Spaces
Hot Works in any space including engine workshop	YES	S111	Hot Work Permit (If work is outside engine workshop ask permit to Office also)
Works in Pipelines, pressure vessels etc. and not using hot work	YES	S112	Cold Work Permit
Lock Out – Tag Out	YES	S114	Log Out – Tag Out
Working small craft alongside the vessel	YES	S146	Permit to Work / Small Craft Alongside
Maintenance of Passenger Lifts	YES	S169	Permit for Maintenance of Passenger Lift

Figure 8. Extracted table from Form No. S106 (Page 3 of 3): Personal Protective Equipment (PPE) – Personal Injury Prevention – Table of Work Permits/Certificates/Checks Required, from MTM Ship Management's Safety Management System (Source: MTM DUBLIN).

¹ The video camera system timestamp was determined to be slightly inaccurate after marine casualty investigators compared the timestamps of the video camera system with the VDR and SCC radio and telephone timestamps; however, the video camera system was useful in showing the actions of the crewmembers and to provide lengths of time throughout the incident.

² Beaufort Scale 6 dictates force speed winds of 22 to 27 knots and wave height of 9 to 13 feet as prescribed by the U.S. National Weather Service.

4.2.5. MTM DUBLIN crewmembers directly involved in the incident completed 96-hour work/rest histories. No issues were identified concerning fatigue or other physical limitations, including any known issues related to the AB who had been observed by the crew prior to the incident.

4.2.6. While alcohol testing was conducted onboard, drug testing was not conducted as the vessel did not have any available means to conduct the testing onboard. The vessel agent attempted to schedule drug testing but was unable to complete the testing within the required 32-hour timeframe.

4.2.7. The AB had approximately 10 years relevant experience in the maritime industry, with a majority being onboard MTM-owned vessels both as an OS and AB. The AB joined the MTM DUBLIN crew in Singapore on July 24, 2023. He had completed the vessel familiarization checklist and was current on all required vessel qualifications, drills, and training for the MTM DUBLIN.

4.2.8. The inflatable lifejacket donned by the AB was a Secumar Golf 150 SOLAS inflatable lifejacket, designed with a dual CO2 inflation system for both automatic and manual inflation (Figure 9). The lifejacket had a dark blue protective cover with a yellow buoyancy bladder that is secured inside the protective cover when not inflated, and black straps which came down from the back of the lifejacket and snapped with a buckle around the waist. The lifejacket was designed to turn an unconscious wearer face-up. Service and inspections had been performed on the lifejacket in accordance with manufacturer's recommendations with no issues noted.



Figure 9. Particulars of the same type of lifejacket the AB donned the day of the incident, Secumar Golf 150 SOLAS. (Left) Photo of the lifejacket with the buoyancy bladder stowed (Source: C/O, MTM DUBLIN). (Center) Photo of the lifejacket when inflated (Source: Secumar.com). (Right) The buoyancy rating of the lifejacket (Source: Secumar.com).

5. Analysis

5.1. Hazardous Weather Conditions: Heavy weather guidelines for the MTM DUBLIN are outlined in the *Navigation and Bridge Procedures Manual – Section 0042, Procedures for Heavy Weather* in the SMS. Heavy weather is defined as any condition with winds of Beaufort Scale 6 or higher and a wave height of 4 meters, approximately 13.12 feet. The MTM DUBLIN was not operating under heavy weather procedures when this incident occurred. If a heavy weather determination was made, no person would be allowed to go on deck without the master's permission. *Form S108: Permit to Work on Deck, Unprotected Space in Heavy Weather* would also have been required. Although the determination of heavy weather had not been made, there were hazardous weather conditions present during the rigging of the accommodation ladder and pilot ladder. Winds were out of the Northeast at

20 knots with gusts up to 30 knots, and waves were 6 to 9 feet. The video from the starboard wing camera shows waves coming towards the bow of the vessel and breaking along the area where the accommodation ladder was lowered, especially in the moments leading up to the AB being swept into the water. After the AB was swept into the water, several references to hazardous weather conditions were made by the crew including their inability to lower the rescue boat due to rough weather as well as both the observations made by the crew of the AMERICA and the Boston Pilots stating the weather was extremely rough in the area. The master of the AMERICA stated he observed 8 foot seas and 30 knot winds while enroute to assist the MTM DUBLIN. Under these conditions, had a reassessment of the weather conditions been conducted, it is possible the weather conditions would have been determined to meet the thresholds of heavy weather as intended by the SMS preventing crewmembers from being on deck.

5.2. Failure of AB to Wear Proper Safety Gear: The PPE requirement for various activities on the MTM DUBLIN, including permits required for those activities were outlined in the *Personal Injury Prevention and Safety Manual Section 0017, Slips, Trips, and Falls and Form S106 – PPE – Personal Injury Prevention* in the SMS (Figures 10a and 10b). When conducting work over the side of the ship or near the ship’s side, such as rigging the accommodation ladder and pilot ladder, a safety harness, safety vest (lifejacket), and safety line must be worn. Permits S108A, *Working Over Side Permit*, and S108C, *Working Near Ship Side Permit*, were required to be issued prior to commencing work (Figure 8). Although the required permits had been issued for the work being carried out, the AB was not wearing a safety harness which was required for working over the side of the ship. From the crew accounts, typically one deck crew member works over the side during the accommodation ladder and pilot ladder rigging, which in this investigation was identified to be the pumpman. It is likely the AB was attempting to briefly assist the pumpman and did not adequately reassess the need for additional PPE under the assumption his assistance would be quick. It is probable that had the AB been wearing the safety harness, he may not have been swept off the accommodation ladder as evidenced by the pumpman remaining secured to the accommodation ladder due to his safety harness.






PPE GUIDE	
The table below gives a guide to what items of clothing and protective equipment should be used for different jobs. This list is not exhaustive and additional items may be used at the discretion of the Master. It should be used in conjunction with the daily work planning sheet and permits to work.	
Codes	TABLE of TASKS / DUTY
 Essential Equipment for this duty.	1 ANCHORING
 Equipment may be needed depending on circumstances.	2 BUNKERING
 Unlikely this equipment will be needed	3 CARGO WORK
 Required	4 CATERING DEPARTMENT WORK
 Consider	5 CLEANING
	6 ELECTRICAL MAINTENANCE
	7 HAZARDOUS SUBSTANCES
	8 MOORING OPERATIONS
	9 OPERATING HAND TOOLS
	10 OPERATING MACHINE TOOLS
	11 PAINTING / SPRAYING
	12 STORING
	13 USING LIFTING EQUIPMENT
	14 WELDING or BURNING
	15 WORK in MACHINERY SPACES
	16 WORKING ALOFT
	17 WORKING IN LIFEBOATS
	18 WORKING on DECK
	19 WORKING OVERSIDE
	20 RIGGING OF RAZOR WIRES
	21 WORKING NEAR SHIP SIDE
	22 GALLEY WORK

Figure 10a. Extracted PPE Guide table from Form No. S106 (Page 1 of 3): Personal Protective Equipment (PPE) – Personal Injury Prevention – PPE Guide, from MTM Ship Management’s Safety Management System (Source: MTM DUBLIN).

TABLE of PPE																							Shelf life	PMS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
Boiler Suit	R	R		C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Till fit for purpose on visual inspection	NR
Safety Shoes	R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Till fit for purpose on visual inspection	NR
Safety Helmet	R	R		C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Till fit for purpose on visual inspection. Discard after 30 months	503.35
Gloves ¹	R	R		C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Till fit for purpose on visual inspection	NR
Safety Aprons																						R	Till fit for purpose on visual inspection. Discard after 3 years.	503.29
Ear Protection	C	C							C	C	C				R			C					Till fit for purpose on visual inspection	NR
Goggles ²	R	C		C	R				R	R	R	R	C										Till fit for purpose on visual inspection. Discard after 3 years.	NR
Safety Harness attached to a self-retracting device or a strong point		C	C					C				C				R	R	C	R	R	R	R	Safety officer's inspection every 12 months. Continued use if inspection satisfactory. Discard after 5 years.	503.34
Life vests	C	C						C				C					R	C	R	R	R	R	Till fit for purpose on visual inspection. Discard after 5 years.	899.01.02
SCBA	C			C		C			C	C	C			C				C					Till fit for purpose on visual inspection	899.01.01
Chemical Suit ³				C			R																Till fit for purpose on visual inspection. Discard after 10 years.	503.29
Refer COSWP ⁴ Chapter	25	30			14	22	22	27	25	20	20	24	19	21	23	22	15	15	8	15	3	8		
Warning Signs ⁵			C			C	C		C	C	C				C			C	C				Till fit for purpose on visual inspection	NR

Refer Form S106A

Figure 10b. Form No. S106 (Page 2 of 3): PPE – Personal Injury Prevention – Table of PPE, from MTM Ship Management’s Safety Management System (Source: MTM DUBLIN).

5.3. Inadequate Deck Crew Supervision and Adherence to Safety Procedures: The bosun was responsible for supervision of the deck crew during the rigging of the accommodation ladder and pilot ladder. As such, he ensures safety procedures outlined in the SMS are followed by the deck crew and monitors conditions for any hazards that may present a risk to the crew. The AB was not wearing the proper PPE for working over the side of the vessel which meant that the requirements outlined in the SMS were not being followed. At that point, in accordance with the SMS, the supervisor would have required work to stop until safety procedures were met. The SMS also encourages any member of the crew, regardless of position, to speak up about safety issues. Had the safety procedures been followed, it is probable the AB would have been required to don a safety harness prior to descending the accommodation ladder to assist the pumpman.

5.4. Lower Platform of Accommodation Ladder Below Recommended Height: The MTM DUBLIN utilized a combination arrangement for pilot embarkation, rigging the accommodation ladder and the pilot ladder together, in accordance with SOLAS Regulation V/23 and IMO Resolution A.1045(27). This arrangement is required if a vessel’s freeboard is more than 9 meters, which applied to the MTM DUBLIN due their freeboard measuring at 9.2 meters. Section 3.3 of IMO Resolution A.1045(27) states that the lower platform of the accommodation ladder should be a minimum of 5 meters above the waterline. The lower platform of the accommodation ladder on the MTM DUBLIN was approximately 2 to 3 meters above the waterline when this incident occurred. The wave that swept the AB off the accommodation ladder was observed by the pumpman to be over his head, which indicates the wave exceeded the height of the lower platform. Although the minimum height is only a recommendation and vessels may have different arrangements, this placement made the accommodation ladder more susceptible to being hit by waves exceeding the height of the lower platform. Had the lower platform been at the recommended 5 meters above the waterline, it is possible the surrounding waves may not have affected the lower platform.

5.5. Lifejacket Failed to Fully Inflate: The lifejacket that the AB was wearing, a Secumar Golf 150 SOLAS, had a dual CO2 inflation system capable of manual and automatic

inflation. With automatic inflation, the lifejacket is designed to fully inflate in the water and turn an unconscious wearer face-up. The AB was never observed as being conscious by the deck crew, so it was unlikely that he attempted to manually inflate the lifejacket. From the MTM DUBLIN deck crew's observations, the lifejacket was inflated; however, the AB was face-down when they observed him in the water indicating it hadn't fully inflated. When the crew onboard the AMERICA located the AB in the water, he was reported as face-down and they observed, both when he was in the water and after recovering him, that his lifejacket was only partially inflated. The lifejacket was thrown away by a crewmember on the AMERICA later that morning and unable to be recovered for examination by the marine casualty investigators. Based on witness observations of the AB in the water and body camera footage of the lifejacket obtained from the Massachusetts State Police, it is highly possible the lifejacket failed or malfunctioned impacting the lifejacket's capability to fully inflate (Figure 11). Had the lifejacket properly inflated, it is likely the AB would have remained face-up as designed.

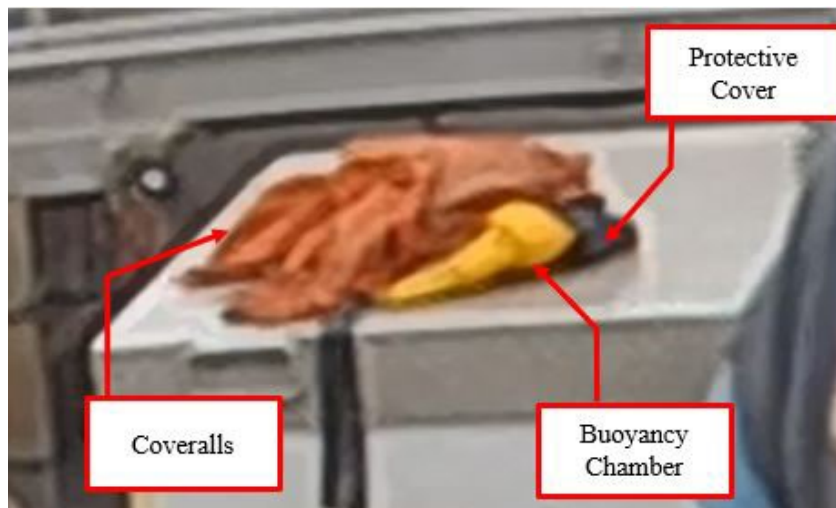


Figure 11. Screen capture from Massachusetts State Police body camera footage taken after the AMERICA arrived at Boston Fish Pier and AB had been transported via ambulance to the hospital, showing AB's orange coveralls and lifejacket (Source: Massachusetts State Police).

5.6. Accidental Drowning of AB From Fall in Water: The medical examiner performed an autopsy on the AB and determined the cause and manner of death to be accidental drowning from submersion in a body of water following the fall from the tank ship. Blunt force head injuries from the fall were determined to be a contributory cause of death. The autopsy noted an abrasion to the left side of the neck as well as a subdural hemorrhage, bleeding between the brain and skull, on the right side of the head. There could have been several mechanisms of injury from the fall, including the accommodation ladder itself, the side of the ship, or hitting the water from a height. The MTM DUBLIN deck crew's observations of the AB in the water shortly after the fall, face-down and unconscious, would support the autopsy findings.

6. Conclusions

6.1. Determination of Cause:

6.1.1. The initiating event for this casualty occurred when the AB fell into the water from the starboard accommodation ladder on the MTM DUBLIN. Actions and conditions which caused the AB fall into the water were:

6.1.1.1. Rough weather conditions in the area resulted in waves hitting the accommodation ladder where the AB was working.

6.1.1.2. The AB failed to wear a safety harness with attached clip while working over the side of the vessel as required by the SMS.

6.1.1.3. Inadequate supervision by the deck crew and failure to adhere to protocols for working over the side of the vessel in accordance with the SMS.

6.1.1.4. The lower platform of the accommodation ladder was 2 to 3 meters above the waterline, lower than the IMO's recommended minimum height of 5 meters.

6.1.2. The subsequent event for this casualty was the loss of life of the AB. Causal factors contributing to the AB's death were:

6.1.2.1. Failure or malfunction of the AB's lifejacket inflation mechanism or buoyancy chamber, as the lifejacket was designed to fully inflate automatically and turn an unconscious wearer face-up.

6.1.2.2. Cause and manner of death for AB was determined to be accidental drowning from submersion in body of water following fall from tanker ship, with blunt force head injuries from the fall being a contributory cause of death.

6.2. Evidence of Act(s) or Violation(s) of Law by Any Coast Guard Credentialed Mariner Subject to Action Under 46 USC Chapter 77: There were no acts of misconduct, incompetence, negligence, unskillfulness, or violations of law by a credentialed mariner identified as part of this investigation.

6.3. Evidence of Act(s) or Violation(s) of Law by U.S. Coast Guard Personnel, or any other person: This investigation did not identify any acts of misconduct, incompetence, negligence, unskillfulness, or violations of law by USCG employees or any other person that contributed to this casualty.

6.4. Evidence of Act(s) Subject to Civil Penalty: This investigation did not identify acts subject to civil penalties.

6.5. Evidence of Criminal Act(s): This investigation did not identify violations of criminal law.

6.6. Need for New or Amended U.S. Law or Regulation: This investigation did not identify matters needing new or amended U.S. law or regulation.

6.7. Unsafe Actions or Conditions that Were Not Causal Factors: This investigation did not identify any unsafe actions or conditions that were not causal factors.

7. Actions Taken Since the Incident:

7.1. No actions have been taken since the incident.

8. Recommendations

8.1. Safety Recommendation:

8.1.1. Safety Recommendation: There were no proposed actions to add new or amend existing U.S. laws or regulations, international requirements, industry standards, or USCG policies and procedures as part of this investigation.

8.2. Administrative Recommendations

8.2.1. Recommendation 1: As a result of findings from this investigation, recommend MTM Ship Management take the following proposals into consideration:

8.2.1.1. Conduct refamiliarization with crews focused on the PPE requirements related to working near ship's side and over the side in accordance with SMS procedures. The refamiliarization should reinforce the need for safety harnesses to be worn at all times for both of these operations and emphasize the need to reassess safety risks if there are changes in the operational parameters such as a change in work assignments or change in environmental conditions.

8.2.1.2. Assess the possibility for reconfiguring the combination arrangement for pilot embarkation to meet the recommended minimum 5 meters height of the accommodation ladder's lower platform in accordance with SOLAS Regulation V/23 and IMO Resolution A.1045(27).

8.2.2. Recommendation 2: Formal recognition for crew of the AMERICA by USCG Sector Boston for their unwavering assistance in the search and recovery of the AB from the MTM DUBLIN. The AMERICA responded immediately to the MTM DUBLIN's mayday radio broadcast, searching for the AB in the darkness and hazardous weather conditions with only flashlights. When they located and recovered the AB, the crew tirelessly performed CPR for nearly two hours while the master of the AMERICA transported the AB to the Boston Fish Pier where an ambulance was waiting to transfer him to the hospital. Although the outcome was not what everyone had hoped for, the crew of the AMERICA made every effort to save the AB.

8.2.3. Recommendation 3: It is recommended that the investigation be closed.


Chief Warrant Officer, U.S. Coast Guard
Investigating Officer