



REPUBLIC OF THE MARSHALL ISLANDS

Maritime Administrator

FAIRFIELD EAGLE MARINE SAFETY INVESTIGATION REPORT

Occupational Fatality

Buenaventura, Republic of Colombia | 2 October 2024

Official Number: 7510

IMO Number: 9575230



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AUTHORITY

An investigation, under the authority of the Republic of the Marshall Islands laws and regulations, including all international instruments to which the Republic of the Marshall Islands is a Party, was conducted to determine the cause of the casualty.



Maritime Administrator

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LIST OF ABBREVIATIONS AND ACRONYMS

2/O	Second Officer
ASD	Able Seafarer Deck
C/O	Chief Officer
CT	Computed Tomography
CH	Cargo Hold
DWT	Deadweight Tonnage
ETO	Electro Technical Officer
ISM	International Safety Management
Kg	Kilogram
m	Meters
No.	Number
OOW	Officer of the Watch
OS	Ordinary Seafarer
PPE	Personal Protective Equipment
SMS	Safety Management System
UK MCA	United Kingdom Maritime and Coastguard Agency
UTC	Universal Coordinated Time

DOCUMENTS CITED

ISM Code	International Management Code for the Safe Operation of Ships and for Pollution Prevention
Medical Guide	International Medical Guide for Ships, 3rd Edition
MLC, 2006	Maritime Labour Convention, 2006
STCW Code	Seafarers' Training, Certification and Watchkeeping Code



PART 1: EXECUTIVE SUMMARY

On 2 October 2024, the ETO on board the Republic of the Marshall Islands-registered bulk carrier FAIRFIELD EAGLE, managed by Star Bulk Shipmanagement (Singapore) PTE. LTD. (the “Company”), was injured when he was pressed against the guardrail by the ship’s grab No. 1, when it swung slowly outboard as it was being hoisted for testing following the replacement of a damaged electrical cable. The cable had been damaged during cargo discharge operations being conducted at Buenaventura, Republic of Colombia (hereinafter “Colombia”). The ETO had been standing between the grab and guardrail to guide the grab so it would not contact the guardrail when it was hoisted off the deck.

The ETO, who remained conscious, was provided first aid for injuries to his right wrist and left ankle. He was then disembarked and transported by ambulance to a local hospital for evaluation and treatment. He was discharged from the hospital on 3 October 2024 and determined fit for travel.

On 6 October 2024, during a flight from Cali, Colombia to Panama City, Republic of Panama (hereinafter “Panama”) while being repatriated, the ETO experienced respiratory distress. Airline personnel arranged for him to be taken to a hospital in Panama City immediately after the plane landed. He was diagnosed with and underwent emergency surgery for life-threatening internal abdominal injuries. The ETO’s condition did not improve following surgery and he died on the morning of 8 October 2024.

The marine safety investigation conducted by the Republic of the Marshall Islands Maritime Administrator (the “Administrator”) determined that the risk assessment and Toolbox Talk that were conducted before the crewmembers started to replace the damaged cable did not address the hazards associated with testing the grab after the cable was replaced. It also determined that crewmembers who were tasked with repairing and testing grab No. 1 did not recognize the risks associated with the ETO and OS standing next to the grab as it was being hoisted off the deck.

The below lessons learned were identified.

- Crewmembers must stand clear of grabs or other loads being hoisted off or placed on the deck.
- Risk assessments and Toolbox Talks must address all reasonably foreseeable hazards associated with all aspects of a task, from beginning to end, to be effective.
- Stop-work authority can prevent marine casualties. However, for stop-work authority to be effective, crewmembers must not only be aware that they have this authority but must also have the confidence that the authority can be exercised without fear of repercussion. They must also have sufficient situational awareness to recognize when an unsafe act or condition exists.
- Medical advice should be obtained whenever a seafarer experiences blunt force trauma to the abdomen.

PART 2: FACTUAL INFORMATION

The following Factual Information is based on the information obtained during the Administrator’s marine safety investigation.

Ship particulars at the time of the incident: *see* chart to right.

Narrative

On the afternoon of 2 October 2024, the geared five-hatch bulk carrier, FAIRFIELD EAGLE (*see Figure 1*), was discharging cargo while alongside at the port of Buenaventura, Colombia. Stevedores were using the ship’s deck cranes to discharge cargo.

SHIP PARTICULARS		
Vessel Name FAIRFIELD EAGLE		
Registered Owner Fairfield Eagle LLC		
ISM Ship Management Star Bulk Shipmanagement (Singapore) PTE. LTD.		
Flag State Republic of the Marshall Islands		
IMO No. 9575230	Official No. 7510	Call Sign V7SM2
Year of Build 2013	Gross Tonnage 35,837	
Net Tonnage 21,224	Deadweight Tonnage 63,500	
Length x Breadth x Depth 194.6 x 32.3 x 18.5 m		
Ship Type Bulk Carrier		
Document of Compliance Recognized Organization Republic of the Marshall Islands Maritime Administrator		
Safety Management Certificate Recognized Organization Republic of the Marshall Islands Maritime Administrator		
Classification Society Lloyd’s Register		
Persons on Board 21		

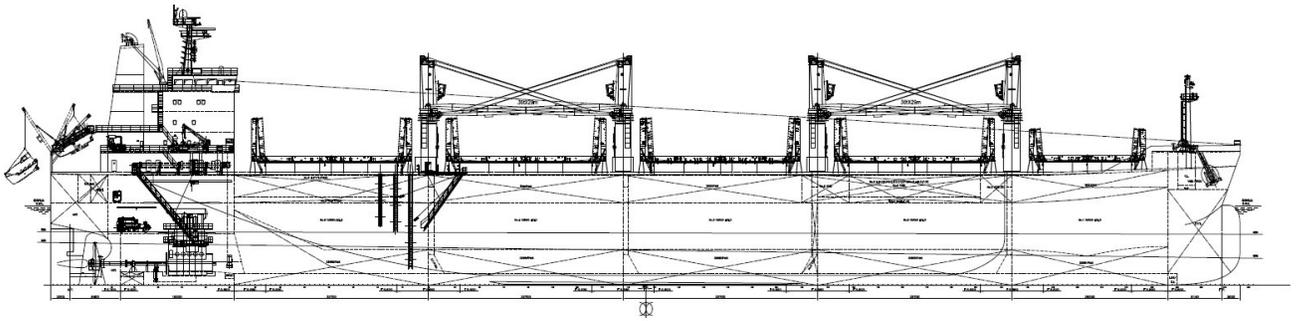


Figure 1: FAIRFIELD EAGLE General Arrangement.

At approximately 1120,¹ discharge of CH No. 1 was stopped when grab No. 1 malfunctioned due to an electrical cable having been damaged. The grab was placed on the main deck port side forward between the CH No. 1 hatch coaming and the guardrail. After completing a risk assessment and issuing a Working Aloft/Overside Permit, the C/O directed the ETO, with assistance from the Bosun and an OS, to repair the grab.

The ETO conducted a short Toolbox Talk with the Bosun and OS to review what needed to be done to replace the electrical cable on the grab before starting work. The potential hazards associated with testing the grab after the cable was replaced were not discussed. By 1340, the electrical cable had been replaced and the grab was ready to be tested. Testing the grab required that it be hoisted up off the deck so the scoops could be opened and closed.

In preparation for testing grab No. 1, the ETO, who was standing between the grab and the guardrail, directed the OS to stand between the grab and the CH No. 1 hatch coaming. It was intended that the ETO and OS would guide the grab, which weighed approximately 10,990 kg, to keep it from hitting either the hatch coaming or the guardrail while being hoisted off the deck. The ETO then directed the Bosun, who was in the cab for deck crane No. 1, to hoist the grab.

The weather was good with clear skies, calm winds, and no waves or swells.

Grab No. 1 swung slowly outboard as it was being hoisted off the deck and pressed the ETO, who was pushing on the grab, against the guardrail. As the OS called for help, the Bosun continued lifting the grab to free the ETO. The C/O, who was on deck monitoring the ongoing cargo operations, saw what happened and immediately informed the Master and OOW by radio that the ETO had been hit by the grab. The Master went out on deck at 1345 to assess the situation and then called the ship's agent to request an ambulance.

The 2/O, who was on duty as the OOW and who was also the ship's designated Medical Officer, immediately went forward with a stretcher, first aid kit, and breathing apparatus. The 2/O examined the ETO, who was conscious and standing, and observed that he had a laceration on his left ankle and abrasions on his right hand. Crewmembers then transported the ETO to the ship's Office by stretcher, where the 2/O administered first aid.

At 1415, the ETO was disembarked and transported by ambulance to a nearby hospital in Buenaventura. He was diagnosed as having a transverse process fracture of a lumbar vertebra and a fracture of the left radial styloid due to having been

¹ Unless stated otherwise, all times are ship's local time (UTC -5).

“crushed by a gantry crane device or bucket.” CT scans of the ETO’s thorax and abdomen did not show any apparent organ damage. The ETO was discharged from the hospital on 3 October 2024 with a recommendation to follow-up with an orthopedic surgeon and a neurosurgeon. Medical records indicate the ETO did not report experiencing any abdominal pain while he was in the hospital.

On 4 October 2024, the hospital issued a certificate stating that the ETO was fit to travel without any restrictions and on 6 October 2024, he boarded a flight from Cali, Colombia to Panama City, Panama, where he was scheduled to board a connecting flight while en route to his home country. The ETO was reported to have experienced respiratory distress during the flight from Cali, so the airline crew arranged for him to be transported to a hospital on arrival in Panama City.

On the evening of 6 October 2024, when examined in the hospital in Panama City, the ETO was experiencing abdominal pain and was observed to have rapid, shallow breathing, an accelerated pulse, reduced arterial oxygen saturation, and evidence of blunt force trauma in the chest and right abdomen. The injuries to his left ankle and right wrist were also observed. He was diagnosed with having “acute abdomen secondary to perforation of a hollow viscus”² that required emergency surgery.

Following the completion of emergency surgery, the ETO was transferred to the hospital’s intensive care unit for management of septic shock and ventilatory support. The ETO’s condition did not improve and he died at 0347 on 8 October 2024. The Death Certificate stated the cause of the ETO’s death was abdominal sepsis due to intestinal perforation caused by blunt trauma to the abdomen.

Crew

Each of the crewmembers who were on board FAIRFIELD EAGLE on 2 October 2024 held the appropriate Republic of the Marshall Islands seafarer documentation issued by the Administrator required for their position on board the ship.

The experience of the Master, C/O, ETO, Bosun, and OS is shown in the following table.

RANK	TIME ON BOARD FAIRFIELD EAGLE	TIME IN RANK	TIME WITH COMPANY	TOTAL TIME AT SEA
Master	5 days	3.5 years	2.9 years	11.8 years
C/O	20 days	5 years	2.2 years	11.9 years
ETO	6.4 months	14.9 years	10 years	14.9 years
Bosun	1 month	4 years	4 years	19 years
OS	1 month	9.6 years	7.3 years	11.9 years

² “Acute abdomen” refers to sudden, severe abdominal pain and can be a symptom of a medical emergency requiring immediate surgery. “Hollow viscus perforation,” which is a life-threatening condition requiring immediate treatment, refers to a perforation of the gastrointestinal tract (e.g., stomach, intestine, small or large bowel, etc.) leading to leakage of the contents into the abdomen. See <https://www.ncbi.nlm.nih.gov/sites/books/NBK459328/> and <https://pmc.ncbi.nlm.nih.gov/articles/PMC11561333/>.

The C/O, ETO, Bosun, and OS were all experienced seafarers with extensive experience on board bulk carriers, including those managed by the Company.

Each of the involved seafarers had completed the Company's required familiarization training after signing on board FAIRFIELD EAGLE. In addition to the safety familiarization training mandated by the STCW Code, Section A-VI/1, the Company also required that each seafarer complete an ISM Familiarization Checklist. This included a review of the Company's SMS and the shipboard procedures manual.

The Administrator did not observe any indication that any of the crewmembers involved with this incident had failed to receive the amount of rest mandated by the STCW Code, Section A-VIII/1, paragraphs 2 and 3 and MLC, 2006, regulation 2.3.

Company Procedures

The Company's safe work procedures required that a risk assessment be conducted before any routine or non-routine task was started. These procedures also required that all crewmembers assigned to complete a particular task participate in a Toolbox Talk before starting work. During this Toolbox Talk, the crewmembers were required to review and agree on the hazards associated with the task and the actions that would be taken to manage those hazards. Crewmembers were also required, during Toolbox Talks, to review how the work would be conducted.

The Company's safe work procedures also provided all crewmembers the authority to stop ongoing work if they observed an unsafe act or condition, if there was a change from the original plan for conducting the work that could lead to an unsafe condition, or if something could be done to make work on the task safer. Whenever a crewmember exercises their stop-work authority, the involved crewmembers are required to stop working and to then discuss the reasons for why the work was stopped and to agree on how to conduct the work safely before they resume work.

The Company also had a system for crewmembers working on board Company-managed ships who exercised their stop-work authority to document any observed unsafe actions or conditions using a Safety Observation Card. The Safety Observation Card included several different categories of potential unsafe acts or conditions. These included non-compliance with PPE requirements, established procedures, movement of crewmembers, and manual/mechanical handling.³ The cards included several specific actions or conditions for each category. For movement of crewmembers, the actions or conditions included situational awareness. For manual/mechanical handling, the actions or conditions included crane operations. The Company also encouraged crewmembers to submit Safety Observation Cards to document positive safety practices that might be observed. Submitted Safety Observation Cards were recorded in a database and reviewed by the Company.

Crewmembers on board FAIRFIELD EAGLE submitted 144 Safety Observation Cards between 1 January 2024 and 1 October 2024. Of these, six were related to unsafe actions or conditions related to movement of crewmembers and two were related to non-compliance with established procedures. Thirty-three of the cards were observations of positive safety practices.

³ Other categories included non-compliance with Company policies, hazardous conditions in different areas of the ship (e.g., deck, Engine Room, Galley), fire hazards, condition of electrical equipment, etc.

The Company's procedures for the use of lifting gear (e.g., deck cranes) required that operations involving difficult or heavy lifts (e.g., loads) be conducted under the supervision of the C/O or another senior officer appointed by the ship's Master. The Company's procedures for the use of lifting gear did not address supervision of lifting operations that were not difficult or did not involve a heavy load.

Neither the Company's procedures for safe work or use of lifting gear included guidance for ensuring crewmembers or others who might be on board remained clear of loads during lifting operations.

Working Aloft/Overside Permit and Risk Assessment

The Working Aloft/Overside Permit and associated risk assessment completed by the C/O for replacing the damaged electrical cable on grab No. 1 identified electrical shock, falling from height, and slips, trips, and falls as hazards associated with this task. Neither the permit nor the risk assessment addressed potential hazards associated with testing grab No. 1 after the electrical cable had been replaced. There is no indication that hazards associated with testing the grab were discussed during the Toolbox Talk that the ETO conducted with the Bosun and OS before they started work to replace the damaged electrical cable.

PART 3: ANALYSIS

The following Analysis is based on the above Factual Information.

Lifting Operations

The lifting of grab No. 1 for testing was directed by the ETO. Planning for the lift was limited to the ETO directing the OS to stand between the grab and the CH No. 1 hatch coaming while he stood between the grab and the guardrail so they could guide the grab to keep it from hitting either the guardrail or the hatch coaming while it was being hoisted. When the ETO and OS were standing on either side of the grab, the ETO directed the Bosun, who was an experienced crane operator and had a clear view of the grab from the deck crane cab, to hoist the grab.

Hazard Awareness

The Company had procedures in place to ensure the safety of crewmembers working on board Company-managed ships. These included requirements for conducting risk assessments and Toolbox Talks before starting work on routine and non-routine tasks. As required by the Company's safe work procedures, a risk assessment and Toolbox Talk were conducted before the ETO and other crewmembers started to replace the damaged electrical cable on grab No. 1. The hazards identified by the C/O when he completed the risk assessment were addressed by the ETO when he conducted the Toolbox Talk. They included those associated with replacing the cable, but not those associated with testing the grab after the electrical cable was replaced.

Reasonably foreseeable hazards associated with testing the grab included those associated with lifting operations. These included the potential for a load to swing while being hoisted and for persons near a load to be struck. Controls commonly used on board ships to address these hazards include establishing an exclusion area to keep persons away from a load while it is being hoisted.

The fact that the hazards associated with testing the grab were not identified by the C/O when he prepared the risk assessment, or addressed by the ETO during the Toolbox Talk conducted with the Bosun and OS before starting work to replace the damaged electrical cable on grab No. 1, reduced the value of both the risk assessment and Toolbox Talk as tools for ensuring work could be conducted safely.

The fact that the ETO and OS were standing on either side of grab No. 1 to guide it as it was being hoisted off the deck for testing indicated that they were aware that the grab might move horizontally while being hoisted and possibly contact either the guardrail or the hatch coaming. However, it also indicated that neither the ETO nor the OS recognized the potential of being crushed between the grab and either the guardrail or hatch coaming if they could not control the grab, which weighed 10,990 kg, as it was hoisted off the deck. The fact that the Bosun, who saw the ETO and OS standing next to the grab as he was lifting it off the deck, did not stop the operation indicated that he also did not recognize the potential for either to be crushed by the grab.

Stop-work

Stop-work authority can prevent marine casualties by allowing crewmembers, regardless of their position on board, to manage safety in real time by giving them the responsibility, obligation, and right to stop work that poses or creates an imminent danger to themselves, others, the ship and cargo, or the environment. For stop-work authority to be effective, it is not enough for crewmembers to be aware that they have this authority and that it can be exercised without fear of repercussion. They must also have sufficient situational awareness to recognize when an unsafe act or condition exists.

Based on the number of Safety Observation Cards that were issued by crewmembers on board FAIRFIELD EAGLE between 1 January 2024 and 1 October 2024, it is apparent that the ship's crewmembers were aware of both that they had stop-work authority and that they could exercise that authority without fear of retribution. However, the effectiveness of stop-work authority as a barrier for addressing unsafe acts or conditions was effectively negated because none of the crewmembers involved with lifting grab No. 1 for testing recognized the potential for either the ETO or OS to be struck by the grab.

Injury of the ETO

The ETO and OS could not stop the grab from swinging slowly outboard, as it pressed the ETO up against the guardrail with sufficient force to fracture his right wrist and cause internal abdominal injuries. Although the ETO's internal injuries were life-threatening, there is no indication that he experienced any immediate, acute abdominal pain or had any symptoms indicating that he had suffered any internal injuries when he was pressed against the guardrail by grab No. 1.⁴

The ETO, who remained conscious after being pressed against the guardrail by the grab, was immediately provided first aid on board the ship by the 2/O while the Master contacted the ship's agent and arranged for an ambulance to take him to a hospital for examination and treatment by medical doctors. The medical care provided to the ETO in Cali and Panama City is outside the scope of the Administrator's marine safety investigation.

⁴ Detecting internal abdominal injuries resulting from blunt force trauma can be difficult. Medical advice should always be obtained if a crewmember suffers a crush injury of the chest or abdomen, even if the injuries appear to be minor. See Medical Guide, Chapter 7.

PART 4: CONCLUSIONS

The following Conclusions are based on the above Factual Information and Analysis and shall in no way create a presumption of blame or apportion liability.

1. Causal factors that contributed to this very serious marine casualty include:
 - (a) incomplete identification of the hazards associated with replacing the damaged cable on grab No. 1 in that the hazards associated with testing the grab were not addressed by either the risk assessment or the Toolbox Talk;
 - (b) inadequate or lack of situational awareness of crewmembers who were engaged in the repair of grab No. 1 in that they did not recognize the risk of the ETO or OS being struck by the grab as it was being hoisted off the deck; and
 - (c) inadequate planning and supervision of the lift of grab No. 1 for testing.

PART 5: PREVENTIVE ACTIONS

In response to this very serious marine casualty, the Company has taken the following Preventive Actions.

1. Updated the Company's shipboard training for conducting risk assessments and Toolbox Talks taking the lessons learned from this very serious marine casualty into account.
2. A safety stand down was conducted on board Company-managed ships to review this incident.
3. A review of this incident was included as part of the agenda for crew seminars and conferences.
4. The lessons learned from this incident were reviewed during pre-joining briefings for officers and ratings.

PART 6: RECOMMENDATIONS

The following Recommendations are based on the above Conclusions and in consideration of the Preventive Actions taken.

1. It is recommended that the Company review and, as necessary, revise their procedures for:
 - (a) safe work to require that all reasonably foreseeable hazards associated with a planned task, including when relevant testing of repaired equipment, be addressed when conducting a pre-task risk assessment and when conducting a Toolbox Talk; and
 - (b) conducting lifting operations to ensure crewmembers and other persons remain clear of loads during lifting operations.

The Administrator's marine safety investigation is closed. It will be reopened if additional information is received that warrants further review.