REPUBLIC OF THE MARSHALL ISLANDS

Maritime Administrator

ERGUVAN S MARINE SAFETY INVESTIGATION REPORT

Occupational Fatality

Outside Port Limits Anchorage Altamira, United Mexican States | 3 May 2023

Official Number: 6936

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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

ASD	Able Seafarer Deck
BMI	Body Mass Index
°C	Degrees Celsius
C/E	Chief Engineer
C/O	Chief Officer
cm	Centimeters
CPR	Cardiopulmonary Resuscitation
DWT	Deadweight Tonnage
Hg	Mercury
Türkiye HSSGM	Republic of Türkiye Ministry of Health, General Directorate of Health for Borders and Coasts
ILO	International Labour Organization
IMO	International Maritime Organization
kg	Kilograms
kg/m^2	Kilograms per Square Meter
MG	Marine Guideline
m	Meters
mm	Millimeters
NMOHSC	National Maritime Occupational Health and Safety Committee
NSW	New South Wales
Mexico UNICAPAM	United Mexican States Unidad de Capitanías de Puerto y Asuntos Marítimos
WHO	World Health Organization

DOCUMENTS CITED

COSWP . . . . . Code of Safe Working Practices for Merchant Seafarers

Health Assessments of Marine Pilots . . . . . Standards for Health Assessments of Marine Pilots

ISM Code . . . . . International Management Code for the Safe Operation of Ships and for Pollution Prevention

MG No. 7-47-1 . . . . . Guidance on Medical Exams and Certificates for Seafarers

MI-118 . . . . . Republic of the Marshall Islands Requirements for Seafarer Certification

MLC, 2006 . . . . . Maritime Labour Convention, 2006

MSC.1/Circ.1182/Rev.1 . . . . . Guide to Recovery Techniques

SOLAS . . . . . International Convention for the Safety of Life at Sea, 1974

STCW . . . . . International Convention on Standards of Training, Certification and Watchkeeping for Seafarers

STCW Code . . . . . Seafarers Training, Certification and Watchkeeping Code

STCW.7/Circ.19/Rev.1 . . . . . Guidelines on the Medical Examination of Seafarers

PART 1: EXECUTIVE SUMMARY

On 3 May 2023, the Republic of the Marshall Islands-registered ERGUVAN S was anchored in the Outside Port Limits Anchorage Altamira, United Mexican States (hereinafter "Mexico") undergoing a change of management and crew following a change of ownership and name. The weather was good with calm seas. The freeboard amidships was approximately 11-12 m.

At approximately 0930,[1] a launch with the on-signing Master and eight on-signing crewmembers arrived alongside ERGUVAN S in way of the starboard side pilot station, where a combination pilot ladder had been rigged. Seven of the on-signing crewmembers embarked the ship without incident. The on-signing Master, who was not wearing a lifejacket, transferred from the launch and started climbing up the pilot ladder. He stopped climbing when he was one or two steps below the accommodation ladder platform. A crewmember on board the ship lowered the accommodation ladder so that the platform was level with the on-signing Master's feet. The on-signing C/O and an on-signing ASD had both climbed down the accommodation as the on-signing Master was climbing up the pilot ladder and tried to help him step onto the platform. The on-signing Master was reported to say he could not climb any further. He then appeared to lose his grip on the pilot ladder and fell, hitting the launch before falling into the sea. A crewmember on the ship immediately threw a lifebuoy to the on-signing Master.

The on-signing C/O and a Superintendent, who was on board ERGUVAN S for the change of management, jumped into the sea and helped the on-signing Master swim to a ladder that had been rigged at the stern of the launch. The launch was not equipped with a rescue cradle. With assistance from the on-signing C/O and Superintendent, who were pushing, and

1 Unless stated otherwise, all times are ship's local time (UTC -6).

the launch crewmembers, who were pulling, the on-signing Master was able to get halfway up the ladder before stopping and falling back into the sea. Repeated attempts to help the on-signing Master climb the ladder that had been rigged at the stern of the launch were not successful. The on-signing Master lost consciousness in the water and was determined to not have a pulse approximately 30 minutes after he fell from the pilot ladder while embarking ERGUVAN S. The on-signing C/O and Superintendent, both of whom were still in the water assisting the on-signing Master, were not able to revive him.

The on-signing Master was not recovered until after a Mexican Navy rescue boat with a diver on board arrived on scene. Crewmembers on the rescue boat were able to get the on-signing Master on board their vessel and immediately proceed to shore. The on-signing Master was determined to be deceased sometime after being recovered from the water.

The Republic of the Marshalls Island Maritime Administrator's (the "Administrator's") marine safety investigation was not able to determine why the on-signing Master fell from the pilot ladder as he was embarking ERGUVAN S. A possible contributing factor was that the on-signing Master, who had passed a pre-employment medical exam less than a month earlier, may not have been physically capable of climbing the ladder.

The Administrator's marine safety investigation also determined that there was a delay recovering the on-signing Master from the water. Factors that contributed to the delay included that the on-signing Master was, even with assistance, not able to climb the ladder that had been rigged on the launch, and that the launch was not equipped with a rescue cradle.

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.

SHIP PARTICULARS

Vessel Name
ERGUVAN S

Registered Owner
uford Trading Corp.

ISM Ship Management
Statu Gemi Kiralama ve Ticaret Limited Sirketi

Flag State
Republic of the Marshall Islands

IMO No.	Official No.	Call Sign
9603063	6936	V7TB5

Year of Build	Gross Tonnage
2011	32,839

Net Tonnage	Deadweight Tonnage
19,559	57,970

Length x Breadth x Depth
185.3 x 32.3 x 18 m

Ship Type
Bulk Carrier

Document of Compliance Recognized Organization
Nippon Kaiji Kyokai

Safety Management Certificate Recognized Organization
Republic of the Marshall Islands Maritime Administrator

Classification Society
DNV

Persons on Board
Crew: 28
Supernumeraries: 4

Narrative

On 3 May 2023, the geared, five-hatch bulk carrier ERGUVAN S (ex NEWPORT EAGLE) *(see Figure 1)* was anchored offshore Altamira, Mexico. The ship was undergoing a change of management from Eagle Ship Management LLC to Statu Gemi Kiralama ve Ticaret Limited Sirketi (hereinafter "Statu Gemi") and crew change following a change of ownership and name. The ship was in ballast with drafts of 4.9 m forward and 6.8 m aft. The freeboard amidships was between 11-12 m.

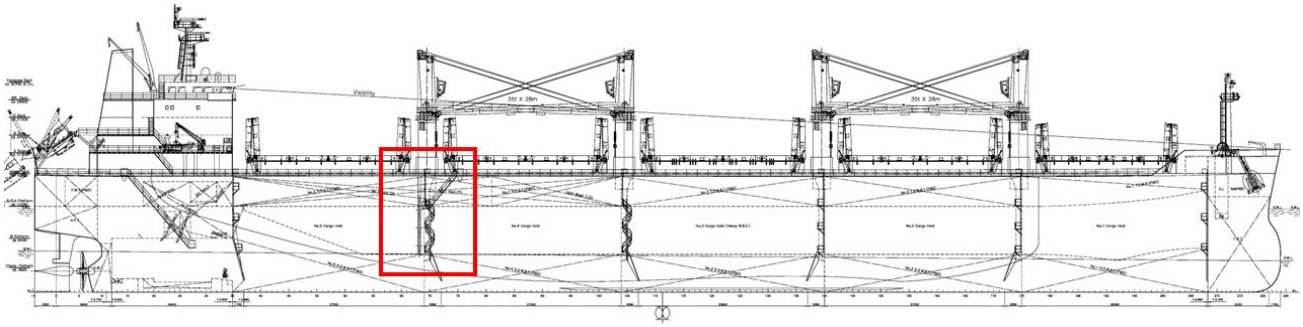

Figure 1: ERGUVAN S General Arrangement. The location of the pilot boarding area is shown in the red square.

The weather was reported as good with clear skies. The winds were Beaufort Force 3 from the east northeast. The sea was calm with no observed swell. The air temperature was 26°C and the sea water temperature was 21°C.

At approximately 0930, a launch with the on-signing Master and eight other on-signing crewmembers hired by Statu Gemi, arrived alongside ERGUVAN S' starboard side.[2] The ship's heading was to the east northeast. At the time, the ship's off-signing Master and the on-signing C/O[3] were both on deck at the starboard side pilot embarkation station. Seven of the on-signing crewmembers safely embarked ERGUVAN S without incident using the combination pilot ladder.

At approximately 0950, the on-signing Master transferred from the launch to the pilot ladder and started climbing up it. Before transferring to the pilot ladder, he gave his lifejacket to the on-signing Steward, who was waiting to embark the ship. As the on-signing Master was climbing the pilot ladder, an on-signing ASD went down the accommodation ladder to be ready to assist the on-signing Master when he transferred from the pilot ladder to the accommodation ladder. The launch remained alongside while the on-signing Master was climbing the pilot ladder.

The on-signing ASD on the accommodation ladder and the crewmembers and supernumeraries who were on deck reported that the on-signing Master appeared to have trouble climbing the pilot ladder and stopped when he was one or two steps below the accommodation ladder platform. The on-signing C/O directed the off-signing Master to be ready to throw a lifebuoy and then went down the accommodation ladder and along with the on-signing ASD grabbed hold of the on-signing Master. The on-signing C/O and on-signing ASD then tried to help him finish climbing the pilot ladder. The on-signing Master was not able to resume climbing so the on-signing C/O directed crewmembers who were on deck to lower the accommodation ladder so the platform would be level with the on-signing Master's feet.

2 A second launch with the remaining on-signing crewmembers was planned for later in the day.

3 The on-signing C/O was hired by Statu Gemi and had been on board since 2 May 2023 to become familiar with the ship.

After the accommodation ladder was lowered, the on-signing C/O and on-signing ASD tried helping the on-signing Master step onto the accommodation ladder platform. The on-signing C/O and on-signing ASD reported that the on-signing Master said he could not climb any further. He then appeared to lose his grip on the pilot ladder and fall, hitting the launch, which had remained alongside the ship, before falling into the sea.

The ship's off-signing Master immediately threw a lifebuoy toward the on-signing Master as the on-signing C/O climbed down the pilot ladder to the launch and then jumped into the water. About the same time, one of the Superintendents on board ERGUVAN S jumped from the ship's deck into the water. Neither had training as a rescue swimmer. The on-signing C/O and Superintendent swam to the on-signing Master, who was conscious, and asked him if he had any pain. The on-signing Master stated he had a cramp in his right leg but was otherwise fine.

The launch operator stopped the vessel's engines as the crew rigged a ladder at the stern, where the freeboard was approximately 1-1.5 m. The launch was not fitted with a transom platform, rescue cradle, or similar device for recovering persons from the water.

The on-signing C/O and Superintendent helped the on-signing Master swim toward the stern of the launch. The launch crew passed a line to the on-signing C/O and Superintendent that they then passed under the on-signing Master's arms and around his back. They then pushed the on-signing Master up as the ship's on-signing Steward and two of the launch crewmembers pulled on the line to help the on-signing Master climb the ladder onto the launch. With assistance, the on-signing Master got halfway up the ladder before stopping and falling back into the sea. Repeated attempts to help the on-signing Master climb the ladder were not successful. The on-signing C/O and Superintendent held the on-signing Master as he floated on his back to keep him from drifting away from the launch. They also put the life buoy under his head to keep it out of the water. Then either the on-signing C/O or Superintendent asked a crewmember on the launch to contact the authorities and request assistance. At about this same time one of the Superintendents who was on board the ERGUVAN S called the agent to request assistance.

The on-signing C/O and Superintendent reported that the on-signing Master had been conscious and speaking with them as they tried to help him onto the launch, but that his breathing had been becoming increasingly labored. At approximately 1030 the on-signing Master was reported to be unconscious and without a pulse. The C/O and Superintendent were not able to revive him.

A Mexican Navy rescue boat with a diver arrived on scene at approximately 1100. The rescue boat crewmembers were able to get the on-signing Master, who had been held in the water next to the launch, on board and immediately proceeded to shore.[4] Sometime later, the ship's agent reported that the on-signing Master was deceased.

4 It was not reported if the on-signing Master was administered CPR after he was taken on board the rescue boat.

The Death Certificate issued by the Mexican Ministry of Health stated that the cause of the on-signing Master's death was acute myocardial infarction[5] as a consequence of arteriosclerosis,[6] cardiomegaly,[7] and deep chest trauma.

On-signing Master

The on-signing Master had worked at sea for over 20 years, of which five years were as a Master. This was his first contract with Statu Gemi. He arrived in Mexico on 28 April 2023 after traveling from Istanbul, Republic of Türkiye (hereinafter "Türkiye") and rested at a hotel prior to joining ERGUVAN S on 3 May 2023.

The on-signing Master's most recent pre-employment medical exam was conducted on 18 April 2023 in accordance with standards developed by the Türkiye HSSGM.[8] When the exam was conducted, he was 65 years old, 179 cm tall, and weighed 135 kg.[9] His blood pressure was reported to be 140 mm Hg systolic and 90 mm Hg diastolic. He was reported to have the following pre-existing medical conditions:

a. hypertension[10] regulated by medication; and

b. Type 2 diabetes.[11]

The on-signing Master did not declare his pre-existing medical conditions or any medications he may have been taking to Statu Gemi.

The on-signing Master held a valid medical certificate as required by the STCW Convention, regulation I/9. This certificate was issued on 18 April 2023 by a medical doctor authorized by the Türkiye HSSGM to conduct medical examinations of seafarers in accordance with standards set out in the Republic of Türkiye National Seafarers Health Directive. This certificate stated he was not suffering from any medical conditions that were likely to be aggravated by sea service or that rendered him unfit for sea service. The medical certificate also stated the on-signing Master was fit without any restrictions, but was issued for a period of one year rather than two years based on the medical doctor's determination that the on-signing Master's pre-existing medical conditions required increased medical surveillance.[12]

Boarding Arrangements

Both the starboard side accommodation ladder and pilot ladder were found in good condition when they were inspected after the on-signing Master fell while embarking ERGUVAN S on 3 May 2023.

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5 Acute myocardial infarction is myocardial necrosis resulting from acute obstruction of a coronary artery (*see* https://www.merckmanuals.com/professional/cardiovascular-disorders/coronary-artery-disease/acute-myocardial-infarction-mi).

6 Atherosclerosis can affect all large and medium-sized arteries, including the coronary, carotid, and cerebral arteries, and is the most common form of arteriosclerosis, which is a general term for several disorders that cause thickening and loss of elasticity in the arterial wall (*see* https://www.merckmanuals.com/professional/cardiovascular-disorders/arteriosclerosis/atherosclerosis?query=arteriosclerosis).

7 Cardiomegaly is a designation for various conditions leading to enlargement of the heart (*see* https://www.ncbi.nlm.nih.gov/books/NBK542296/).

8 These standards are addressed elsewhere in this report.

9 The on-signing Master had undergone annual medical exams from 2019 to 2023. In 2019 he weighed 149 kg and then decreased until 2022, when it was 121 kg.

10 Complications associated with hypertension include increased risk of heart attack or stroke and metabolic syndrome (*see* https://www.mayoclinic.org/diseases-conditions/high-blood-pressure/symptoms-causes/syc-20373410).

11 Complications associated with Type 2 diabetes include an increased risk of heart disease, stroke, high blood pressure, and narrowing of blood vessels, a condition called atherosclerosis (*see* https://www.mayoclinic.org/diseases-conditions/type-2-diabetes/symptoms-causes/syc-20351193).

12 zPer the Republic of Türkiye National Seafarers Health Directive, Article 4, Subsection h, the maximum period of validity of a medical certificate is two years. Article 7, Subsection l of this directive permits medical certificates to be issued for less than two years when a seafarer's medical condition requires increased medical surveillance.

PART 3: ANALYSIS

The following Analysis is based on the above Factual Information.

Embarkation

The embarkation of the on-signing Master and eight other on-signing crewmembers was planned to take place on ERGUVAN S' starboard side using a combination pilot ladder.[13] The heading of ERGUVAN S, which was at anchor, and the launch, which remained alongside the ship while the on-signing crewmembers were climbing up the combination pilot ladder, was to the east-northeast. The weather was good, with winds of Beaufort Force 3 from the east-northeast and calm seas with no reported swell.

On-signing Master's Fall

Based on the information available to the Administrator, it cannot be determined why the on-signing Master stopped climbing or why he appeared to lose his grip on the pilot ladder before he fell while embarking ERGUVAN S from the launch. There is no indication that the pilot ladder was contacted by the launch, which had remained alongside rather than backing away from the ship after the on-signing Master transferred to the ladder. Additionally, the weather was reported to be good with clear skies when the incident occurred. This, along with the fact that the pilot ladder was found in good condition and without any defects when it was inspected after the on-signing Master fell, indicates that his fall was likely not due to the material condition of the pilot ladder.

Climbing a pilot ladder is physically strenuous and requires stamina, high levels of cardiovascular and respiratory fitness, full range of movement, and good upper and lower body strength.[14] Pilot and embarkation ladders are not fixed and are harder to climb than a vertical ladder. Whether the on-signing Master suffered an acute myocardial infarction while climbing the pilot ladder or sometime after he fell into the water is not known. However, given that the crewmembers and Superintendents observed that the on-signing Master was conscious when he stopped climbing the pilot ladder, it is possible that he was fatigued due to the physical effort required to climb the ladder. The deep chest trauma documented on the death certificate issued by Mexico's Ministry of Health as a contributing cause of death most likely occurred when the on-signing Master first fell onto the launch and then into the sea.

Medical Standards

The SCTW Convention, regulation I/9 requires that parties to the convention establish standards of medical fitness for seafarers in accordance with the STCW Code, section A-I/9. These standards are required to ensure, among other things,[15] that seafarers:

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13 This is consistent with the requirement of SOLAS regulation V/27.3.2 that a combination pilot ladder be rigged whenever the distance from the surface of the water to the point of access to the ship is more than 9 m.

14 Due to the inherent risk and physical demand placed on pilots embarking or disembarking from ships using a pilot transfer arrangement, some jurisdictions have enacted health assessments that exceed the medical standards applicable to seafarers. *See for example* Transport for NSW, H*ealth Assessments of Marine Pilots*. This standard was adopted in 2022 and is included as part of the NSW Marine Pilotage Code.

15 These standards are also intended to ensure that the seafarer has adequate hearing and speech to communicate effectively and detect any audible alarms, is not suffering from any medical condition that would be aggravated by sea service or that would endanger the health and safety of others, and is not taking any medications with side effects that will impair judgement, balance, or any other requirements for effective and safe performance of routine and emergency duties.

a. have the physical capability to fulfill the basic training requirements in the STCW Code, section A-VI/1, paragraph 2;[16]

b. have no medical condition, disorder, or impairment that will prevent the effective and safe conduct of their routine and emergency duties on board; and

c. are not suffering from a medical condition that would endanger the health and safety of other persons on board.

Per the STCW Code, section A-I/9, the standards for physical and medical fitness should also take into account the guidance in the STCW Code, table B-I/9. This table has three categories of shipboard tasks or functions a seafarer should be able to perform. One of these categories is "routine movement around a vessel," including on deck, between different levels, and between different compartments. The other two are performance of routine tasks and emergency duties.

Based on the guidance in the STCW Code, table B-I/9, a medical examiner should be satisfied that the seafarer being examined is, without assistance, able to climb vertical ladders and stairways.[17] Although ship's crewmembers may not need to routinely climb up or down a pilot ladder, they may be required to do so when embarking or disembarking. They might also need to climb down an embarkation ladder to board a lifeboat or liferaft in an emergency.

STCW.7/Circ.19/Rev.1 contains guidelines, which were endorsed by the ILO, to assist the development of standards by parties to STCW for evaluating the physical and medical fitness of seafarers. These guidelines include fitness criteria for common medical conditions that potentially could render a seafarer unfit for sea service.[18] Included are criteria for determining if a given medical condition might render a seafarer either temporarily or permanently unfit for sea service or might warrant imposing either restrictions on a seafarer's duties or requirements for medical monitoring. These guidelines also include recommendations for determining if a seafarer would be able to perform all duties within his or her designated department (e.g., deck, engineering, catering). One of the recommended means of making such a determination is for the seafarer to undergo a physical capability assessment. Suggested means for conducting such an assessment include having the seafarer complete tasks that simulate normal and emergency duties and assessing his or her cardio-respiratory reserve.[19]

Consistent with the requirements of STCW, regulation I/9, seafarers working on board Republic of the Marshall Islands registered ships are required to have undergone a medical examination conducted by a medical practitioner licensed in accordance with the laws and regulations of the State[20] in which the medical practitioner is practicing medicine and to hold a medical certificate meeting the requirements of the STCW Code, section A-I/9.

The Administrator recognizes medical certificates issued in accordance with the requirements of another State that is a party to STCW, MLC, 2006, or ILO Convention No. 73 as being equivalent to those issued in accordance with

16 These basic training requirements include the performance of personal survival techniques, fire prevention and firefighting, elementary first aid, and personal safety.

17 The medical examiner should also assess the seafarer's ability to step over high sills and manipulate door closing systems.

18 *See* STCW.7/Circ.19/Rev.1, Appendix E.

19 Recommended means of conducting such an assessment are addressed in STCW.7/Circ.19/Rev.1, Appendix C.

20 *See* MI-118, paragraph 2.11.3 and MG No. 7-47-1.

the requirements of the Republic of the Marshall Islands.[21] These include medical certificates issued in accordance with the requirements of Türkiye, which are set out in the National Seafarers Health Directive.[22]

On-signing Master's Physical and Medical Condition

Both the Republic of Türkiye's National Seafarers Health Directive and STCW.7/Circ.19/Rev.1 identify fitness criteria that a seafarer diagnosed with hypertension and diabetes should meet in order to be found fit for sea service.[23] Although the Administrator was unable to obtain information indicating how the on-signing Master's hypertension and diabetes were being managed, the statements on his medical certificate that he was not suffering from any medical conditions that were likely to be aggravated by sea service or that rendered him unfit for sea service and that he was fit without restrictions other than additional medical surveillance are consistent with the guidance in Republic of Türkiye's National Seafarers Health Directive, Annex 1 and STCW.7/Circ.19/Rev.1.

In accordance with the fitness criteria in the Republic of Türkiye's National Seafarers Health Directive, Annex 1 and STCW.7/Circ.19/Rev.1, a seafarer with "obesity/abnormal body mass-high or low"[24] can be found fit for sea service if:

a. his or her performance on a capability and exercise test is average or better;

b. his or her weight is steady or decreasing; and

c. he or she does not have a co-morbidity.

In accordance with the guidance in the Republic of Türkiye National Seafarers Health Directive, Annex 1, seafarers whose BMI is 30 kg/m^2 or more are required to be assessed to determine if they can climb stairs without assistance and pass through hatch covers with minimum dimensions of 600 x 600 mm.[25] Their balance and arm and hand strength are also supposed to be assessed. This guidance requires "a more careful examination of the functional capacity and ability to move safely on board" of seafarers whose BMI is 40 kg/m^2 or more. Such an examination typically incorporates step tests, isometric muscle strength assessments, and tests of grasping ability. The results of these tests and assessments are then evaluated against the criteria in the STCW Code, table B-I/9.

When assessing a person's fitness for sea duty, medical doctors authorized by the Türkiye HSSGM to conduct medical examinations of seafarers can take into consideration past health records and medical declarations, provided they have obtained the individual's consent to access those records. They may also consult with specialists, who may order additional evaluations such as exercise stress tests, respiratory functional assessments, and other tests or assessments that might be deemed necessary.

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21 *See* MI-118, paragraph 2.11.3 and MG No. 7-47-1.

22 These standards are based on STCW, MLC, 2006, and the ILO *Guidelines on the Medical Examinations of Seafarers*.

23 The criteria for hypertension are that the seafarer's blood pressure is less than 160 mm Hg systolic and less than 100 mm Hg diastolic and that the seafarer is being treated in accordance with national guidelines. A seafarer diagnosed with diabetes can be found fit for sea service without restrictions provided the seafarer does not require insulin injections and his or her blood sugar is stabilized by diet or medications other than insulin. *See* STCW.7/Circ.19/Rev.1, Appendix E and Republic of Türkiye National Seafarers Health Directive, Annex 1. Persons diagnosed with Type 1 diabetes are required to inject insulin, whereas only some people with Type 2 diabetes require insulin (*see* https://my.clevelandclinic.org/health/diseases/7104-diabetes).

24 The WHO defines a person with a BMI of 30 kg/m^2 as being obese (*see* https://www.who.int/westernpacific/health-topics/obesity#tab=tab_1).

25 This is the minimum clear opening for horizontal openings, hatches, or manholes for accessing spaces in or forward of the cargo length on oil tankers and bulk carriers. *See* SOLAS regulation II-1/3-6.5.1. The minimum internal dimensions of a machinery space escape trunk on a cargo ship is 800 x 800 mm. *See* SOLAS regulation, II-2/13.4.2.

The on-signing Master's BMI had increased from 37.8 kg/m^2 in 2022 to 42.1 kg/m^2 based on his height and weight at the time of his pre-employment medical exam on 18 April 2023.[26] Based on the information available to the Administrator, it could not be determined if the on-signing Master was required, as part of his pre-employment medical exam that was conducted in 2023, to undergo a capability and exercise test or other tests to assess his ability to, among other things, climb a vertical ladder without assistance. If a capability and exercise test or other test was conducted, it is not known how the assessment was conducted or if the on-signing Master's results were average or better. It is also not known if his pre-existing medical conditions were considered co-morbidities.

Statu Gemi did not have procedures in place requiring on-signing crewmembers to declare any pre-existing medical conditions that they may have been diagnosed with or any maintenance medications that they may have prescribed. Similarly, the on-signing Master has not made Statu Gemi aware of his physical or medical condition or any medications that he might have been taking.

Rescue Operation

Immediate action was taken to assist the on-signing Master, who was not wearing a lifejacket, when he fell into the water after falling from the pilot ladder. This includes throwing a lifebuoy to the on-signing Master and both the on-signing C/O and a Superintendent jumping into the water. Neither the on-signing C/O nor the Superintendent were wearing a lifejacket, nor were either connected to a lifeline.[27]

Throwing a lifebuoy to the on-signing Master was consistent with standard shipboard man overboard procedures[28] and with the guidance in MSC.1/Circ.1182/Rev.1 for responding to a person in the water. It is not known if the on-signing Master, who was reported to be conscious after falling into the water, was able to reach or hold on to the lifebuoy or if he could have swum without assistance to the launch and then hold on to a line while the ladder was rigged. This is because the on-signing C/O and Superintendent immediately started assisting the on-signing Master after they jumped into the water.

The response of the on-signing C/O and the Superintendent placed both at risk of themselves requiring assistance.[29] This is particularly true for the Superintendent who jumped into the water from ERGUVAN S' main deck due to the risk of being injured when he hit the water.[30]

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26 It is noted that the on-signing Master's BMI had decreased each year between 2019, when it was 46.5 kg/m^2, and 2022, when it was 37.8 kg/m^2.

27 MSC.1/Circ.1182/Rev.1, paragraph 10.5.8 states that persons who are not able, without assistance, to get into a rescue basket or other device may be assisted by a crewmember from the recovering ship provided that the crewmember is "wearing personal protective equipment and a safety line." This guidance also states: "Remember, however, that this should be planned for." Guidelines issued by the NMOHSC regarding procedures for responding to a man overboard state that crewmembers assisting with the recovery of a person in the water "must be wear[ing] immersion suits and be securely attached to lifelines, which in turn are attached to a boat fall or to the ship." *See* NMOHSC, *Guidelines to Shipping Companies on Procedures in Cases of Man Overboard*, p. 4. These guidelines are referenced in the COSWOP, sections 4.6 and 4.7.

28 The standard response is to release one of the two lifebuoys provided with a self-igniting light and self-activating smoke signal and that are capable of quick release from the Bridge. *See* SOLAS regulation III/7.1.3. Not releasing one of these two lifebuoys was reasonable in this situation since ERGUVAN S was at anchor, the location of the person in the water was known, and there was a launch alongside that could assist with rescuing the on-signing Master.

29 *See* MSC.1/Circ.1182/Rev.1, paragraph 10.3.10. It is also noted that water safety organizations worldwide advise that persons who are not specially trained as rescue swimmers or lifeguards should not enter the water to assist another person. *See for example:* The Royal National Lifeboat Institution, *How to rescue someone from drowning* (https://rnli.org/magazine/magazine-featured-list/2017/march/how-to-rescue-someone-from-drowning); Transport Canada, *Recovering Someone Who Falls Overboard* (https://www.tc.canada.ca/en/marine-transportation/marine-safety/recovering-someone-who-falls-overboard); Royal Life Saving Australia, *How to Carry Out a Rescue Safely* (https://www.royallifesaving.com.au/stay-safe-active/in-an-emergency/how-to-carry-out-a-rescue-safely); and American Red Cross, *Water Safety: Know What to do in an Emergency* (https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/water-safety.html).

30 As stated previously, the ship's freeboard midships was approximately 11-12 m.

Even with assistance, the on-signing Master was not able to climb the ladder that had been rigged at the stern of the launch, which had a freeboard of 1-1.5 m and was not equipped with a rescue cradle, after he fell from the pilot ladder. It is not known why he was not able to climb the ladder.

Having a person in the water climb a ladder or net has historically been used successfully as a means of recovery. However, it is not the preferred means of recovery. In accordance with MSC.1/Circ.1182/Rev.1 the preferred means of recovery is to lift a person from the water. Additionally, to reduce the risk of cardiac arrest the person should, when possible, be lifted in a horizontal or near-horizontal position.[31] This can be accomplished using a rescue basket or cradle if available, a stretcher, or two lengths of line or lifting straps, one placed under the person's arms and the under their knees.

The ship's rescue boat was not considered at the time as a means of recovering the on-signing Master. It is not known if this method of recovery would have been more effective in recovering the on-signing Master from the water. However, if the on-signing Master was recovered into the ship's rescue boat, the recovery of the on-singing Master to the main deck of the ERGUVAN S might have been achieved when the rescue boat was brought back on board the ship.

Since the on-signing Master was still in the water, the on-signing C/O and Superintendent, neither of whom had received training as rescue swimmers or lifeguards, were not able to fully assess the on-signing Master's condition or start CPR immediately after they determined he did not have a pulse. It cannot be determined given the information available to the Administrator if not starting CPR immediately after the on-signing Master was determined to not have a pulse may have contributed to his death.[32]

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 the on-signing Master's:
    a. apparent physical inability to climb the pilot ladder; and
    b. fall into the water after falling from the pilot ladder while embarking ERGUVAN S and hitting the launch, which had remained alongside ERGUVAN S rather than backing away while crewmembers were climbing the combination pilot ladder to embark the ship.
2. Additional causal factors that may have contributed to this very serious marine casualty include:
    a. that the STCW Code, table B-I/9 does not identify climbing a pilot ladder or embarkation ladder as either a routine task or an emergency duty; and
    b. the time needed to recover the on-signing Master from the water.

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31 *See* MSC.1/Circ.1182.Rev.1, paragraph 10.5.6.

32 As noted previously, it was not reported if the on-signing Master was administered CPR on board the Mexican Navy rescue boat.

3. Additional issues that were identified but that did not contribute to this very serious marine casualty include that the on-signing:
    a. Master had not declared his pre-existing medical conditions or any medications he was required to take to manage those conditions to Statu Gemi;
    b. Master was not wearing a lifejacket when he was climbing the pilot ladder to embark ERGUVAN S; and
    c. C/O and a Superintendent, neither of whom had training as rescue swimmers, jumped into the water without wearing a lifejacket or being connected to the ship by a lifeline to assist the on-signing Master after he fell from the pilot ladder.

PART 5: PREVENTIVE ACTIONS

In response to this very serious marine casualty, Statu Gemi has taken the following Preventive Actions:

1. established a requirement for all seafarers prior to joining a Statu Gemi-managed vessel:
    a. who are 65 or older to undergo a medical exam; and
    b. to provide a declaration of their medical history to include pre-existing medical conditions, surgeries, etc., for review by Statu Gemi; and
2. shared the lessons learned from this very serious marine casualty with all ships in the Statu Gemi-managed fleet and required that they be discussed during an on board safety meeting.

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 Administrator consider submitting proposals to the IMO to amend the STCW Code, table B-I/9 to include climbing a pilot ladder as a routine task and climbing an embarkation ladder as an emergency duty.
2. It is recommended that the Mexico UNICAPAM consider:
    a. requiring launches used in Mexican waters to transport seafarers and other persons to embark or disembark a ship be fitted with rescue cradles or similar devices;
    b. making operators of launches used in Mexican waters to transport seafarers and other persons to embark or disembark a ship aware of the hazards of launches remaining alongside a ship while a person is climbing a pilot or embarkation ladder, and of the need for crewmembers to receive regular training for recovering persons from the water.

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