



## FINAL MARINE SAFETY INVESTIGATION REPORT

**NAME OF THE SHIP** : HC JETTE MARIT  
**IMO NUMBER** : 9509255  
**FLAG** : ANTIGUA AND BARBUDA  
**LOCATION OF ACCIDENT** : TEKİRDAĞ PORT  
**DATE OF ACCIDENT** : 30.12.2018 / 15:20 (GMT +3)  
**FATALITY/INJURY** : 1 / -  
**DAMAGE** : -  
**POLLUTION** : -

*Committee Decision No: 18/DNZ - 5/2021*

*Date: 16/08/2021*

The sole purpose of this investigation is to make recommendations in order to prevent similar accidents and incidents within the framework of the legislation of the Transport Safety Investigation Center.

This report shall be inadmissible in any judicial or administrative proceedings whose purpose is to apportion blame or determine liability.

## **LEGAL BASIS**

This marine accident was investigated in accordance with the By-law on the Investigation of Marine Accidents and Incidents which came into force after being published at the Official Gazette No.30961 on 27th of November 2019.

Investigation procedures and principles are further applied by considering Resolutions of International Maritime Organization (IMO) concerning International Standards and Recommended Applications for Safety Investigations Directed to MSC 255(84) (Casualty Investigation Code) and Resolution A.1075(28) Marine Accidents or Incidents, and European Union Directive 2009/18/EC.

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## SUMMARY



Photo 1: Location of the Accident

*Note: All times used in this report are local times (GMT +3)*

HC JETTE MARIT, a bulk carrier, came alongside at Tekirdağ Port for loading flour with big bags to be discharged at the Port of Aden in Yemen on 25th of December 2018. While two stevedore continued to stack big bags at the hold #3 of the vessel on 30th December 2018, at around 15.20, a stevedore fell head down from approximately six meters into the gap between flour bags at the corner of the hold and bulkhead of the hold. The casualty was hospitalized after the accident but died on 31st of December 2018, despite all the medical interventions.

Following the accident investigation, it was evaluated that the accident took place when the casualty's foot was tripped on the grips, which were used to handle/carry big bags, and he wanted to hold the wide paper attached on bulkheads/wings and bottom of the hold while falling. It was also found that the casualty, the stevedore, did not use his personal protective equipment properly during loading operations. Furthermore, it has been noted that the casualty was not been properly pulled out of the place where he had fallen.

Based on the results of the accident investigation, recommendations were directed to the Ship Operator, Port and the Port Operators Association of Turkey (TURKLIM).

## SECTION 1 – FACTUAL INFORMATION

### 1.1 Information Regarding the Vessel

#### HC JETTE-MARIT

Flag	Antigua and Barbuda
Classification Society	Registro Italiano Navale (RINA)
IMO Number	9509255
Ship Type	Bulk Carrier
Owners	IMM Shipping Gmbh & Co KG
Operator	Zeaborn Shipping Gmbh & Co KG
Place and Year of Build	Zhejiang Hongxin Shipbuilding Cp. Ltd. / 2009
Gross Tonnage	14.909
Length Over All	159,9 meters
Main Engine Power/Maker	5180 kW (6946 BG) / MAN - B&W 7S35MC

The bulk carrier HC JETTE-MARIT was built in 2009. Its' length overall is 159.9 m, the breadth moulded is 24 m and the depth is 13.6 m. The vessel has five holds. The vessel is equipped with one main engine with a power of 5180 KW, and with three diesel generators and one emergency generator.



Photo 2: HC JETTE-MARIT

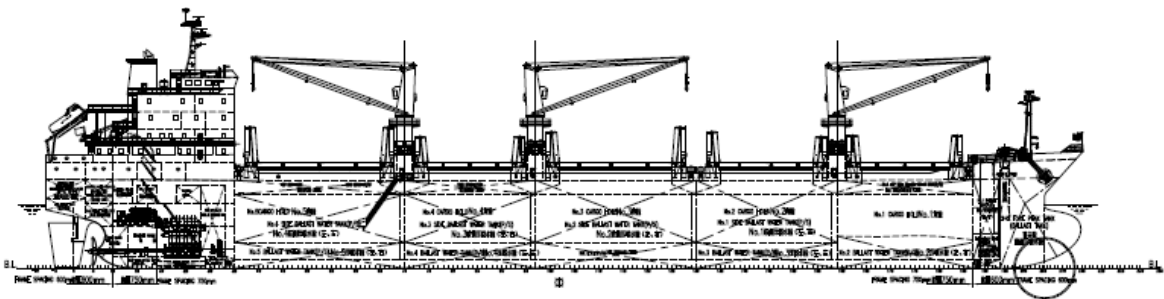


Photo 3: General Arrangement Plan of HC JETTE-MARIT

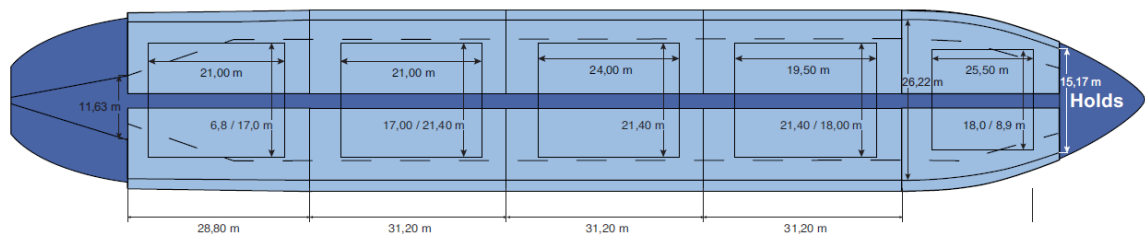


Photo 4: Hold Dimensions of HC JETTE-MARIT

## 1.2 Information Regarding Navigation

### HC JETTE-MARIT

Previous Port of Call	Dakar/Senegal
Next Port of Call	Aden/Yemen
Number of Passanger	-
Number of Crew	16
Minimum Safe Manning	12
Type of Navigation	International Voyage
Cargo Information	Wheat Flour Bagged

## 1.3 Information Regarding the Accident

Date and Time of Accident	30.12.2018 / 15:20
Type of Accident (IMO)	Very Serious Marine Casualty
Classification of Accident	Occupational Accident
Place of Accident	Tekirdağ Port
Injured/Death/Lost	1 Dead
Damage	None
Pollution	None

## 1.4 Environmental Conditions

At the time of the accident, the wind was calm and the sea was still and the visibility was clear.



## **1.5 Manning of the Vessel and Key Personnel**

When the Minimum Safe Manning Certificate was examined, the vessel was observed to have been equipped according to the requirements for the international voyage. On the day that accident occurred, there were 16 crew on board, including the Master. The certificate of competencies of the crew is in compliance with the aforesaid navigation zone and the tonnage class of the vessel.

### **1.5.1 Master**

The Master of the HC JETTE-MARIT was 32 years old at the time of the accident. He has 14 years of sea experience. He has six years of experience in the current company and has been a Master for the last two years.

### **1.5.2 Stevedore, the Casualty**

The casualty was 60 years old at the time of the accident. The training records of the casualty reveal that he completed the 40-hours program of Stevedore for Port Operations at Hazardous and Very Hazardous Works between 01st - 5th June 2016 and received a course completion certificate. He was also certified on 28.11.2018 by completing the first eight-hour of the 12-hours Basic Training of Occupational Health and Safety, stipulated in Article 11 of the Regulation on the Procedures and Principles of Occupational Health and Safety Training of Employees (within the topics specified in Annex 1), held by the competent authority. He was also certified on 07.04.2018 by completing the first four hours of 12 hours of Occupational Health and Safety training, Ergonomics, Physical, Chemical, Biological Risk Factors and Hygiene, held by the same competent authority. He had been working as a stevedore at the same company for nearly seven years under six-month contracts.

### **1.5.3 Eye Witness Stevedore**

The witness who was 41 years old at the time of the accident, started working at the port 15 days ago before the accident as a stevedore. He had never worked in such kind of work before. He was trained on the work he did.

### **1.5.4 Crane Operator**

The crane operator who was assigned in loading operations to hold no. 3, was 46 years old at the time of the accident. He stated that he had a crane operator certificate since 1991. He

stated that he obtained a crane operator certificate from a private company in 2009 when the certificate he acquired in 1991 was revoked in 2003 as per the legislation.

## **1.6 Casualty's Cause of Death**

The Autopsy Report of the casualty stated that no alcohol was found in the blood, but 90 ng/ml of metoclopramide, 67 ng/ml of lidocaine, 10 ng/ml of Midazolam, 42 ng/ml of Ranitidine, Laudanine and Levetiracetam were found among the drugs, stimulants and active pharmaceutical ingredients in his system. However, the active pharmaceutical ingredient discovered were not in toxic concentrations but within a therapeutic dose.

The Autopsy Report also states that the casualty's death was caused by skull fractures due to a head injury caused by falling from a height, as well as extensive brain haemorrhage and brain tissue damage.

## **1.7 Safety Management System**

A Safety Management Certificate (SMC) was issued by the Class Society on 11.02.2016 for 5 years. A Document of Compliance (DOC) was issued by the Class Society on 14.08.2017 for 5 years.

## SECTION 2 – NARRATIVE

*Note: The sequence and time of the incident that leads to the marine accident under investigation and the location of people mostly depend on the eyewitness statements and interviews.*

### 2.1 Sequence of Events and Subsequent Events

During the interview with the stevedore who was next to the casualty at the time of the accident, he stated that their work routines start at 8:00 A.M. and end at 8:00 P.M. They started to work at eight o'clock in the morning on 30th December 2018, and after the lunch break, the casualty and the other stevedore who was with him resumed stacking at hold #3.

During the accident, the casualty was on the aft bulkhead of the hold and the other stevedore was on the other end of the sling. The stevedore was on the other end of the sling heard a noise while he was not looking at the casualty and when he looked over, he saw below the casualty's knee and witnessed him fall head down into the gap between the cargo and bulkhead of the hold. The other stevedore who was working with the casualty inside the hold reported the accident to the person who was in charge of loading operations. As soon as the operations responsible heard of the accident, he stopped the loading operations and requested his colleagues to call 112 Emergency Service before entering into the hold.

The gap where the casualty had fallen down was 5 big bag height, approximately 6 meters (one big bag height is 1.2 meters). The crane operator of the vessel went down by about 3.6 meters into the gap where the stevedore had fallen and checked whether he could pull the stevedore out there (Photo 5). When the crane operator realized that it was not possible to pull the stevedore out of the gap where he had fallen only by himself, he climbed up and sought help from other stevedores. Other stevedores and workers who had been attaching the cargo to the slings on the trucks on the shore subsequently went down the hold.



Photo 5: The Gap Where the Casualty Fell

The crane operator went down next to the casualty and asked the people on deck to dangle a rope. The workers above then dangled a four or five meters long rope into the gap where the casualty had fallen and pulled him out the gap by rope. The stevedore stated that the casualty had difficulty breathing and he was bleeding from his mouth and nose when he was pulled out the gap. The other stevedore who was working with the casualty inside the same hold stated that he arranged the casualty's tongue appropriately to prevent fall back into the throat and block the airway. They tried to keep the casualty in a position where he could breathe freely until the ambulance arrived, and tried to clear the blood from his nose and mouth.

Based on the stevedore's statements who pulled the casualty out of the gap where he had fallen, one ordinary seaman among the ship's crew also participated in pulling out the casualty where he had fallen. The ordinary seaman, together with the stevedores, first responded to the casualty but no officers from the vessel were involved in the rescue operations.

112 Emergency Health Team arrived at the scene approximately 5-10 minutes after the accident and first responded to the casualty who was lying on the cargo inside the ship's hold. The casualty was subsequently transferred to shore by the ships' crane with the

stretcher. Afterwards, he was taken to the ambulance and transferred to Tekirdağ State Hospital.

The casualty had emergency surgery at the hospital. The casualty died on 31st of December 2018 while his treatment was continuing in the intensive care unit.

## **2.2 Preparation of Ship for Loading and Loading Operation**

The big bags loaded on board the ship weigh approximately 1 ton and contain 20 flour bags of 50 kg each. Big bags on the trucks that are approached alongside the ship during loading operations are tied in two rows to the specially built loading platform<sup>1</sup>, which is attached to the hook of the ship's crane and each row contains eight big bags. Afterwards, bags are hoisted with the ship's crane and lowered down into the ship's hold. The stevedores inside the hold push the big bags that are lowered down into the hold, to the point where they will be stacked (Photo 6, 7, 8).

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<sup>1</sup> The equipment used for loading and unloading operations are required for safe and fast handling of cargo without any damage. There are many types of equipment used depending on the type and packaging of cargo.





Photo 6: The Moment of Hoisting the Cargo from the Trucks Alongside

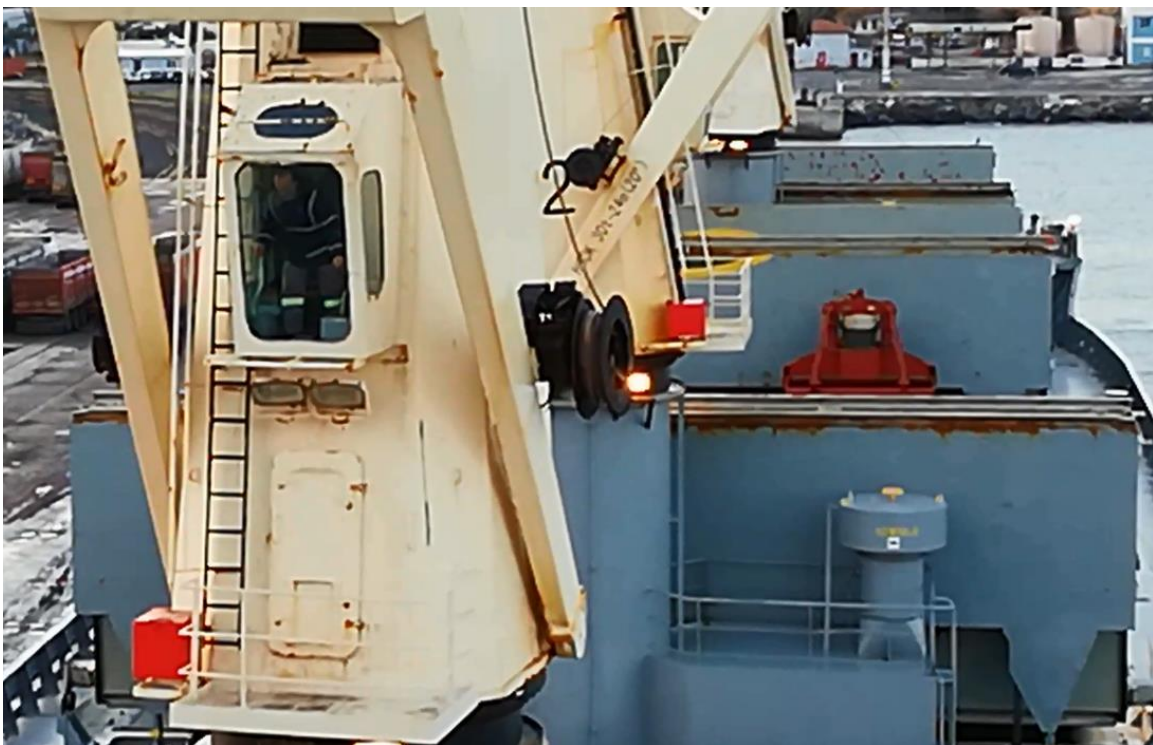


Photo 7: Photo of the Crane Operator While Lowering the Cargo inside the Hold

Brown papers are attached to the wings of hold, fore and aft bulkheads and the bottom of the hold to avoid moisture within the hold and the resultant dampness from spoiling the wheat flour during navigation (Figures 8, 9, 10).



Photo 8: Photo of the Lowering Down of the Cargo Inside the Cargo Hold and Paper Attached to the Bottom of the Hold

## SECTION 3 – ANALYSIS

*While analysing the marine accident under investigation, it is aimed to identify and determine the factors that caused the accident by considering the sequence of events and data obtained during the investigation and as well as to draw useful conclusions that lead to the safety recommendations on root causes.*

### 3.1 Purpose

This marine safety investigation aims to make recommendations for the prevention of similar potential marine accidents or incidents in the future by identifying the circumstances and safety factors of accidents.

### 3.2 Probable Cause of the Accident

The cause why the casualty fell down into the gap between the big bags and the aft bulkhead of the hold was not entirely determined and probabilities were evaluated based on the information and documents obtained from the accident investigation.

When hold #3 was entered for accident investigation, it was found that the big bags to be loaded and the blue/white coloured grips that are used to attach the bags to the cargo slinger frequently caused the problems of tripping when moving inside the hold. This was considered to be the main cause for the stevedore to fall into the gap inside the hold (Photo 9).





Photo 9: Blue/White Coloured Grips that are Considered to be the Probable Cause for the Fall of the Casualty

On the other hand, it was reported during the accident investigation that the stevedore fell down with the paper that was attached to absorb moisture from the cargo. The gap in which the casualty fell down was covered with paper, attached on the aft bulkhead to absorb moisture from the cargo (Photo 9, 10). This suggested that the casualty might have tried to hold on to paper with reflex or might have leaned on paper, assuming that there was support behind the paper, while he was falling by being tripped to the grips of big bags. As such, failure to attach the paper without leaving any space on the bulkhead of the hold was considered to be another factor contributing to the accident.



Photo 10: Papers Attached for Absorbing the Humidity of the Cargo

The Autopsy Report of the casualty, on the other hand, stated that no alcohol was found in the blood, but 90 ng/ml of metoclopramide, 67 ng/ml of lidocaine, 10 ng/ml of Midazolam, 42 ng/ml of Ranitidine, Laudanine and Levetiracetam were found among the drugs, stimulants and active pharmaceutical ingredient in his system. The active pharmaceutical ingredient discovered were not in toxic concentrations but within a therapeutic dose. As a result of consultation with the casualty's next of kin, no concrete information was gathered related to the possibility of vertigo caused by the active pharmaceutical ingredient found in the autopsy report or the possibility of casualty's illness(es) existing at the time of the accident that might have caused him to fall down the gap.

### **3.3 Loading Operation**

During loading, the two stevedores at hold # 3 are assigned for the proper stacking of cargo in the ship's cargo hold and for removing the grips of the loaded cargo that are attached to the slings. A crane operator is also responsible for taking the cargo that is brought to the shore by the ship's crane and lowering them down the ship's hold properly. The loading operations were monitored and two stevedores and a signalman in contact with the crane operator were noted to be inside the hold during the on board accident investigations on 4

January 2019 following the accident (Photo 11). During the accident, however, no signalman was present for communication and coordination between the stevedores who were working inside the hold and the ship's crane operator.



Photo 11: Signalman who Guides stevedores and Enables the Coordination with the Crane Operator

The accident took place while the stevedores were loading the section underneath the hold coaming (Photo 12). Under normal circumstances, it is necessary to establish healthy communication between the stevedores inside the hold and the crane operator during such loading and to keep a signalman available for the communication between the stevedore and the crane operator. Since there was no signalman at the time of the accident, the stevedores inside the hold tried to communicate with the crane operator while loading on the other hand. This was considered to be another factor that distracted the essential concentration of the stevedores on loading at the time and thus, contributed to the accident.





Photo 12: Distance between the Hatch Coaming and the Aft Bulkhead of the Hold

### 3.4 Use of Personal Protective Equipment

The helmet is probably one of the most important personal protective equipment. Helmets are manufactured with crash absorbent characteristics to avoid concussions and severe head injuries caused by falling down or hitting the head. Under the accident investigation, the documents from the port showed that the casualty signed a Personal Protective Equipment Usage Instruction, Commitment and Delivery form. The Personal Protective Equipment Commitment and the Delivery form signed by the casualty includes a safety helmet as part of the personal protective equipment.

Under the accident investigation, the stevedore who worked with the casualty stated that they used the safety helmets regularly. However, it was considered after the accident that if the casualty had used his helmet, he would not have suffered from head injuries or the helmet might have reduced the impacts. It was thought that the casualty likely tripped on the bag grips, and then fell down into the gap between the flour bags and the bulkhead of the hold whilst his helmet dropped from his head. This can be explained by the fact that the casualty failed to secure his helmet and that the strap that prevents the helmet from being tossed out was not properly fastened under the chin.

### 3.5 Fatigue

The working order of the casualty and the other stevedore accompanying the loading is to start working at 8:00, to take a lunch break between 12:00-13:00 and to call off at 20:00. In the interview with the worker who witnessed the accident, it was noted that they took tea breaks outside of such hours, where appropriate. He added that these tea breaks might sometimes take 30 minutes, sometimes one hour, sometimes three hours, as conditions permit.

Taking into account the time of the accident, it is noticed that the accident took place after around 2.5 hour-work following the lunch break. According to the statement of the stevedore who was with the casualty at the time of the accident, no pre-accident fatigue or anything unusual was noticed visually from the casualty. In addition, the crane operator stated in the interview that he saw no indication of fatigue from the casualty. Based on such information, fatigue was not considered to be the factor that affected the accident.

### 3.6 Probability of the Effect of Papers Attached on the Bulkhead of the Hold on the Accident

Pictures 13 and 14 show the brown papers said to be attached to absorb the moisture of the flour bags loaded inside the hold. Since the hold bulkheads are indented (Photo 13), some part of the bulkheads were in full contact with the paper, and on some part there were spaces behind, such as the gap where the casualty had fallen. Since this paper did not fully touch the entire aft bulkhead, it was considered to give an impression of imaginary support behind it, even if the back of the paper did not contact the bulkhead and normally there was a gap. This illusion suggested that it might be a factor contributing to the falling of the casualty together with the paper when he was falling down into a gap probably caused by being tripped over the grips of big bags. This illusion suggested that it might be a factor contributing to the falling of the casualty together with the paper when falling down into a gap probably caused by being tripped over the grips of big bags. In this context, it is considered that papers, attached with the aim of absorbing the humidity of the cargo, should have been attached to the bulkhead, so that there would be no gaps between.

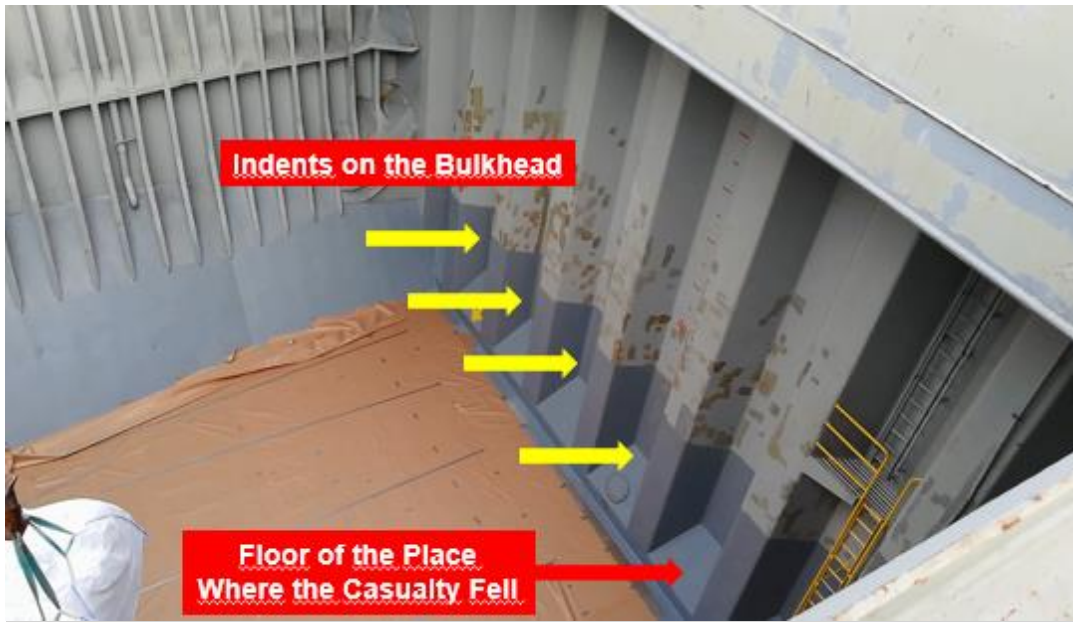


Photo 13: Indents at the Bulkhead and Bottom of the Hold Where the Casualty Fell



Photo 14: View of the Place from the Hatch Coaming Where the Casualty Fell





Photo 15: The Place Where the Casualty Fell



Photo 16: The Gap Where the Casualty Fell and the Grips of the Big Bags

### **3.7 Tool Box Meeting**

The Master is responsible for fulfilling all the responsibilities of the ship before and during the loading and unloading operations at the port. Similarly, the Terminal or the Shipper Representative should be aware of their respective obligations. The necessary safety standards for the operation must be fully acceptable to both parties to fulfil these requirements.

Terminal/Shipper Representative and Master or an authorized officer must hold a "Tool Box Meeting" to identify the risks and take precautions prior to and during the operations to maintain a safe environment and the outcomes must be periodically followed up throughout the operations by developing a safety checklist. If basic safety requirements are found to be failed during the observations, both sides may stop the loading operations until the problem is fixed.

As provided in the Safety Management Manual forms and checklist, the relevant section in the document dated 25 December 2018 issued by the ship indicating that a safety control (tool box) meeting was held with the stevedore/operation officer before starting loading operations was marked. However, the vessel logs did not presently include any information/documents on the details of such meeting.

### **3.8 Recovering of the Casualty from Where He Fell**

Following the accident, the stevedore fell upside down into the gap between the cargo and the bulkhead, and the stevedore near the casualty, notified the person who was working on the deck as operations responsible. As soon as the operations responsible learned the accident, he stopped the loading operations. He requested his colleagues to call 112 Emergency Service before going down into the hold. The operations responsible went down by about 3.6 meters (three big bags height) into the gap where the stevedore had fallen and checked whether he could pull the stevedore out there. When the operation responsible realized that the gap where he had fallen was 60-70 cm wide and it was not possible to pull the stevedore out the gap by himself, he climbed up and sought help from the crane operator and other port workers who had been fastening cargo on the trucks on the shore. With the arrival of the crane operator and other port workers, they started to rescue the casualty from where he had fallen. Accordingly, the crane operator went down near the casualty, pulled



the casualty up from the gap where he had fallen onto the big bags located at the last row where the cargo was loaded inside the hold, with the rope that other workers dangled down, and tried to keep the casualty in a position where he could breathe freely until the ambulance arrived, and tried to clear the blood from his nose and mouth. In the meanwhile, one ordinary seaman among the ship's crew participated in pulling out the casualty where he had fallen. However, 1st Officer/officer in charge of loading operations on board were unaware of or were not involved in the process of pulling out the casualty from the gap where he had fallen onto the last row in the hold where the cargo was stacked. On the other hand, no assistance was asked from the Ports or the ship's crew to pull the casualty out from the gap. This can be explained by the insufficient communication and coordination due to the different working language of the ship crew from that of the stevedores.

Based on the Master's statement, the ship's crew offered the stevedore to pull the casualty out of the hold by the ship stretcher while waiting for first aid to be applied to the casualty. However, since the stevedores were waiting for the ambulance and the first aiders to arrive, they did not benefit from the offer by the ship.

In case of head trauma, expert teams must remove the casualty where he is by using proper tools. Because even though the survivor was considered to have suffered a head injury, there may be other fatal injuries not visible. These life-threatening injuries include a neck fracture (if not removed with proper intervention, even if the patient survives, he may still have to live dependent to bed because he may have a spinal cord injury), injury/bleeding from a fall in the internal organs, the swallow of bleeding from head/neck area into lungs with respiration when the patient is placed facing down and complete cessation of difficult but continued respiration, the leak of gastric stuff into the lungs as the stomach becomes empty when the patient is placed face down and the patient's state of consciousness should be monitored until professional teams arrive at the scene. If the casualty can be accessed, he must be observed, first by addressing, then with gentle touches to the shoulder/body whether to respond or not and if he cannot be reached, it must be observed whether he reacts to the voice.

If the airway can be checked, his breathing must be maintained; if there is visible bleeding, the bleeding must be tried to be controlled by proper precautions. Even if the patient can be pulled out where he has fallen, as the medical teams transport him in the best conditions,

pulling out the patient unconsciously or without proper tools before the medical team arrives may cause secondary injuries and strokes.

Other stevedores/his colleagues made a great effort in good faith to have the casualty pulled out where he had fallen as soon as possible. However, given that the above explanations, it was considered that the casualty was not duly pulled out the gap where he had fallen and the stevedores must be trained for appropriate approach.

On the other hand, it is clear that the ship crew would add value to the rescue of the casualty in managing the process of pulling out the casualty onto the last row of cargo loaded inside the hold. Based on their knowledge and experience in first aid to the casualty and in rescuing the casualty from where he had fallen by the ship's stretcher, it is assumed that the ship's crew would pull out the casualty where he had fallen more duly than the stevedores. The late involvement of the ship's crew in the rescue operations can be explained by the officer in charge of the loading or by the ship's master authorized to make a decision are being informed late. Also, the different working language of the ship crew from that of the stevedores was considered to affect the involvement of the ship's crew in rescuing the casualty from where he had fallen.

### **3.9 Risk Assessment for Type of Cargo and Loading Conditions**

Under the accident investigation, the ISM risk assessment form for the loading operations from HC JETTE-MARIT vessel indicates that a general risk assessment was mainly done on loading/unloading equipment and staff. However, no particular risk assessment for the features of such cargo was seen to be documented. Due to the specific nature of the cargo, gaps occurred between the hold and the cargo and the casualty fell down from this gap.

This gap was relatively covered by attaching paper to prevent the cargo from being moisturized during navigation on the aft and fore bulkheads when the ship was being prepared for loading. Given that this gap contributed to the accident, it was considered that the current risk assessment did not foresee that hazard. On the other hand, another aspect to consider in a risk assessment was that the grips used to handle cargo bags in that loading might be tripped on while walking on the cargo.

However, it would be beneficial to include in the risk assessment that the authorized ship's crew who will accompany loading should immediately help the casualty properly, in the

event of injuries or similar dangerous incidents that may take place during loading and unloading operations.

## SECTION 4 – CONCLUSIONS

**4.1** The ISM risk assessment form for the loading/unloading operations from HC JETTE-MARIT vessel indicated that a risk assessment was mainly done on loading/unloading equipment and staff but no particular risk assessment related to the cargo to be loaded/unloaded was done.

**4.2** The paper that was attached on the wings and aft/fore bulkheads of the hold to absorb moisture from the cargo that may form during navigation was attached by leaving spaces due to the indented form of the aft bulkhead.

**4.3** The casualty, who worked as a stevedore, fell head down from approximately six meters into the gap between the big bags and bulkhead of the hold and was seriously injured.

**4.4** Although the exact cause of falling down of the casualty into the gap between the big bags and bulkhead was not clearly known, it was most likely that he fell down by being tripped to the grips of big bags or by the holding reflex to the papers that were attached on the aft bulkhead.

**4.5** The fact that the casualty, stevedore, hit his head during or after falling into the gap between the cargo and the bulkhead of the ship suggested that the casualty failed to use his helmet properly, one of the most important personal protective equipment.

**4.6** His colleagues made great effort in good faith to have the casualty pulled out where he had fallen as soon as possible but this was considered to bring along some vulnerabilities in responding to the casualty by using the right methods.

**4.7** No assistance was sought from the ship's crew during or after the casualty was pulled out from the gap where he had fallen with the help of his colleagues.

**4.8** The ambulance that was called by the port following the accident, arrived shortly in 5-10 minutes and the casualty was taken to the hospital. However, despite all the interventions, the casualty died one day after the accident.

**4.9** There was no signalman present to enable communication and coordination between the stevedores and the crane operator at the time of the accident.

## SECTION 5 – RECOMMENDATIONS

*The following recommendations are directed by taking into account the analysis and conclusions obtained from the accident investigation.*

### **The Ship Operator Company is recommended to:**

20/05-21 Update the risk assessment form for the loading/unloading operations for the type of cargo to be loaded/unloaded according to the risks on stevedores that these cargos can cause and update the relevant section of the safety management manual accordingly;

### **The Port Company is recommended to:**

21/05-21 Ensure that stevedores continuously and properly use personal protective equipment throughout the loading/unloading operation and the Occupational Health and Safety (OHS) specialist(s) check so at appropriate intervals,

22/05-21 Ensure that proper tools/equipments are used to recover the survivors from the accident scene at the port/on board and stevedores are trained for first aid,

### **The Port Operators Association of Turkey (TÜRKLİM) is recommended to:**

23/05-21 Circulate this marine safety investigation report to their member ports.

**ANNEX 1: Regulation on the Procedures and Principles of Occupational Health and Safety Training to Employees, Annex-1 Table of Training Topics**

<b>TRAINING TOPICS</b>
<p><b>1. General issues</b></p> <ul style="list-style-type: none"> <li>a) Information related to labour legislation,</li> <li>b) Legal rights and responsibilities of employees,</li> <li>c) Workplace cleaning and order,</li> <li>d) Legal consequences from occupational accidents and diseases,</li> </ul>
<p><b>2. Health issues</b></p> <ul style="list-style-type: none"> <li>a) Causes of occupational diseases,</li> <li>b) Implementing disease prevention principles and prevention techniques,</li> <li>c) Biological and psychosocial risk factors,</li> <li>d) First aid,</li> <li>e) Harms and passive effects of tobacco products,</li> </ul>
<p><b>3. Technical issues</b></p> <ul style="list-style-type: none"> <li>a) Chemical, physical and ergonomic risk factors,</li> <li>b) Lifting and carrying by hand,</li> <li>c) Flaming, explosion, fire and fire protection,</li> <li>d) Safe use of work equipment,</li> <li>e) Working with screened devices,</li> <li>f) Electricity, its hazards, risks and measures,</li> <li>g) Causes of occupational accidents and implementation of prevention principles and techniques,</li> <li>h) Safety and health signs,</li> <li>i) Use of personal protective equipment,</li> <li>j) General rules on occupational health and safety and safety culture</li> <li>k) Evacuation and rescue,</li> </ul>
<p><b>4. Other topics</b> (based on the nature of the work, working at height, working in enclosed spaces, working in environments where there is a radiation risk, welding work, working with equipment that poses special risks, possible health risks from carcinogens and similar)</p> <ul style="list-style-type: none"> <li>a) ...</li> </ul>

ANNEX 2: HC JETTE-MARIT Pre-Stowage Plan

Stowage Plan 22.000mt Bulk Carrier

Ship's name : **HC JETTE - MARIT** PRE-STOWAGE PLAN DATE: 24-December-2018

Call Sign	V2GU5	Winter Draft	9.57 M	TPC SD	33 MT	<b>Loading port:</b> Tekirdag <span style="float: right;">18000.000 MT</span> <b>Disch. Port:</b> Aden <span style="float: right;">18000.000 MT</span> <b>Cargo:</b> Wheat Flour Bagged <span style="float: right;">18000.000 MT</span> <b>Total weight:</b> <span style="float: right;">18000.000 MT</span>
Official No.	5129	Freeboard	3818 mm	LOA	159.9 M	
IMD No.	9509255	FW Allowance	216 mm	LBP	149.80 M	
Built	23-Jul-09	Winter DWT	21416 MT	Breadth	24.00 M	
GRT	14 909	Displacement	27932 MT	Depth	13.60 M	
NRT	7874	Ship Light Weight	6516.05 MT			

1st Cargo SF: \_\_\_\_\_ CUB.FT/MT SF: 1.390 CUB.M/MT  
 2nd Cargo SF: \_\_\_\_\_ CUB.FT/MT SF: \_\_\_\_\_ CUB.M/MT

Hold	Hold 5	Hold 4	Hold 3	Hold 2	Hold 1	F.P.
LP:	Tekirdag	Tekirdag	Tekirdag	Tekirdag	Tekirdag	
DP:	Djibouti	Djibouti	Djibouti	Djibouti	Djibouti	
Cargo	Wheat Flour Bagged 2nd SUPPLIER	Wheat Flour Bagged 1st SUPPLIER	Wheat Flour Bagged 2nd SUPPLIER	Wheat Flour Bagged 2nd SUPPLIER	Wheat Flour Bagged 1st SUPPLIER	
Weight	3900.000 mt	3000.000 mt	4400.000 mt	3700.000 mt	3000.000 mt	
Filled %	FILLED - 84 %	FILLED - 79 %	FILLED - 92 %	FILLED - 91 %	FILLED - 84 %	
Volume, max	6422.1 (m3)	5305.6 (m3)	6618.6 (m3)	5626.9 (m3)	4966.6 (m3)	

Departure Drafts Tekirdag      AFT 9.35    MID 9.00    FWD 8.75    DENS.: 1.015  
 Arrival Drafts Djibouti        AFT 9.20    MID 8.95    FWD 8.70    DENS.: 1.025

CHIEF OFFICER: \_\_\_\_\_      MASTER: \_\_\_\_\_

Remarks: \_\_\_\_\_      NIL

ANNEX 3: HC JETTE-MARIT Cross Section of Cargo Hold 3

