



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère de la Mobilité  
et des Travaux publics  
Administration des enquêtes techniques

# FINAL REPORT

## FATAL OCCUPATIONAL ACCIDENT ON BOARD OF THE VESSEL MV MEDI ZUOZ ON 4 APRIL 2019

DATE OF ISSUE: 26 June 2020

### ADMINISTRATION OF TECHNICAL INVESTIGATIONS

CIVIL AVIATION – RAILWAYS – MARITIME – RIVER – ROAD





**Ministry of Mobility and Public Works**

**Department of mobility and transports**

**Administration of Technical Investigations**

**Report N° AET/TM-2020/01**

**FINAL REPORT**

**Fatal occupational accident on board of the vessel MV Medi Zuoz  
on 4 April 2019**

**Administration des enquêtes techniques (AET)**

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## **FOREWORD**

In accordance with Directive 2009/18/EC of the European Parliament and of the Council of 23 April 2009 establishing the fundamental principles governing the investigation of accidents in the maritime transport sector and Luxembourg amended law dated 30 April 2008 on technical investigations in relation to accidents and serious incidents which occurred in the domains of civil aviation, maritime transport, railways and vehicle traffic on public roads, it is not the purpose of the maritime accident investigation to apportion blame or liability.

The sole objective of the safety investigation and the Final Report is the prevention of accidents and incidents.

Consequently, the use of this report for purposes other than accident prevention may lead to wrong interpretations.

**Note:** All times indicated in this report are in Turkish Local Time (LT, UTC +3), unless stated otherwise.

# CONTENTS

GLOSSARY OF ABBREVIATIONS AND ACRONYMS .....	5
1. SUMMARY .....	6
2. FACTUAL INFORMATION .....	7
2.1. ORGANISATION OF THE INVESTIGATION.....	7
2.2. SHIP PARTICULARS .....	8
2.3. VOYAGE PARTICULARS.....	9
2.4. MARINE CASUALTY OR INCIDENT INFORMATION.....	10
2.4.1. Accident details .....	10
2.4.2. Environmental details .....	11
2.5. SHORE AUTHORITY INVOLVEMENT AND EMERGENCY RESPONSE .....	11
3. NARRATIVE .....	12
3.1. SEQUENCE OF EVENTS .....	12
3.1.1. 3 April 2019 .....	12
3.1.2. 4 April 2019 / Day of the accident .....	13
3.1.3. 5 April 2019 .....	15
3.1.4. 6 April 2019 .....	15
3.2. ADDITIONAL INFORMATION .....	16
3.2.1. Cargo hold cleaning .....	16
3.2.2. Use of scaffolding tower for cargo hold cleaning .....	16
3.2.3. Scaffolding tower lifting configuration .....	17
3.2.4. Other ways to clean the cargo holds .....	18
3.2.5. Safety management system (SMS).....	18
3.2.5.1. Operator's SMS .....	19
3.2.5.2. Operator's contractor management program .....	19
3.2.5.3. Evaluation of the contractor by the operator .....	22
3.2.5.4. Risk assessment.....	22
3.2.5.5. Contractor's ship familiarization checklist.....	24
3.2.6. Designated Person Ashore (DPA).....	25
3.2.7. Statements .....	25
3.2.7.1. Written statements.....	25
3.2.7.2. Contractor .....	25
3.2.8. Video surveillance .....	26
3.2.9. Corrective actions taken by the operator.....	26

4. ANALYSIS .....	27
4.1. IMPLEMENTATION OF OPERATOR'S SMS .....	27
4.1.1. Selection of contractors .....	27
4.1.2. Formal meeting with the contractor .....	28
4.1.2.1. Safety aspects briefed during the formal meeting .....	28
4.1.2.2. Language barriers .....	29
4.1.3. Use of equipment provided by contractors .....	30
4.1.4. Supervision .....	31
4.1.5. Communication .....	33
4.1.6. Implementation of changes to the SMS .....	34
4.2. CONTRACTOR'S SAFETY CULTURE .....	35
4.3. DISSEMINATION OF SAFETY RECOMMENDATIONS .....	36
5. CONCLUSIONS .....	37
6. SAFETY RECOMMENDATIONS .....	38
7. APPENDIX .....	39
7.1. CONTRACTOR'S SHIP FAMILIARIZATION CHECKLIST .....	39
7.2. WORK ALOFT – OVERSIDE PERMIT .....	41

## GLOSSARY OF ABBREVIATIONS AND ACRONYMS

<b>AET</b>	Administration des enquêtes techniques (Luxembourg safety investigation authority)
<b>CCTV</b>	Closed Circuit Television System
<b>Cf.</b>	Confer
<b>CSO</b>	Company Security Officer
<b>DMR</b>	Designated SQE Management Representative
<b>DPA</b>	Designated Person Ashore
<b>IMO</b>	International Maritime Organization
<b>ISM</b>	International Safety Management
<b>ISO</b>	International Organization for Standardization
<b>kt(s)</b>	Knot(s)
<b>kW</b>	Kilo Watt
<b>LOI</b>	Letter of Indemnity
<b>LT</b>	Local Time
<b>m</b>	Metre
<b>MMEWP</b>	Multidirectional mobile elevating work platform
<b>MV</b>	Motor vessel
<b>PPE</b>	Personal Protective Equipment
<b>SMS</b>	Safety Management System
<b>SOLAS</b>	Safety of life at sea
<b>SQE</b>	Safety, Quality and Environment
<b>T</b>	Ton
<b>TK</b>	Turkey
<b>TSIB</b>	Transport Safety Investigation Board (TK)
<b>UTC</b>	Universal Coordinated Time

# 1. SUMMARY

On 3 April 2019, the bulk carrier MV Medi Zuoz dropped anchor at number one anchorage area at Iskenderun, Turkey (TK), after having discharged mixed metal scrap at Iskenderun port.

A cleaning team boarded the ship to clean all the cargo holds before the vessel was scheduled to continue its voyage to the next loading port. The company executing the cargo hold cleaning used two scaffolding towers<sup>1</sup> (5 'lifts') to reach the upper parts of the holds during the cleaning process.

The next day, on 4 April 2019, the hold cleaning was continued and the assembled scaffolding tower was to be moved as a whole from one cargo hold to the next by crane with the ropes connected to lift the tower. After the scaffolding tower was lifted, the deck crew noticed that the structure appeared to be unstable and the tower was put back on the tank top.

A shore contract worker climbed up the scaffolding tower to properly attach the ropes to the crane so that the tower could eventually be moved to the next hold. While climbing up the scaffolding tower, the unsecured contract worker lost balance, fell on the tank top and was seriously injured. It was later established that one of the two ropes used to connect the tower to the crane hook had broken.

The accident was immediately reported and emergency actions taken to transfer the injured worker to shore and hospital. The worker was declared dead at a nearby hospital.



**Figure 1.1** - Picture taken on scene after the accident

Based on the findings of the safety investigation, two recommendations were issued by the AET.

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<sup>1</sup> A scaffolding tower is an independent scaffold consisting of four vertical standards connected longitudinally and transversely or two frames in plan connected transversely to create a scaffold of one bay.



## **2. FACTUAL INFORMATION**

### **2.1. ORGANISATION OF THE INVESTIGATION**

This marine casualty involved two substantially interested states:

- Turkey – Location of the casualty and nationality of the victim;
- Luxembourg – Flag State of the MV Medi Zuoz.

In the afternoon of 8 April 2019, telephone calls were made between the Transport Safety Investigation Board (TSIB), Department of Marine Casualty Investigations Turkey and the “Administration des enquêtes techniques (AET)”, Luxembourg, to discuss who would be the lead investigating state.

The TSIB had deployed a team of investigators to the accident site to do the onsite investigation on 6 April 2019 and suggested that the AET should take the lead of the investigation. The TSIB offered its assistance to gather any further information needed from Turkey.

The information collected by the TSIB was sent to the AET on 3 May 2019.

Further, the TSIB established contact with the local police authorities to obtain the post mortem report, the police statements and photographs taken at the scene to assist the investigation. These documents were provided to the AET by the end of 2019.

## 2.2. SHIP PARTICULARS



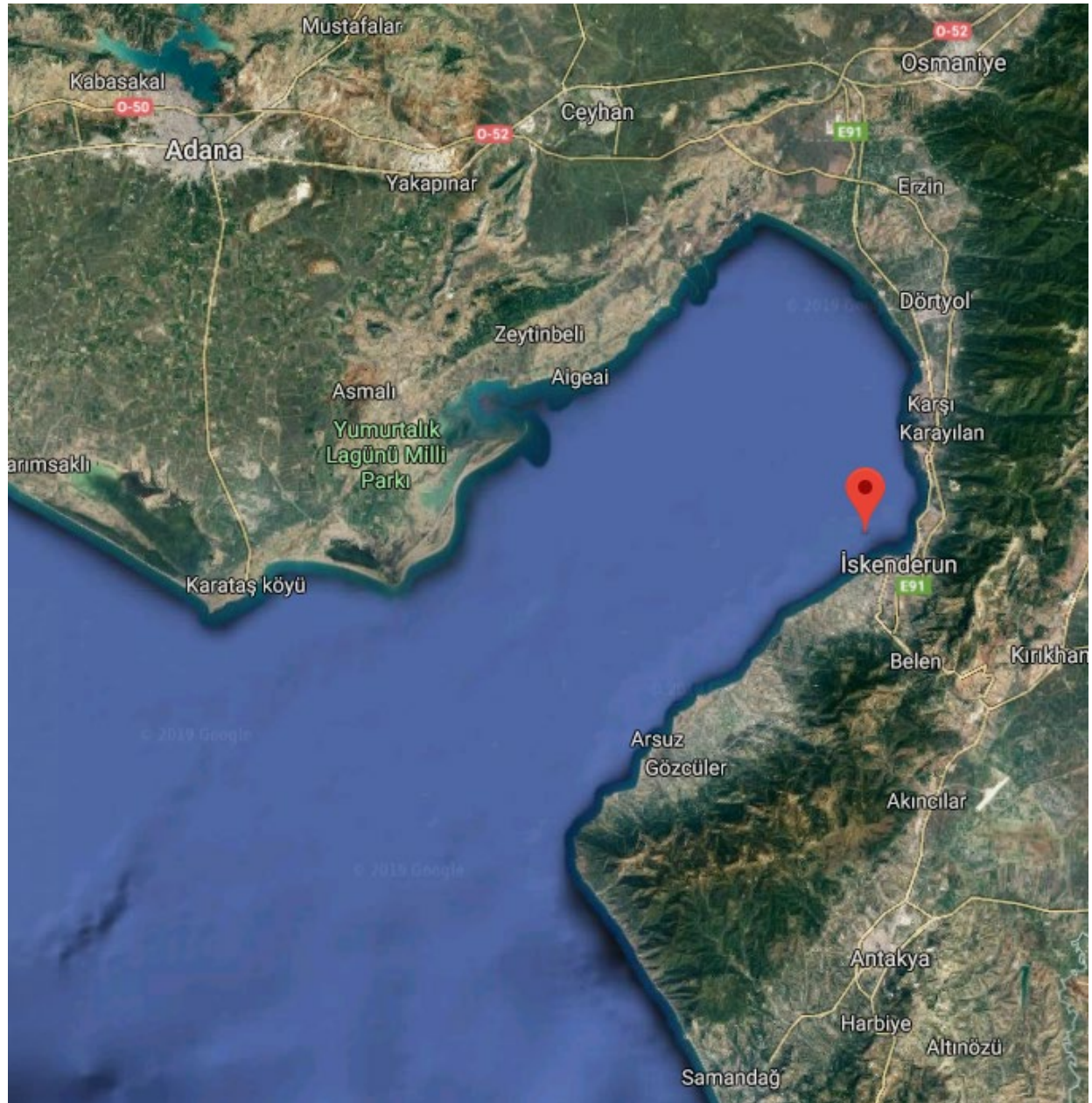
**Figure 2.1** - Photo taken at anchorage  
(Source: operator)

Ship Name:	MV Medi Zuoz
Flag:	Luxembourg
IMO N°:	9789910
Call sign:	LXZL
Type:	Bulk Carrier
Built:	2017
Builder:	Oshima Shipbuilding Co.
Hull material:	Steel
Hull Info:	Double hull
Length overall:	199.95 m
Breadth:	32.26 m
Depth:	18.33 m
Draught:	12.85 m
Gross tonnage:	34049 t
Engine power and/or type:	1 x 7260 kW - Diesel
Service speed:	14.3 kts
Minimum safe manning:	11

### 2.3. VOYAGE PARTICULARS

On 3 April 2019, the bulk carrier MV Medi Zuoz discharged mixed metal scrap at Iskenderun port, Turkey. The previous port of call was Antwerp, Belgium. At 16:45, the vessel dropped anchor at number one anchorage area at Iskenderun.

The vessel's final anchorage position was 36°36'.81 N, 36°08'.01 E.



**Figure 2.2** – MV Medi Zuoz's final position (Iskenderun, TK)  
(Source: Google Earth)

## 2.4. MARINE CASUALTY OR INCIDENT INFORMATION

### 2.4.1. Accident details

Time and date: At 23:35 on 4 April 2019

Persons on board: 31

Location of the accident: Number one anchorage area, Iskenderun (TK)

Location of the victim: Cargo hold number 4



**Figure 2.3** - Cargo hold number 4  
(Source: operator)

Deceased: Worker,  
External contractor,  
Male, Aged 44, Turkish National,

Cause of death: Multiple trauma

Experience of the victim: Approximately 20 years in different cleaning companies

#### 2.4.2. Environmental details

Environmental summary at the time of the accident:

Sea state:	Calm, no movement of ship on even keel
Wind:	Force 2, variable
Precipitation:	None
End of civil twilight <sup>2</sup> :	19:26
Lighting conditions:	Darkness, artificial lighting
Visibility:	Very good
Air temperature:	12°C
Water temperature:	18°C

#### 2.5. **SHORE AUTHORITY INVOLVEMENT AND EMERGENCY RESPONSE**

At the time of the accident, none of the vessel's crew was present in cargo hold number 4. Immediately after the accident, two crew members descended into the cargo hold number 4 and provided first aid to the victim.

Two minutes after the accident, the Master called the local coast guard to provide medical assistance.

Thirty-five minutes after the accident, the victim was lifted by stretcher using the crane number 3 to the main deck port side. The crew members continued to provide artificial breathing by oxygen resuscitator during the lifting. The life support actions of the victim were continued up to the arrival of the coast guard.

Fifty minutes after the accident, the Turkish coast guard boat was alongside the MV Medi Zuoz. The victim was transferred to the boat and directly brought ashore.

After being landed ashore in the port of Iskenderun (TK) and transported to a nearby hospital, the victim was declared dead by a doctor.

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<sup>2</sup> Twilight is the time between day and night when the sun is below the horizon but its rays still light up the sky. During civil twilight, the geometric center of the Sun's disk is at most 6 degrees below the horizon. In the evening it begins at sunset and ends at dusk.



### 3. NARRATIVE

#### 3.1. SEQUENCE OF EVENTS

##### 3.1.1. 3 April 2019

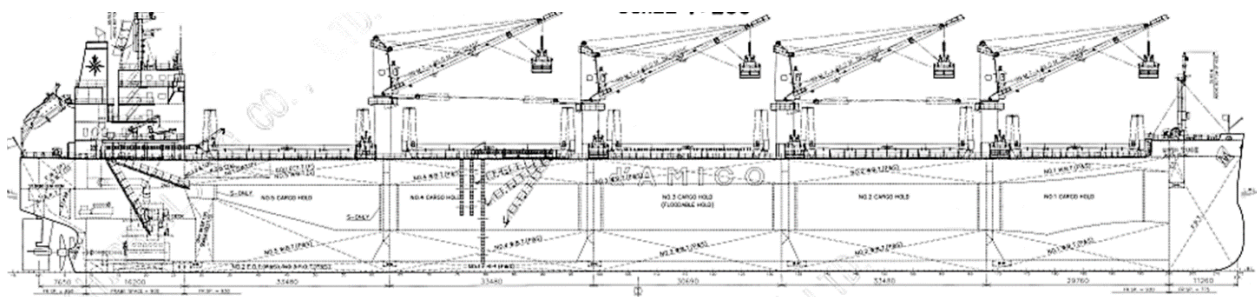
At 16:45, the bulk carrier MV Medi Zuoz dropped anchor at number one anchorage area at Iskenderun (TK), after having discharged mixed metal scrap at Iskenderun port. The vessel's final position was 36°36'.81 N, 36°08'.01 E.

At 18:30, a cleaning team boarded the vessel to perform the cargo hold cleaning operations. The contractor brought on board two scaffolding towers and personal protective equipment (PPE).

From 19:00 to 19:30, the Master and the Chief Officer held a formal meeting with the contractor's team leaders who were current in English to discuss the following aspects of the job: risk assessment and related control measures, 'tool box' meeting, coordination and control, smoking regulations, emergency response, garbage collection and hygiene requirements on board, etc. Non-English speaking workers were given a real time verbal translation by the contractor's team leaders.

After the meeting, the operator's "*Contractor's ship familiarization form*" was presented to the contractor's team and the "*Work aloft – over-side permit*" was presented to the team leaders for signature, as required by the ship's procedures. None of the documents was signed. The Chief Officer noted on the presented documents that the contractor's team refused to sign, the reasons for refusing were not known.

After 19:30, the cleaning team prepared its equipment and assembled one scaffolding tower in cargo hold number 2 and one in cargo hold number 4 under the supervision of the Chief Officer and with the support of 3 deck ratings.



**Figure 3.1 – MV Medi Zuoz, general arrangement plan**  
(Source: operator)

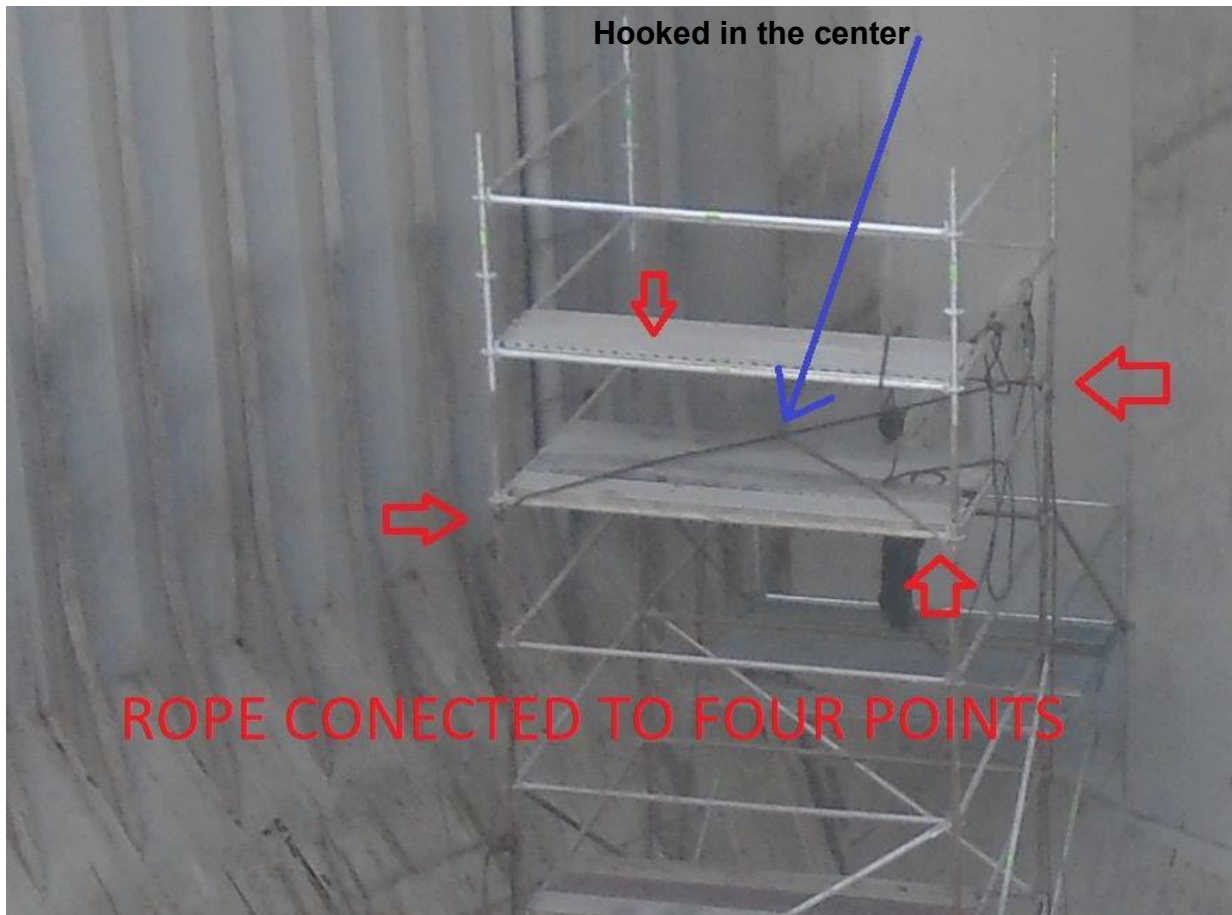
### 3.1.2. 4 April 2019 / Day of the accident

At 01:00, all workers went to rest and it was agreed to continue the cleaning operations in the early morning.

At 07:00, the cleaning operations resumed.

At 20:00, the cleaning of cargo hold number 2 was completed and it was agreed to transfer the scaffolding tower from cargo hold number 2 to cargo hold number 1.

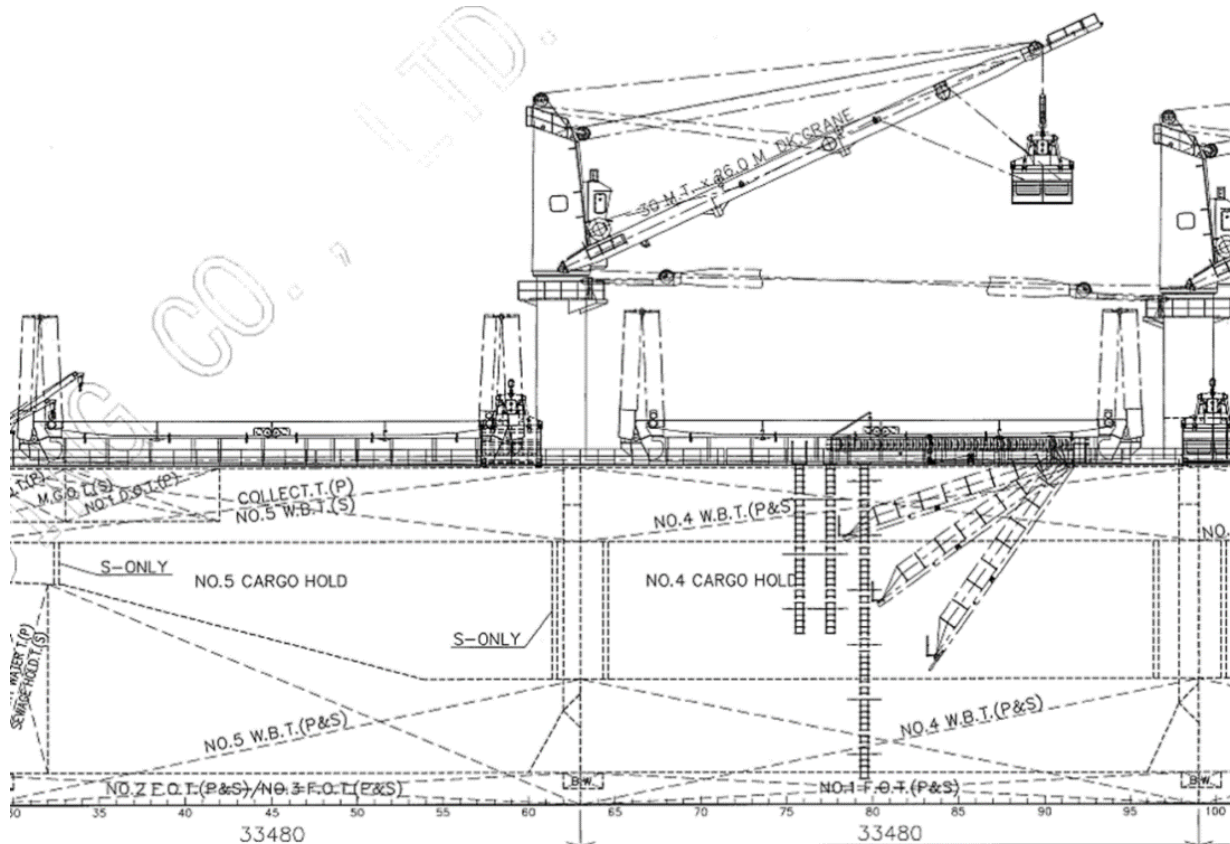
The whole construction was hooked to the ship's crane by two fibre ropes attached diagonally to four corners and transferred from cargo hold number 2 to cargo hold number 1.



**Figure 3.2** – Lifting arrangement of the scaffolding tower  
(Source: operator)

At 21:00, the transfer operation was terminated successfully.

At 23:00, the cleaning of cargo hold number 4 was completed and the scaffolding tower was due to be transferred from cargo hold number 4 to the cargo hold number 5, in the same way as the transfer of the other scaffolding tower from cargo hold number 2 to cargo hold number 1.



**Figure 3.3 - General arrangement plan, cargo holds number 4 and number 5**  
(Source: operator)

During lifting, the Chief Officer noticed that the construction was vibrating abnormally. At that time the scaffolding tower was lifted to about 30 cm below deck level. The Chief Officer instructed the crane operator to lower the scaffolding tower back down onto the cargo hold tank top.

One worker of the cleaning team entered the cargo hold, climbed onto the scaffolding tower without securing himself and fell from an unstable platform at a height of approximately 9 meters to the fore starboard side of the cargo hold tank top.

At 23:36, the deck cadet called the bridge and informed them that one person had fallen down into the cargo hold number 4.

At 23:37, the Master, the Chief Officer and the Second Officer came to the accident scene and provided first aid. The Master called the local coast guard and requested medical assistance.



#### 3.1.3. 5 April 2019

At 0:10, the victim was lifted in stretchers by using crane number 3 on the main deck port side. Artificial breathing by oxygen resuscitator during the lifting was provided. The life support actions continued until the arrival of the coast guard.

At 00:25, a boat from the Turkish coast guard was alongside the vessel. The victim was transferred to the boat and brought ashore.

After being disembarked in the port of Iskenderun (TK) and transported to a nearby hospital, the victim was declared dead.

During the day, investigators from the local police authorities boarded the vessel to do the judicial investigation.

#### 3.1.4. 6 April 2019

A team of two investigators from the TSIB was deployed to the accident site to investigate the accident. The collected elements of that investigation were provided to the AET.

## 3.2. ADDITIONAL INFORMATION

### 3.2.1. Cargo hold cleaning

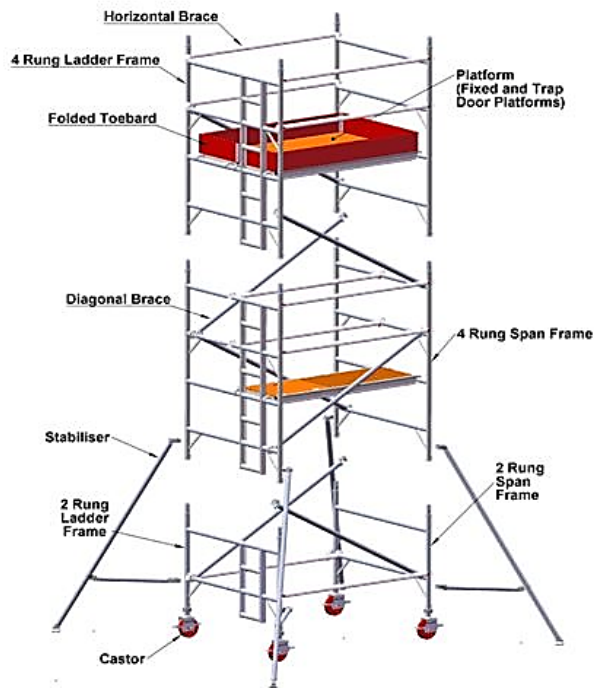
Cargo hold cleaning is a recurrent task on a bulk carrier, which is generally carried out<sup>3</sup> after each unloading in order to prevent contamination of the next loading, to identify eventual damage to the vessel and to avoid corrosion.

The cleaning task on MV Medi Zuoz is usually outsourced to an external contractor available in the port of call. The operator provides an approved list of contractors entitled to accomplish the task in their regular ports of call. If no such contractor is available or if the vessel calls at a new port, an unlisted contractor may be hired in accordance with specific provisions set out in the Safety Management System (SMS).

It was the first time that the vessel called at the port of Iskenderun (TK) and the first time that this contractor was selected to perform cargo hold cleaning on the vessel at this destination.

### 3.2.2. Use of scaffolding tower for cargo hold cleaning

The two scaffolding towers used by the contractor to execute the cleaning of the cargo holds were common scaffolding towers as used on building sites ashore. After being assembled, the structural integrity and stability of the towers have to be checked and approved by the contractor performing the assembly. After each change of location, the scaffolding tower is required to be checked again for stability by trained, so called competent personnel.



**Figure 3.5 – Scaffolding tower**  
(Source: Ares scaffolding)

<sup>3</sup> Exceptions: same cargo is to be carried again and charterers want no cleaning or clean cargo has been carried.

### 3.2.3. Scaffolding tower lifting configuration

When one of the scaffolding towers was moved by crane from cargo hold number 2 to cargo hold number 1, it was attached to the hook by a set of 2 ropes connected diagonally to four corners of the top lift of the scaffolding tower. The same configuration was to be used for moving the second scaffolding tower from cargo hold number 4 to cargo hold number 5.

At the accident scene, one of the two fibre ropes was found to be broken and the scaffolding tower in hold number 4 was hooked to one rope only (connected to two corners of the top 'lift' of the tower). This resulted in an unstable configuration during lifting.



**Figure 3.4** - Attachment of the scaffolding tower, with one detached rope  
(Source: operator)

#### 3.2.4. Other ways to clean the cargo holds

The operator provided a picture showing an alternative means of working at height used by another contractor to execute the cleaning of cargo holds on MV Medi Zuoz in a different port, by using a multidirectional mobile elevating work platform (MMEWP, also known as cherry pickers) instead of a scaffolding tower.



**Figure 3.6** - Cleaning of a cargo hold  
(Source: operator)

#### 3.2.5. Safety Management System

An SMS generally aims to identify the risks related to the operations and activities of a company and to define strategies to mitigate those risks through the application of control measures in order to achieve an acceptable level of safety for all involved personnel at company level. The operational implementation of an SMS usually works by producing a set of documents and procedures and providing related training for personnel to familiarize with the provisions of the SMS and promote its use. The ultimate objective for a company is to reach a robust level of safety by establishing a safety culture among its personnel, where each individual is conscious about the risks he and his peers are exposed to and fully adheres to the mitigation concept of applying appropriate control measures. To consolidate the implementation, it is important to actively support and promote the SMS across all levels of the company.

In the maritime sector, the adoption in 1993 of the International Safety Management (ISM) Code by the International Maritime Organization through resolution A.741(18) and its subsequent entry into force in 1998, mandated the use of SMS for vessels covered by the international convention for the safety of life at sea (SOLAS).

#### 3.2.5.1. Operator's SMS

The following chapter summarizes the operator's Safety, Quality and Environment (SQE) management system dated 2 May 2018 and describes the organization of the operator's SMS.

The vessel operator has implemented a system which is intended to identify and manage standard and known risks and impacts of the company group. The ship management is based on an integrated SQE system applied without distinction on board the operator's vessels and in its offices.

The SMS process is based on a risk and impact assessment register elaborated by the operator at different levels, from organisational to task level and approved by the top management. The SMS provides various documents and procedures to manage and communicate the means of control defined in the risk and impact assessment register. These documents and procedures are available throughout the fleet in a SQE manual.

#### 3.2.5.2. Operator's contractor management program

Hereafter is a summary and excerpt of the operator's "SQE contractor management program" in place at the time of, and in relation with this accident.

### Section 1 – AIM AND SCOPE

*The procedure sets out the duties of the Company on the management of work contracts and contractors boarding the vessel, as related to their interference with normal shipboard activities.*

*Guarantee for everyone, including employees of contractors, a safe working environment and follow safe work practices, paying particular attention to the hazards identified and risks related during normal operations on board ships.*

### Section 3.1. – DEFINITION

#### General

*The Company considers interaction with Contractors a higher level responsibility as well as a risk due to insufficient familiarity with internal work procedures of the said entities.*

...

*The Master has to ensure that contractors are adequately supervised and fully involved in the process of the risk assessment.*

### Section 3.2. – IMPLEMENTATION

#### *Risk Analysis*

*Contractor work in a continuous changing environment where each task and situation is different. This can lead to contractors being exposed to a variety of risks and potential hazards.*

*On boarding of contractor, the Master and the Safety Officer have to carry out a formal meeting with the contractor's team member where they have to discuss:*

- *Ship's emergency alarms, their meaning and the required response;*
- *The location and purpose of the muster station;*
- *Abandon ship procedures (if riding crew);*
- *etc...*

*On joining the vessel, the contractors must familiarize with Company safety and working procedures, with emergency signals, with their duties in case of emergency on board with particular attention on primary and secondary muster station position, lifeboat in which they have to board, sitting place in the freefall and with the use of Personal Protective Equipment including when and how to use them.*

*After the safety meeting, the contractor's ship familiarization checklist has to be signed "by the person in charge for the Company" to acknowledge that "detailed information on specific risks and preventive and emergency measures in the area in which workers are required to work on board vessels" has been received (Cf. Appendix 7.1).*

#### *Contracting*

*...*

*Before hiring a contractor, the company must evaluate:*

- *The health and safety risk assessment of the contractor employed;*
- *Equipment manufacturers' accreditation;*
- *Establish the training and the competency level of its employees:*
  - *....*

*In any contract between the company and the contractor, the contractor's obligations with regard to health and safety and working practices should be included.*

## **Appointment of contractors who are not in the approved list:**

*In case of unavailability of an approved contractor, an unapproved contractor may be engaged under following conditions:*

- *Close supervision of job by competent ship staff;*
- *Detailed instruction on job scope and expected results.*

*New contractor may later be included in the list of approved contractors on basis of vessel's feedback and company's procedure on qualification of approved contractors.*

### *Beginning of work on board*

*Before beginning of the job on board the Master or the Safety Officer must discuss with the contractors and organize the following:*

- *A risk assessment for the job required: include all hazards associated with the job and clearly describe to the contractors the risks involved, including control barriers to minimise risks, and isolation of equipment;*
- *A permit to work for the job (Cf. Appendix 7.2) – contractors should fully understand its use and purpose;*
- *Carry out a 'tool box' meeting including identification of:*
  - *the job requirements,*
  - *desired outcomes,*
  - *possible problems,*
  - *equipment used on the job,*
  - *contractor's equipment being properly certified and checked before use;*
- *The job should be co-ordinated and controlled, with all parties aware of their responsibilities;*
- *Ensure contractors have sufficient PPE for the job and identify any additional equipment needed by means of the risk assessment;*

*Establish a suitable timeframe for job completion, taking into account:*

- *the dangers and risks associated with the job and the control barriers in place, which may increase the job time,*
- *working hours and breaks,*
- *critical points of time, such as departure or arrival;*
- *Maintain a good working relationship and communication with contractors;*
- *Maintain a record of the work activity, including times of completion of specific tasks;*

## *Supervision of contractors*

*It is crucial for the safety of all personnel that contractors are supervised while on board. This does not mean that a person has to be standing over the contractor continuously. However, their work and working practices must be checked and these checks should include:*

- Ensuring contractors are supervised by a member of the ship's crew who is aware of his responsibilities;*
- Ensuring contractors are conducting their work as per the specific job plan and not deviating without express permission from the on-board supervisor;*
- Monitoring health and safety performance throughout and ensuring it is consistent with the ship's procedures; for example, hot work and tank entry procedures, safe lighting and use of safe electrical equipment;*
- Ensuring contractors are using personal protective clothing and equipment;*
- etc...*

The interpretation of this provision by the vessel operator ISHIMA Pte Ltd. is that the Chief Officer should not have left the working site without:

- Prior coordination with his crew and the contractor's team on further proceedings to address the problem;*
- Providing instructions to his crew regarding continued supervision of further proceedings by the contractor's team.*

### *3.2.5.3. Evaluation of the contractor by the operator*

It was the first time that MV Medi Zuoz called at the port of Iskenderun (TK) and there was no approved contractor available. The crew applied the alternative procedure, as detailed under “*Section 3.2 Implementation – Contracting - Appointment of contractors who are not in the approved list*” of the operator's contractor management program. The procedure further states that ‘*On completion of contractor's work the Master or the Safety Officer have to review the job and its quality*’.

### *3.2.5.4. Risk assessment*

A “Risk Assessment - Washing of cargo holds by contractors” form was filled out by the Master on 3 April 2019. The following preconditions were stated:

- Contractors to follow the industry safety rules;*
- Contractors to use their own equipment;*
- Contractors to use their own PPE;*
- Meeting to be held on with team leader in order to discuss the job and associated risks;*



- Only Ship's crew is allowed to use the lifting equipment under direct supervision of the Chief Officer;
- Crew is not involved in the cleaning but organize pumping out of the wash water by ship's equipment.

### Risk Assessment Washing of cargo holds by contractors

<b>RA Number</b>	RATSITE-2019-5	<b>Risk Type</b>	Site Template	<b>Site</b>	MEDI ZUOZ
<b>Created Date</b>	03/04/2019	<b>Assessment Date</b>	03/04/2019	<b>Expiration Date</b>	04/04/2019
<b>Job Type</b>		<b>Operation Type</b>		<b>Department</b>	DECK
<b>Work Queue State</b>	Initial Stage	<b>Created By</b>	Master	<b>Person Responsible</b>	
<b>Status</b>	Initial			<b>Reviewed Date</b>	
<b>Job Description</b>		<b>Preconditions</b>		<b>Summary</b>	
Cargo holds to be washed by contractors Karum Marine using their own equipment and manpower		- Contractors to follow Industry safety rules- Contractors to use their own equipment- Contractors to use their own PPE- Meeting to be held on with team leader in order to discuss the job and associated risks- Only Ship's crew allowed to use Lifting equipment under direct supervision of Ch Off- Crew is not evolved in cleaning but organize pumping out of the wash water by ship's equipment		<b>Task Count</b>	1
				<b>Hazard Count</b>	5
				<b>Effect Count</b>	6
				<b>Control Count</b>	16
				<b>Potential Risk</b>	High
				<b>Residual Risk</b>	Minor

**Figure 3.7** – Risk assessment (washing of cargo holds by contractors)  
(Source: operator)

One of the identified hazards for the assessed task was “Working aloft”. The attributed effect level for that hazard was evaluated as “critical” and the potential risk for people as “high”. Among the list of proposed methods to control the identified hazard of “Working aloft”, one was to ensure that the “staging provided by contractors to be safe and reliable”. The application of all the items of the list reduced the residual risk to “minor”.

#### Hazard Working aloft

<b>Effect</b>	Critical	<b>Residual Risk</b>	2
<b>Category</b>	<b>Probability</b>	<b>Severity</b>	<b>Potential Risk</b>
People	Possible	Major	High
<b>Category - Control</b>	<b>Probability</b>	<b>Severity</b>	<b>Residual Risk</b>
Staging provided by contractors to be safe and reliable	Remote	Major	Minor
Appropriate PPE to be used	Remote	Major	Minor
Trained personal to perform tasks	Remote	Major	Minor
Appropriate illumination to be provided	Remote	Major	Minor
Adequate rest periods to be provided for workers	Remote	Major	Minor
Direct supervision of work to be done by ship's officers	Remote	Major	Minor
Weather condition to be monitored and job stopped in case of weather worthness	Remote	Major	Minor

**Figure 3.8** – Risk assessment (excerpt, working aloft)  
(Source: operator)

Another identified hazard for the assessed task, titled “Communication problems”, was also rated as “critical”, with the associated potential risk estimated as “high”. The control measures to reduce the residual risk to “minor” were:

- Team leader supervising the job able to speak English;
- If any misunderstanding occurs job to be stopped for discussion.

**Hazard** Communication problems

<b>Effect</b> Critical		<b>Residual Risk</b> 2	
<b>Category</b>	<b>Probability</b>	<b>Severity</b>	<b>Potential Risk</b>
People	Likely	Extremely Harmful	High
<b>Category - Control</b>		<b>Probability</b>	<b>Residual Risk</b>
Team leader supervising the job able to speak English		Remote	Minor
If any misunderstanding occur job to be stopped for discussion		Remote	Minor

**Figure 3.9** – Risk assessment (excerpt, communication problems)  
(Source: operator)

The identified hazard “Using of ship’s equipment” with a potential risk estimated as “moderate” had the following control measures to reduce the residual risk to “minor”:

- Only crew is allowed to use the ship’s equipment;
- Equipment and PPE provided by the contractors must not be used by ship’s crew.

**Hazard** Using of ship's equipment

<b>Effect</b>		<b>Residual Risk</b> 2	
<b>Category</b>	<b>Probability</b>	<b>Severity</b>	<b>Potential Risk</b>
Assets (Operational/Property)	Unlikely	Extremely Harmful	Moderate
<b>Category - Control</b>		<b>Probability</b>	<b>Residual Risk</b>
Only crew is allowed to use ship's equipment		Remote	Minor
Equipment and PPE provided by contractors must not be used by ship's crew		Remote	Minor

**Figure 3.10** – Risk assessment (excerpt, using of ship’s equipment)  
(Source: operator)

#### 3.2.5.5. Contractor’s ship familiarization checklist

After the formal meeting on 3 April 2019, the operator’s “Contractor’s ship familiarization form” was presented to the contractor’s team and the “Work aloft – over side permit” was presented to the two contractor’s team leaders for signature. None of the documents was signed.

### 3.2.6. Designated Person Ashore (DPA)

According to the ISM Code, the DPA plays a key role in the effective implementation of a SMS and the related establishment and maintenance of a robust safety culture within the company. The required experiences laid down in IMO MSC-MEPC.7/ Circ.6 to carry out the role of a DPA are to:

- 1 present ISM matters to the highest level of management and gain sustained support for safety management system improvements;*
- 2 determine whether the safety management system elements meet the requirements of the ISM Code;*
- 3 determine the effectiveness of the safety management system within the Company and the ship by using established principles of internal audit and management review to ensure compliance with rules and regulations;*
- 4 assess the effectiveness of the safety management system in ensuring compliance with other rules and regulations which are not covered by statutory and classification surveys and enabling verification of compliance with these rules and regulations;*
- 5 assess whether the safe practices recommended by the Organization, Administrations, classification societies, other international bodies and maritime industry organizations to promote a safety culture had been taken into account;*
- 6 gather and analyse data from hazardous occurrences, hazardous situations, near misses, incidents and accidents and apply the lessons learnt to improve the safety management system within the Company and its ships.*

At ISHIMA Pte Ltd, the HSQE director acts as DPA and also covers the roles of Company Security Officer (CSO) and Designated SQE Management Representative (DMR) in accordance with ISO certification.

### 3.2.7. Statements

#### 3.2.7.1. *Written statements*

Written statements of five members of the crew were used in this safety investigation, but will not be made available to the public.

#### 3.2.7.2. *Contractor*

It was not possible to establish contact with the contractor.

### 3.2.8. Video surveillance

There were no images available from the on-board closed-circuit television system (CCTV) as the cameras didn't capture the accident area. They are not pointed at the inside of the cargo holds.

### 3.2.9. Corrective actions taken by the operator

In the aftermath of the accident, the operator took the following corrective actions in relation to crew familiarization and training:

- The accident was shared across the operator's fleet.
- No shore contractors are allowed to carry out any job without proper familiarization as per company procedures.
- The contractor must sign the documents and familiarization checklist as a proof of evidence.
- A safety briefing must be carried out prior to any job that has to be executed by a contractor.
- Unless the contractor signs the checklist, the deck crew is not authorised to carry out any tasks related to the contractor's job.

## 4. ANALYSIS

### 4.1. IMPLEMENTATION OF OPERATOR'S SMS

In general, the effectiveness of a SMS largely depends on the operational implementation of the safety procedures, which should be appropriate to the task and achievable. Ideally, work-as-done should be as close as possible to work-as-imagined (e.g. procedures) and vice-versa. To achieve this objective requires a constant feedback (e.g. incident reporting, safety seminars) from front line operators to the safety management to evaluate and eventually adapt procedures in order to reflect the real work environment.

The investigation has shown some shortcomings in the operator's SMS, which either encouraged the crew to deviate from procedures or which left the crew without an appropriate strategy to address the item.

The present chapter deals with SMS-related topics and, where deemed appropriate, safety recommendations are issued to improve safety.

#### 4.1.1. Selection of contractors

It can be challenging for the operator to appoint appropriate contractors to carry out recurring works and tasks in different ports. To control the inherent risks, the operator had setup an approved list of contractors which had been working for him on a recurrent basis and whose quality of work and safety performance had been assessed as acceptable based on past experience.

In the investigated case, the contractor was not on the approved list of contractors and the vessel's crew had no experience with that contractor as it was the first time that he was selected and it was the first time that the vessel called at Iskenderun (TK). To mitigate additional risks when working with a contractor which is not on the approved list, the operator had the following additional provisions in place:

- Close supervision of job by competent ship staff;
- Detailed instruction on job scope and expected results.

While these additional provisions are intended to address potential issues related to contractors which are not on the approved list, they cannot ensure that the work will be accomplished according to the specifications and to the satisfaction of the operator. In the event that the contractor does not comply with the Company Safety Procedures and is subsequently disembarked, it might be difficult to find a timely and viable alternative contractor without incurring important delays and related loss of revenue. This situation is also likely to put additional pressure on the vessel's crew and might lead to the acceptance of lower than expected standards to avoid operational inconvenience.

To work with an unknown contractor will inevitably entail uncertainty and potential hazards. The associated risks can only be controlled to a certain extent by the application of additional requirements, in the present case related to supervision and instruction.

The AET considers the implemented control measures defined in the SMS as adequate and refrains from issuing a safety recommendation on this topic

#### 4.1.2. Formal meeting with the contractor

In accordance with the operator's SMS, a formal meeting was carried out with the contractor after boarding. The topics addressed during this meeting and of relevance to the investigation were the following:

- Familiarization with the vessel;
- Risk assessment for the contracted task;
- Task planning and execution.

The objective of the formal meeting is to coordinate the activities of all involved parties and to enable the safe completion of the contracted task. Relevant safety issues related to the formal meeting are developed hereafter.

##### 4.1.2.1. *Safety aspects briefed during the formal meeting*

After the contractor's team arrived on board, a formal meeting was held with the two team leaders and the workers, in accordance with the SMS provisions, to familiarize the team with the vessel and to discuss different aspects of the job. One important item of the meeting was the assessment of job-related safety hazards, the identified risks and control measures. A translation of the briefing was performed in real time by the team leaders for the majority of the workers who were not proficient in English.

In the context of the risk assessment for the washing of the cargo holds by an external contractor, the Master identified the task of *working aloft* as a critical hazard. To reduce the residual risk to minor, the use of a safe and reliable staging (in this case a scaffolding tower) provided by the contractor was listed among the control measures in the SMS. Furthermore, as a precondition for the job, the SMS stated that the contractor shall follow the industry safety rules and use his own adequate PPE.

After the meeting, the operator presented the "Contractor's ship familiarization form" and the "Work aloft – over side permit" to the contractor's team for signature. None of the documents was signed and the contractor's team did not provide any reason for their refusal to sign them. It is possible that they did not understand the content and the objective of the documents presented to them. In any case, the contractor should not have been allowed to begin the job as the preconditions stipulated in the Letter of Indemnity (LOI) with regard to the adherence to vessel provisions (i.e. health and safety guidelines, rules, regulations, information and procedures required and provided) were not met.

On the other hand, as developed in section 4.1.1, not allowing the contractor to carry out the task he has been hired for would have been a decision with a direct operational impact, as an alternative contractor most probably would not have been available on short notice.

As a corrective action in the aftermath of the accident, the vessel's operator highlighted the fact that the contractor has to sign the documents to acknowledge that the familiarization has been done and that without this signature, the deck crew is not authorised to carry out any tasks in relation to the contractor's job. It should however be pointed out that the contracted task could only be accomplished with the assistance of the vessel's crew as some task-related actions (e.g. transfer of scaffolding tower) required the use of shipboard equipment. Not assisting the contractor would, in the investigated case, have meant that the task could not be accomplished.

#### *4.1.2.2. Language barriers*

One of the aims of the formal meeting is to point out safety issues to the contractors who are often unfamiliar with the vessel and its safety rules. The risk assessment defined as one of the control measures that the contractor's team leader supervising the job should be able to speak English. In the investigated case, the majority of workers were not proficient in English language and the content had to be translated in their native language by their team leaders. Although this proceeding is in line with the vessel's procedures, it does not give the crew any control over the translated information that was provided to the workers who were not proficient in English.

This situation shows that language barriers can make the communication with contractors difficult and dissemination of pertinent information to all involved personnel uncertain. It also highlights the importance of a continued supervision by the crew during work completion to ensure proper understanding of and compliance with the provisions discussed in the formal pre-work meeting.

The safety issues discussed under sections 4.1.2.1 and 4.1.2.2 could eventually be addressed by providing relevant task-related information, as contained in the SMS, to the contractor in a timely manner before task commencement. This would allow the contractor to disseminate the information to the personnel selected to carry out the task in order for them to familiarize with the vessel operator's provisions and requirements before boarding the vessel. During the formal meeting on board the vessel, the impact of language barriers would be lessened while the content and relevance of forms required to be signed by the contractor's personnel would already be familiar to the signees.

In the context of the consultation of the draft final report, the operator ISHIMA Pte Ltd has amended the section "*Risk analysis*" of the "*SQE contractor management program*" as follows (amendment in blue):

<p>The Master have the authority to disembark the personnel of contractor in any moment for any non-compliance with Company Safety Procedures.</p> <p>In situation, where contractor/Sub-contractor and his team members are expected to have limited understanding of English, Master must arrange through relevant department to provide contractor/ sub-contractor with task related information as per this procedure (risk analysis section and beginning of work), Risk Assessment, and “contractor ship familiarization forms” as soon as possible in order to allow the contractor/ sub-contractor and his team members to familiarize with the company’s provisions and requirements prior to boarding the vessel.</p>	
Record:	<i>Receipt signed by contractor (see last page of procedure)</i>

**Figure 4.1** – Risk analysis (SQE contractor management program)  
(Source: operator)

The AET considers that the amendment addresses the identified safety issue and refrains from issuing a safety recommendation on this topic.

Furthermore, the operator expressed the intention to include an instruction in the procedure to address instances where the contractor refuses to sign the forms. The amended procedure would state that in such a case, the Master should not allow operations to commence and immediately contact the DPA. This provision would clarify how the master should react in case of a refusal to sign the documentation and an appropriate procedure would be triggered to address the issue.

The AET considers that implementing the proposed amendment would address the identified safety issue and refrains from issuing a safety recommendation on this topic.

#### 4.1.3. Use of equipment provided by contractors

When hired by the operator to execute a task, the contractor indicates how he intends to complete the job and which equipment he intends to use. Furthermore, the operator expects that the equipment provided by contractors is safe. As specified in the ‘tool box’ specifications of the SMS, the contractor’s equipment shall be properly certified and checked by the vessel’s crew before use. On the “Work aloft – over side permit” document, the Chief Officer noted that the good condition of staging and PPE could not be certified/checked by the ship’s staff.

While it seems reasonable to mandate the use of certified and checked equipment by contractors, the effective control of such a provision may prove to be challenging. It would require the vessel’s supervisor responsible for accepting the equipment to have an adequate level of knowledge to evaluate the certification and to check the conformity of the contractor’s equipment to applicable safety standards for all types of sub-contracted tasks. As stated above, the Chief Officer estimated that this kind of acceptance process of the contractor’s equipment was not feasible by the vessel’s staff for the contracted task.



The cleaning task required the use of the contractor's equipment and related PPE to work at height. One of the contractor's ropes used to attach the scaffolding tower to the crane broke during the lifting and transfer process. This led to an unstable platform on the scaffolding tower, which finally contributed to the accident. This highlights the importance to use safe and appropriate equipment, but it also shows the difficulties for the vessel's crew to properly evaluate the condition of such equipment.

One of the control measures to reduce the residual risk of using shipboard equipment (e.g. crane) to minor is that only the crew is allowed to use it. This measure mitigates the related risks by ensuring that only qualified personnel familiar with shipboard equipment is operating it and it provides control over the good working condition through continued maintenance and regular quality control by the operator. This type of risk mitigation could be extended as much as possible to equipment used by contractors on a regular basis. Lifting equipment (including ropes, slings, shackles, hoists, chains, etc.) could ideally be provided by the vessel operator, thus allowing a continued quality control and increased operational safety.

During the consultation, the operator ISHIMA Pte Ltd has amended the section *"Beginning of work on board"* of the *"SQE contractor management program"* as follows (amendment in blue):

<ul style="list-style-type: none"> <li>➤ In situation, when certificates are not available or conditions of contractor's equipment found in poor/unsafe condition, vessel must cancel the job and inform DPA.</li> <li>➤ When contractor's lifting equipment are without certificate or found in poor/unsafe condition, Master must inform DPA. In consultation with DPA and, as applicable, crew must consider providing vessel's lifting equipment to contractor for usage after a suitable briefing on usage and safety precautions. This will ensure control over the good working condition of these equipment through vessel's continued maintenance and regular quality control.</li> </ul>	
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**Figure 4.2** – Beginning of work on board (SQE contractor management program)  
(Source: operator)

The AET considers that the amendment addresses the identified safety issue and refrains from issuing a safety recommendation on this topic.

#### 4.1.4. Supervision

The contractor is responsible for the safe use of his own equipment on a vessel. Nevertheless, the supervision of a contractor is part of the vessel operator's contractor management program and the crew is required to supervise the contractor's work and working practice in order to assure the safety of all personnel on board. Furthermore, the crew is required to assist the contractor whenever the use of shipborne equipment (e.g. crane) is needed to accomplish the task.

The Chief Officer was initially supervising the work of the contractor in cargo hold number 4, up to the point when the relocation of the scaffolding tower to cargo hold number 5 was interrupted and the tower was put back onto the cargo hold tank top due to stability issues. From thereon, the Chief Officer believed that activities in cargo hold number 4 were interrupted and would continue only after further proceedings would have been discussed and agreed upon with the contractor's team leader. He subsequently left the work site. The operator considers that this was not in accordance with operational procedures. With no further supervision of activities in cargo hold number 4, the crew did not recognize that an unsafe situation was beginning to unfold when one worker climbed onto an unstable platform without proper safety equipment required by the vessel's SMS.

The “*Aim and scope*” of the “*SQE contractor management program*” states that a safe working environment has to be guaranteed for everyone and that particular attention has to be paid ‘*to the hazards identified and risks related during normal operations on board ships*’. The procedure further states that ‘*the Master has to ensure that contractors are adequately supervised and fully involved in the process of the risk assessment*’. The above provisions show that supervision of contractors has to be an ongoing process throughout their presence on-board the vessel, also beyond the completion of the contracted task. Ideally, the vessel's crew should keep an eye on the activities of the contractor to identify inappropriate actions and act in a pro-active way to prevent unsafe conditions. While task supervision is under the authority of an officer, a continued monitoring by the deck crew of all activities by external personnel should be part of a robust safety culture and promoted by the operator.

The investigation has identified discrepancies in the interpretation of the procedures on supervision in the SMS between different parties and at different levels, indicating a need to clarify these provisions to prevent further misunderstandings and to promote a consolidated approach on supervision.

During the consultation, the operator ISHIMA Pte Ltd has amended the section “*Contracting*” of the “*SQE contractor management program*” as follows (amendment in blue):

<p><b>Appointment of contractors who are not in the approved list:</b></p> <p>In case of unavailability of an approved contractor, an unapproved contractor may be engaged under following conditions:</p> <ul style="list-style-type: none"> <li>• Continued supervision of job by ship staff at all times to identify inappropriate actions by contractor and his team and prevent unsafe conditions.</li> <li>• Detailed instruction on job scope and expected results.</li> </ul>	
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**Figure 4.3 – Contracting (SQE contractor management program)**  
(Source: operator)

The section “*Supervision of contractors*” of the “*SQE contractor management program*” has also been amended as follows (amendment in blue):

Supervision of Contractors	Responsibility
It is crucial for the safety of all personnel that contractors are supervised <b>at all times</b> while on-board <b>to identify inappropriate actions and prevent unsafe conditions</b> . Their work and working practices must be checked and these checks should include:	Master / Chief Engineer/Safety Officer

**Figure 4.4** – Supervision of contractors (SQE contractor management program)  
(Source: operator)

The AET considers that the amendment addresses the identified safety issue and refrains from issuing a safety recommendation on this topic.

#### 4.1.5. Communication

The Chief Officer interrupted his supervision and left the work site with the mind-set that the transferring of the scaffolding tower was interrupted until further coordination with the team leader. He wasn't aware of the contractor's ongoing activities in cargo hold number 4. The development of the accident scenario shows that the contractor's workers were not fully aware that the transfer of the tower had been interrupted until further notice and that all activities in cargo hold number 4 should hence be put on hold.

Although the formal meeting between crew and contractor addressed several items regarding the job execution, the communication between both parties during the transfer of the scaffolding tower proved not to be effective. The situation arising from the interrupted transfer was unusual and differed from a standard transfer of the tower as performed earlier that day. The contractor's team seemed to have been focussed primarily on job completion and probably did not recognize or underestimated the potentially hazardous condition of the scaffolding tower after it had been lowered back onto the cargo hold tank top.

The event shows that proper communication is a key safety element, especially when two parties who are not used to working together have to interact and coordinate their actions. Clearly defined instructions to stop all activities should be applied in an unusual situation which deviates from the planned and briefed work and which requires further coordination between the parties to ensure the safe continuation of the job. This scenario differs from an emergency situation, which is mostly obvious and for which the actions of all involved personnel have been briefed in the formal meeting.

During the consultation, the operator ISHIMA Pte Ltd has amended the section “*Supervision of contractors*” of the “*SQE contractor management program*” as follows (amendment in blue):

<ul style="list-style-type: none"> <li>➤ ensuring appropriate warning signs are posted; for example, no smoking, no naked lights, hazardous area</li> <li>➤ In case of unforeseen event including a near miss, unsafe conditions or unsafe acts, all jobs must be stopped immediately. Suitable posters, physical barriers must be placed immediately to prevent unauthorized continuation of job by contractors or his team members. Further coordination between contractors and senior officer in-charge the jobs must be initiated and carried out to rectify the situation. Requirement of additional coordination must be identified and established before job is resumed.</li> </ul>	
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**Figure 4.5** – Supervision of contractors (SQE contractor management program)  
(Source: operator)

Furthermore, the following provision has been added in the section “*Contractors’ obligation*” of the “*SQE contractor management program*” (addition in blue):

<p>5. Must stop work in case of any near miss, unsafe acts or unsafe conditions. Job must be resumed only after situation is declared safe by the safety officer or other senior officer in-charge of the operation and authorization to continue with job is given.</p>	
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**Figure 4.6** – Contractors’ obligation (SQE contractor management program)  
(Source: operator)

The AET considers that the amendment addresses the identified safety issue and refrains from issuing a safety recommendation on this topic.

#### 4.1.6. Implementation of changes to the SMS

The operator has performed a number of amendments and additions to procedures in the SMS to address the safety issues identified in the present report. In order to be accepted by the personnel and successfully implemented at an operational level, it is essential that all changes and their underlying motivations are properly disseminated and adequately communicated throughout the company (safety bulletins, lessons learned, seminars, etc.).

Based on the above, the AET issues the safety recommendation **LU-MA-2020-001** to the vessel operator ISHIMA Pte Ltd.

## 4.2. CONTRACTOR'S SAFETY CULTURE

As explained in chapter 3.2.5, the successful implementation of a SMS should foster a safety culture in which the personnel is conscious of risks and applies appropriate control measures to attain an appropriate level of safety. While the use of a SMS is widespread in the maritime sector, especially since the entry into force of the International Safety Management Code in 1998, this may not be the case in other sectors. For tasks outsourced to new contractors, it will always be challenging to evaluate the level of safety and the related safety culture of the contractor's personnel, especially if an appropriate SMS is either non-existent or not promoted on the contractor's side.

In the investigated case, some actions and omissions by the contractor's team were not in accordance with an adequate safety culture:

- Safety-relevant documents which were part of the formal meeting were not signed by the contractor's team, although it was stipulated in the LOI that the contractor had to adhere to the vessel's procedures and related provisions;
- After the scaffolding tower had been lifted by the crane and then put back onto the cargo hold tank top, it was likely that its stability was impaired and that it was hence unsafe to be used. This potentially degraded condition, which remained undetected by the contractor's team, was outside the normal scope of the task and required a careful planning and coordination of further proceedings to ensure a safe environment of all involved personnel;
- The worker who climbed onto the tower to re-attach it to the crane hook and later was involved in the accident, did not wear a safety harness. It should be pointed out that he was initially assigned to operate the water tank and pump used for cargo hold cleaning and was not intended to work at height. He subsequently didn't wear a safety belt;
- The contractor's team leader should have ensured the proper use of PPE by his team and subsequently should have prevented the worker from climbing unsecured onto the tower.

The safety consciousness of the contractor's team proved not to be at an adequate level, which ultimately led to an unsafe condition that remained undetected by the supervising personnel - both on the contractor's and on the operator's side.

The operator's SMS addressed the situation of working with a new contractor by establishing additional control measures. Although these measures did not prevent the accident from happening, it has to be recognized that a task related risk, even when identified, may only be controlled to a certain extent. To ensure task completion, the remaining residual risk, which often is not under the control of the operator, ultimately has to be accepted.

As a pro-active measure to improve the coordination and cooperation with contractors, the operator ISHIMA Pte Ltd added the following list of obligations for contractors to the procedure “*SQE contractor management program*”:

Contractors' obligation	Responsibility
<p>Contractors and subcontractors and their respective personnel must be abided by followings:</p> <ol style="list-style-type: none"> <li>1. Compliance with relevant local regulations.</li> <li>2. Medically fit for the job.</li> <li>3. Compliance with company policies and procedures.</li> <li>4. No deviation from agreed plan.</li> <li>5. Must stop work in case of any near miss, unsafe acts or unsafe conditions. Job must be resumed only after situation is declared safe by the safety officer or other senior officer in-charge of the operation and authorization to continue with job is given.</li> <li>6. Must be more than 18 years of age.</li> <li>7. Undergo on board familiarization and comply with company policies, PPE and clothing requirement, safety standards.</li> <li>8. No drugs and alcohol</li> <li>9. No source of ignition at restricted places.</li> <li>10. Smoking only in authorized areas.</li> <li>11. If bringing any hazardous/ substance/ dangerous good, contractor must declare and present MSDS to Master.</li> <li>12. Must be aware and follow emergency procedures.</li> <li>13. Sign contractor's declaration. MGT-09A.</li> </ol>	<p>Contractor</p> <p>Master – To ensure</p>

**Figure 4.7** – Contractors' obligation (SQE contractor management program)  
(Source: operator)

The AET refrains from issuing a safety recommendation on this topic.

### 4.3. DISSEMINATION OF SAFETY RECOMMENDATIONS

Although the investigation highlighted specific safety items related to the involved operator, similar issues could also be of relevance to other vessel operators. As a proactive safety action to reach a broader maritime community, the AET issues the recommendation **LU-MA-2020-002** to the Luxembourg Maritime Administration to disseminate the lessons learned from the present investigation to all companies of ships flying the Luxembourg flag.

## 5. CONCLUSIONS

- It was the first time that the vessel called at the port of Iskenderun (TK) and the contractor tasked with the washing of the cargo holds was new to the vessel and its crew.
- A formal meeting with the contractor's team was held in English language to discuss the different aspects of the job and a task-related risk assessment form was filled out by the Master prior to task completion.
- The contractor's workers were not all fluent in English language and had to be briefed by their team leaders in their native language.
- The documents required by the vessel's SMS were not signed by the contractor's team after the formal meeting, which was not in accordance with the provisions laid down in the LOI.
- The scaffolding tower used for the cleaning operations became unstable during the transfer to the next cargo hold while lifted by vessel's crane due to the rupture of a supporting rope and was subsequently lowered back onto the cargo hold tank top. At that time, it was not recognized that the stability of the scaffolding tower was impaired.
- The chief officer interrupted his supervision for further task coordination with the contractor's team leader.
- A worker climbed on the scaffolding tower without wearing adequate safety equipment and subsequently fell from an unstable platform. At that time, none of the vessel's crew was present in the cargo hold.
- First aid was immediately provided by the vessel's crew and a request for medical assistance was addressed to the coast guard. The victim was brought ashore and transported to a hospital where he was declared deceased.

## 6. SAFETY RECOMMENDATIONS

***LU-MA-2020-001*** to the vessel operator ISHIMA Pte Ltd:

The AET recommends that the vessel operator ISHIMA Pte Ltd establishes appropriate measures to support the operational implementation of changes to the SMS.

***LU-MA-2020-002*** to the Luxembourg Maritime Administration:

The AET recommends that the Luxembourg Maritime Administration disseminates the “lessons learned” from the investigated event to all companies with ships flying the Luxembourg flag as a proactive safety action to improve safety consciousness.



## 7. APPENDIX

### 7.1. CONTRACTOR'S SHIP FAMILIARIZATION CHECKLIST



Code: SQE/Form-D-026

SQE MANAGEMENT SYSTEM FORM

Date: January 01, 2014

Ver: 2.00

Page 1 of 2

#### CONTRACTORS SHIP FAMILIARIZATION

Check list	
<b>BRIEFING UPON EMBARKATION</b>	
THE ON BOARDING WORKING TEAM HAS BEEN INSTRUCTED ON THE FOLLOWING	
<i>Safety Items and emergency familiarization</i>	
1. Abandon of the ship	<input type="checkbox"/>
2. Fire on board	<input type="checkbox"/>
3. Man Overboard	<input type="checkbox"/>
4. Location and purpose of muster station	<input type="checkbox"/>
5. Ship's emergency alarms and their meaning	<input type="checkbox"/>
6. Location of life-saving and fire-fighting appliances	<input type="checkbox"/>
7. Use of PPE	<input type="checkbox"/>
8. Restricted Hazardous Area	<input type="checkbox"/>
<i>Company Procedures</i>	
1. Working Aloft/ overside permits/ Company Policy	<input type="checkbox"/>
2. Hot work permit / Company procedures	<input type="checkbox"/>
3. Entering/Working into enclosed spaces permits / Company Procedure	<input type="checkbox"/>
4. Use of electrical Equipment Permit/ Company procedures	<input type="checkbox"/>
5. Company Security Policies	<input type="checkbox"/>
6. Company Environmental Policy	<input type="checkbox"/>
7. Drug and Alcohol Policy	<input type="checkbox"/>
8. Smoking Policy	<input type="checkbox"/>
9. Risk Assessment procedures	<input type="checkbox"/>
10. Lock-outs and Safety tags Procedures	<input type="checkbox"/>
11. Lifting gears appliances	<input type="checkbox"/>

Issued: SQE Dept.

Approved: DMR



Code: **SQE/Form-D-026**

SQE MANAGEMENT SYSTEM FORM

Date: January 01, 2014

Ver: 2.00

Page 2 of 2

**CONTRACTORS SHIP FAMILIARIZATION**

---

**Trained Person** (Name and Signature)

**Master/Safety Officer** (Name and Signature)

.....

.....

**Date:**.....

## 7.2. WORK ALOFT – OVERSIDE PERMIT



SQE MANAGEMENT SYSTEM FORM  
**WORK ALOFT – OVERSIDE PERMIT**

Code: **SQE/Form-P-005**

Date: **May 13, 2019**

Ver/Rev: **2.02**

Page 1 of 2

Refer to SQE Procedure SAF- 07 "Working Aloft/Overside" for further information  
Form to be submitted to office through "Permit" modules in Shipnet.

Ship: \_\_\_\_\_ Date: \_\_\_\_\_  
It is valid from: Date: \_\_\_\_\_ Time: \_\_\_\_\_ Hrs To date: \_\_\_\_\_ Time: \_\_\_\_\_ Hrs

Location of work: \_\_\_\_\_

Description of work: \_\_\_\_\_

**Note:** Permit validity not to exceed 8 hours.

**Hazard Identification (To Be Completed By Chief Officer/Chief Engineer)**

Risk	Tick (✓)				Hazard Description	Control Action Taken
Electrical	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
Mechanical	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
Chemical	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
Sources of Ignition	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
Hazardous Atmosphere	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
Internal Construction	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		

General Safety Procedures Check List <i>Make the following checks before performing work Aloft / Outboard:</i>		Tick (✓)	
		Yes	N/A
1. Working Aloft / Overside guideline(s) has been read and understood.		<input type="checkbox"/>	<input type="checkbox"/>
2. The respective department head has properly instructed the "working aloft / overside" team in safe working procedures.		<input type="checkbox"/>	<input type="checkbox"/>
3. Staging equipment needed for working aloft / overside has been confirmed as being in a safe working condition.		<input type="checkbox"/>	<input type="checkbox"/>
4. Approved safety harness and fall arrestor has been prepared, checked, and made readily available for use.		<input type="checkbox"/>	<input type="checkbox"/>
5. All gantlines, lifelines and ropes in the bosun chair have been maintained and inspected, according to company standards.		<input type="checkbox"/>	<input type="checkbox"/>
6. All gantlines and safety lines are away from sharp edges, heat and moving machinery.		<input type="checkbox"/>	<input type="checkbox"/>
7. If a crewmember is working over the vessel's side:			
a. A work vest has been donned		<input type="checkbox"/>	<input type="checkbox"/>
b. A safety line has been attached to above deck		<input type="checkbox"/>	<input type="checkbox"/>
c. A safety net has been positioned below.		<input type="checkbox"/>	<input type="checkbox"/>
d. A life buoy, with line attached to above deck, has been positioned for immediate use.		<input type="checkbox"/>	<input type="checkbox"/>
8. Safety Standby person with helmet is remaining on a safe level throughout the operation to assist the workers aloft and ensure that procedure is adhered to at all times.		<input type="checkbox"/>	<input type="checkbox"/>
9. Aloft / overside activity is not being carried out in the near vicinity of cargo operations.		<input type="checkbox"/>	<input type="checkbox"/>

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10. Chief Officer and / or Chief Engineer has checked that Company's procedures for working aloft / overside guideline(s) have been followed.	<input type="checkbox"/>	<input type="checkbox"/>
11. Officer of the Watch has been informed and relevant warning signs posted, for instance, "work on radar mast."	<input type="checkbox"/>	<input type="checkbox"/>
12. Is a Lock out/Tag out required?	<input type="checkbox"/>	<input type="checkbox"/>
13 Are the control measure planned in the risk assessment completed and fully applied <a href="#">Risk Assessment no.</a> <a href="#">Risk Assessment date</a>	<input type="checkbox"/>	<input type="checkbox"/>
14. Additional precautions / safety equipment required:		

**Crew Member working aloft over side**

	Print Name	Signature
1	<hr/>	<hr/>
2	<hr/>	<hr/>
3	<hr/>	<hr/>
4	<hr/>	<hr/>

**Work Area Inspected in accordance with the checklist above**

	Print Name	Signature
Responsible Officer:		
	<hr/>	<hr/>
Person in Charge:		
	<hr/>	<hr/>
Chief Engineer (if applicable)		
	<hr/>	<hr/>
Chief Officer (if applicable)		
	<hr/>	<hr/>
Master's Approval (All occasions)		
	<hr/>	<hr/>

**Completion of Work:**

Work completed	Date		Time	
All works have been completed	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
All person, materials and equipment have been withdrawn and area made safe	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Comments: <hr/>				

Person in charge

---

(print name)

---

(signature)

Responsible Officer

---

(print name)

---

(signature)

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Approved: DMR