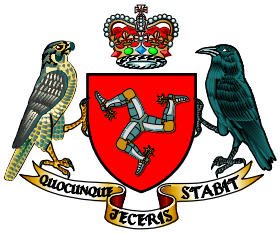
Isle of Man Ship Registry

Summary of Casualties, Accidents and Incidents on Isle of Man Registered Vessels

2019

Isle of Man Government
Department for Enterprise



Isle of Man Government
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Published June 2020

Introduction

The Isle of Man Ship Registry (IOMSR) is committed to helping seafarers, managers, owners and operators concerned with all Manx ships in achieving continued high standards of safety and pollution prevention. Occasionally things go wrong, when they do the master, skipper or technical manager is required by law (**Merchant Shipping Accident Reporting and Investigation Regulations**) to notify IOMSR concerning what has occurred.

Also, for ships to which the **Maritime Labour Convention (MLC)** applies MLC Standard A4.3.5 requires:

> *(a) Occupational accidents, injuries and diseases are adequately reported, taking into account the guidance provided by the International Labour Organization with respect to the reporting and recording of occupational accidents and diseases;*
>
> *(b) Comprehensive statistics of such accidents and diseases are kept, analysed and published, and where appropriate, followed up by research into general trends and into the hazards identified; and*
>
> *(c) Occupational accidents are investigated.*

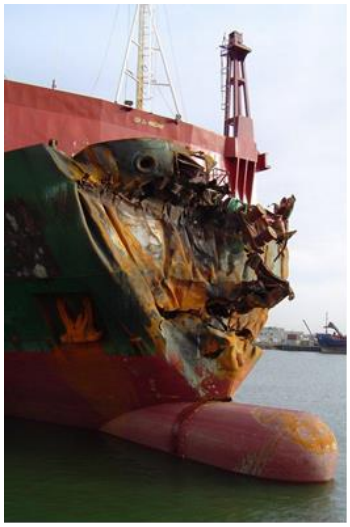
The notification and reporting scheme is reliant upon masters, skippers or operators reporting '**occurrences**' as accurately and in as timely a manner as possible in accordance with the regulations. From these reports we can alert the shipping industry about areas and activities where any additional safety controls may be necessary and hopefully prevent similar occurrences from happening again.

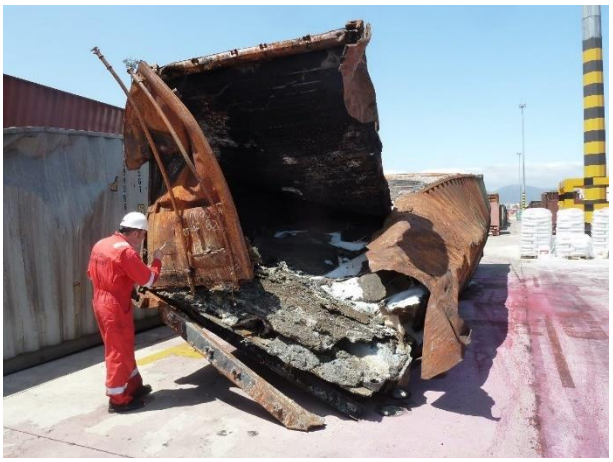
This report aims to provide statistics based on the reporting scheme's findings. Where any trends are identified the Isle of Man Ship Registry aims to work closely with shipping companies and other organisations in an effort to reduce these occurrences on board Isle of Man ships.

This report does not include statistics relating to fatalities or injuries from natural causes unless they are directly related to an 'occurrence' on board.

To submit a report or if you have any questions please contact:
Isle of Man Ship Registry, Department for Enterprise,
St George's Court, Upper Church Street, Douglas, IM1 1EX, Isle of Man, British Isles

Tel +44 1624 688500 Fax +44 1624 688501 Email: marine.survey@gov.im





www.iomshipregistry.com

Contents

Chapter 1 – What is an occurrence?

An 'occurrence' is either a **casualty**, **accident** or an **incident** in the Merchant Shipping Accident Reporting and Investigation Regulations (SD815/01). These are defined as follows;

Casualty

This means "any contingency which results in:-

(a) loss of life or major injury to any person on board, or the loss of any person from, a ship or a ship's boat;
(b) the loss or presumed loss of any ship or the abandonment of any ship or a ship suffers material damage;
(c) a ship goes aground, is disabled or is in collision;
(d) any loss of life or major injury, or serious harm to the environment, is caused by a ship;
(e) any major damage to the environment brought about by damage to a ship and caused by, or in connection with, the operation of the ship."

Accident

This means "any occurrence of the following type provided that it caused material damage to any ship or structure, or damage to the health of any person, or serious injury:-

(a) the fall of any person overboard;
(b) any fire or explosion resulting in material damage to a ship;
(c) the collapse or bursting of any pressure vessel, pipeline or valve or the accidental ignition of anything in a pipeline;
(d) the collapse or failure of any lifting equipment, access equipment, hatch cover, staging or bosun's chair or any associated load-bearing parts;
(e) the uncontrolled release or escape of any harmful substance or agent;
(f) any collapse of cargo, unintended movement of cargo sufficient to cause a list, or loss of cargo overboard;
(g) any snagging of fishing gear which results in the vessel heeling to a dangerous angle; or
(h) any contact by a person with loose asbestos fibre except when full protective clothing is worn."

Incident

This means "any occurrence, not being a casualty or an accident as a consequence of which the safety of a ship or any person is imperilled, or as a result of which material damage to any ship or structure or damage to the environment might be caused."

Incidents can also be referred to as 'near misses' or 'near accidents'. Vessel inspections by the IOMSR have shown that the type of incidents reported to technical managers range from 'minor incidents', e.g. a person forgetting to wear a safety helmet on deck, to 'major incidents', e.g. narrowly avoiding a swung load suspended from a lifting appliance. The IOMSR encourages the master, skipper or technical managers to use their judgement in determining a 'minor incident' and a 'major incident'. All 'major incidents' should be reported to the IOMSR using the ARF Form. For the remainder the master, skipper or technical manager should use their professional judgement.

If there is any doubt then report to Isle of Man Ship Registry.

IMO Classification

The International Maritime Organisation (IMO) Casualty Investigation Code (IMO Resolution MSC 255(84)) defines occurrences as a Marine Incident, Marine Casualty or Very Serious Marine Casualty. Refer to Chapter 6 of this report for information concerning cases reported to IOMSR classified as per the IMO Casualty Investigation Code.

Chapter2 – Reporting occurrences

2.1 Who has to Report?

Under the regulations the master, skipper or technical manager of any Manx registered vessel wherever they may be and the master, skipper or technical manager of any foreign flagged vessel in Manx territorial waters.

A vessel means any description of watercraft ranging from pleasure vessels, fishing boats, commercial yachts, passenger ships and cargo vessels.

Occurrences on board ships in ports, with the exception of those involving stevedores or shore-based workers, are included and must be reported. Occurrences involving shore-based workers should also be reported to the country's Health and Safety Department or equivalent body.

2.2 When to report

When a **CASUALTY** occurs the master, skipper or technical manager must inform the IOMSR as soon as possible after becoming aware of the casualty. The Master or Skipper must send a report to the IOMSR as soon as is practicable by the quickest means available.

When any **ACCIDENT** occurs the master, skipper or technical manager must inform the IOMSR as soon as is practicable and by the quickest means available. A report must be sent to the IOMSR no later than within 24 hours of the vessel's next arrival in port.

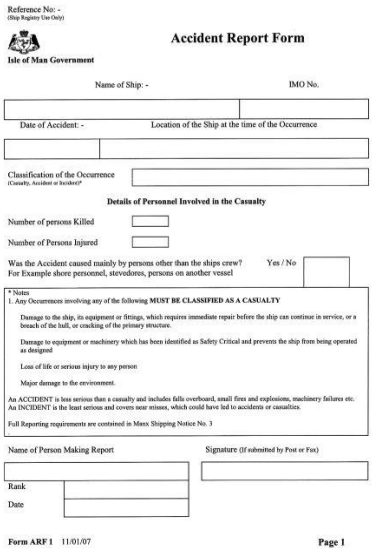
When an **INCIDENT** occurs the master, skipper or technical manager must report the incident to the IOMSR before the vessel departs from the next port.

2.3 How to report

Initial reports can be made directly by telephone, fax or email to the IOMSR. When the occurrence has been investigated on board the master, skipper or operator should complete the Accident Report Form (ARF – see right) and forward it to the IOMSR by fax, email or mail. Any additional report forms used on board to document the occurrence may also be submitted to the IOMSR along with the completed ARF. It is recommended that a copy of the ARF is kept on board as a record.

The ARF is available on request from the IOMSR or available for download from the IOMSR website.
https://www.iomshipregistry.com/formsdocs/forms/

A brief statement is also required in the Official Log Book Narrative Section.



Reference No: -
(Ship Registry Use Only)

Accident Report Form

Isle of Man Government

Name of Ship: - IMO No.

Date of Accident: - Location of the Ship at the time of the Occurrence

Classification of the Occurrence
(Casualty, Accident or Incident)*

Details of Personnel Involved in the Casualty

Number of persons Killed

Number of Persons Injured

Was the Accident caused mainly by persons other than the ships crew? Yes / No
For Example shore personnel, stevedores, persons on another vessel

* Notes
1. Any Occurrences involving any of the following **MUST BE CLASSIFIED AS A CASUALTY**

Damage to the ship, its equipment or fittings, which requires immediate repair before the ship can continue in service, or a breach of the hull, or cracking of the primary structure.

Damage to equipment or machinery which has been identified as Safety Critical and prevents the ship from being operated as designed

Loss of life or serious injury to any person

Major damage to the environment.

An ACCIDENT is less serious than a casualty and includes falls overboard, small fires and explosions, machinery failures etc.
An INCIDENT is the least serious and covers near misses, which could have led to accidents or casualties.

Full Reporting requirements are contained in Manx Shipping Notice No. 3

Name of Person Making Report Signature (If submitted by Post or Fax)

Rank

Date

Form ARF 1 11/01/07 Page 1

All reports received that are **"Very Serious Marine Casualties"** as defined by the IMO Casualty Code (refer to Chapter 6) are investigated. For all other reports received a decision is made whether or not an investigation is warranted.

Not all occurrences are investigated by IOMSR, this may be because;

- it has been agreed that investigation is being conducted by another investigation authority; or
- the shipboard staff and/or technical managers have completed a thorough investigation and the underlying cause is clear.

Investigations are carried out in accordance with the Isle of Man Accident Reporting and Investigation Regulations, SOLAS ChI Reg 21 and the IMO Casualty Investigation Code. It is not the intention of these reports to apportion blame or economic liability.

Published reports are primarily for the benefit of all seafarers, managers and owners concerned with Manx vessels in the hope that lessons learnt may prevent similar occurrences from happening again. The names, addresses and any other details of anyone who has given evidence to an investigator are not disclosed unless a court of law determines otherwise. Any reports published are available on the IOMSR website.

2.4 ISM Code Vessels

Where vessels comply with the International Safety Management (ISM) Code the Safety Management Manual should include procedures for ensuring accidents and hazardous situations are reported (ISM9.1). The IOMSR will accept the vessel's accident reporting form in lieu of the ARF provided the report format is approved by IOMSR.

If vessels have a safety officer on board as required by the Merchant Shipping Safety Officials, General Duties & Protective Equipment Regulations (SD816/01) then the safety officer should be involved in the investigation on board.

2.5 Investigations by IOMSR in 2019

Type of Ship	Nature of Investigation
Fishing vessel	Electrical fire
Other cargo ship	Fatality (joint investigation with the United Kingdom)
Fishing vessel	Vessel foundering

2.6 Reports Published in 2019

Ship Name	Type of Ship	Nature of Investigation
Heather Maid	Fishing Vessel	Fire 23rd Oct 2018

Casualty investigation reports are published on the Isle of Man Ship Registry Website.
https://www.iomshipregistry.com/forms-reports/casualty-reports/

2.7 Investigations by other investigation bodies on Isle of Man vessels in 2019

Type of Ship	Nature of Investigation	Investigation Authority
Other cargo ship	Collision	China
Other cargo ship	Grounding	United Kingdom
Bulk carrier	Collision	China
Bulk carrier	Man overboard	Singapore

Chapter 3 – ARF Reports Received in 2019

3.1 Reports from Isle of Man Registered Ships

In 2019 IOMSR received a total of 89 ARF reports from Isle of Man registered ships. The table below shows the number of reported occurrences by type in 2019 and the preceding 4 years including a breakdown per ship type for 2019.

Description of Occurrence by Type per Year	2019												
Year	2015	2016	2017	2018	2019	Passenger	Oil Tanker	Chemical Tanker	Gas Carrier	Bulk Carrier	Offshore / Standby	Other cargo Vessel	Commercial Yacht	Pleasure Vessel	Fishing Vessel
Casualties	36	31	30	21	30										
Accidents	27	12	23	16	20										
Incidents	22	28	28	39	39										
	85	71	81	76	89	5	12	0	8	13	15	18	15	1	2
Collision/Allision - significant damage, foundering, stranding	9	9	7	5	11		1			3	1	4	1		1
Collision/Allision, touch sea bottom - no/minor damage	8	10	16	12	15	2	2		1	4		5	1		
Fire	11	6	9	6	3	1			1				1		
Explosion		1													
Pressure vessel: explosion, collapse or bursting		1													
Pipe systems: explosion collapse or bursting	1		2		2	1					1				
Sudden uncontrolled release of any substance from a system or pressure vessel	6	5	12	10	13		1		1	1	8	1	1		
Accidental ignition of flammable material	1			3											
Electrical short circuit or overload	1		3		1										1
Failure of any lifting device	1		2	2	2					1	1				
Failure of any access equipment		1													
Involving access to or from the ship		1	2		1							1			
Slips or falls (same level)	9	8	5	6	9		3		1		2	1	2		
Slips or falls (different levels)	5	4	2	3	6		1		1			2	2		
Involving mooring ropes or hawses	1	2	3	1	4		2						2		
Involving lifting equipment	4	3	4	3	2						2				
Exposure to hazardous or toxic substances			1	1	1					1					
Man overboard	1	1			2					2					
Electric shock	1	2	1												
Violence to the person		1													
Other															
Closing doors or hatches		2		1											
Moving about - no fall, no handling	2	3	1	4	1								1		
Moving about - manual handling	2	2	1	1					1				1		
Involving rescue boat/lifeboat/liferaft	2				2										
Drill - other than survival craft					1								1		
Cargo securing failure		1	2												
Maintenance - machinery	10	2	3	4	1					1					
Maintenance - other	4	1		4	3								2	1	
Cargo hold cleaning	1														
Navigation - COLREG infringement				1	1							1			
Navigation - machinery/equipment failure	4	2	3	5	7		2		2			3			
Navigation - other	1			2											
Illness															
Bunker operations					1	1									
Cargo operations		1	1												
Galley operations				1											
Mooring/anchoring operations		1													
Unauthorised boarding															
Leisure activity on board/in sea		1	1	1											
Total	85	71	81	76	89	5	12	0	8	13	15	18	15	1	2

The table below represents a breakdown of **cases** per ship type reported to IOMSR in 2019.

Type of Vessel	Total	Casualty	Acc.	Inc.	Fatalities	Serious Injuries	Minor Injuries
Passenger	**5**	0	2	3			1
Oil	**12**	5	0	7		4	3
Chemical	**0**	0	0	0			
Gas	**8**	4	2	2		3	
Bulk	**13**	5	3	5		2	
Offshore/Standby	**15**	4	9	2		3	2
Other cargo Vessel	**18**	9	1	8	1	2	2
Commercial Yacht	**15**	1	2	12			8
Pleasure Vessel	**1**	1	0	0		1	
Fishing Vessel	**2**	1	1	0			
Cases:	**89**	**30**	**20**	**39**	**1**	**15**	**16**

Nb. More than one injury may have occurred in the same case. See Chapter 5 for information concerning seafarer injuries.

In this report a "***serious injury***" means an injury which is sustained by a person, resulting in incapacitation where the person is unable to function normally for more than 72 hours, commencing within seven days from the date when the injury was suffered.

A "***minor injury***" means any lesser injury which is not a serious injury.

Death or injury from natural causes or suicide is not counted in this report unless they are directly related to an occurrence.

3.2 Reports from Foreign Flagged Ships in Isle of Man Territorial Waters

- none

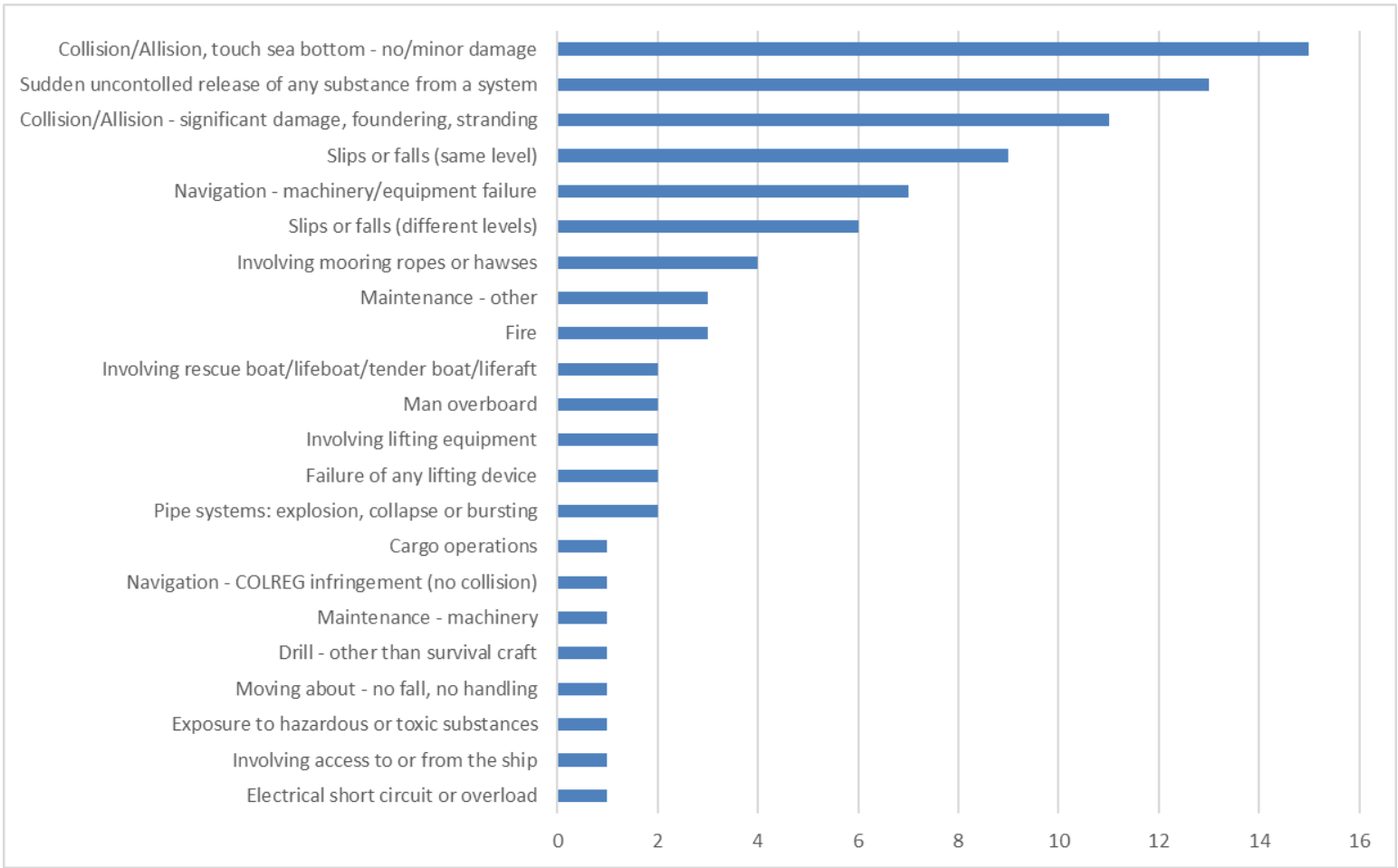
Chapter 4 – Analysis of ARF Reports Received in 2019

The table below summarises the condition the vessels were in at the time of the occurrence.

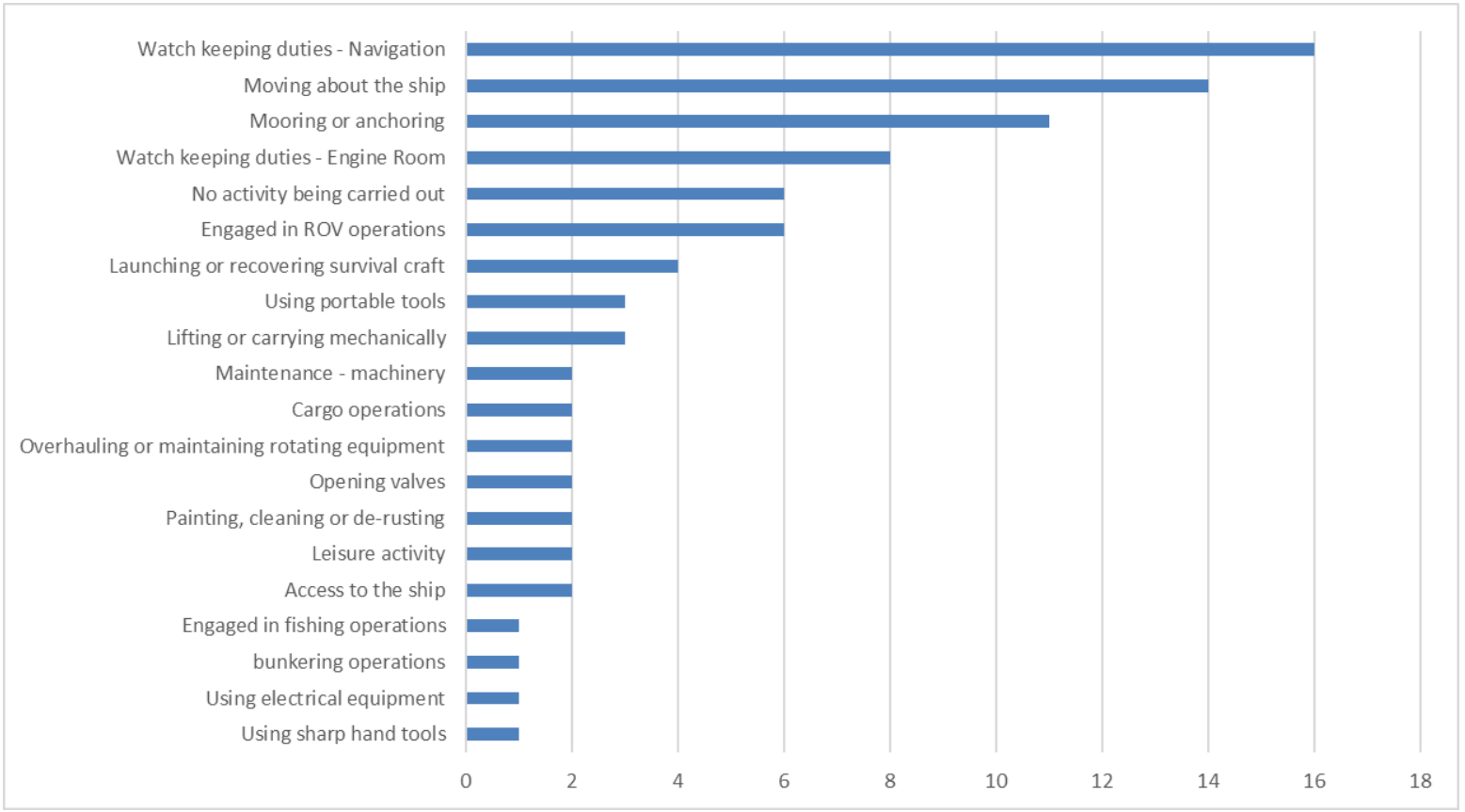
	Total Occurrences			Occ involving		
	Cas	Acc	Inc	Fatality	Serious Injury	Minor Injury
Berthed/Docked	12	7	10	1	7	8
At Anchor/Anchoring/Weighing Anchor	0	1	6	0	0	4
Mooring/Unmooring	0	0	8	0	0	1
Making Way in Port/Confined Waters	3	1	10	0	0	0
Making Way Open Sea	13	3	2	0	7	1
Stopped - Drifting/DP	2	8	3	0	1	2
Total	**30**	**20**	**39**	**1**	**15**	**16**

In some cases more than one person may have been injured in the same case. Where a case involves Fatalities and injuries, this is counted once under a fatality case.

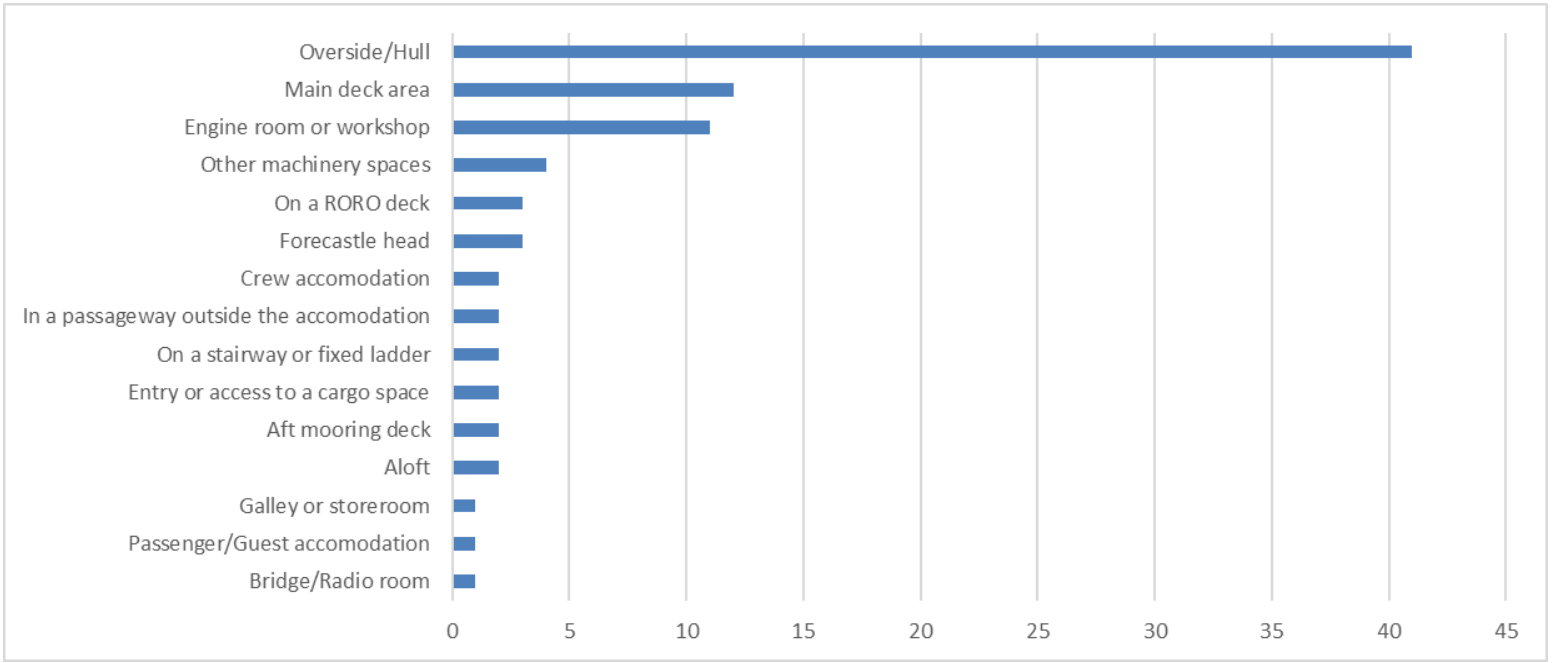
4.1 Type of Occurrences



4.2 Occurrence by Activity



4.3 Place of All Occurrences



Chapter 5 – Injuries and Fatalities Reported

5.1 Seafarer Injuries and Fatalities Reported per person

Seafarers injuries reported per person*;

MLC Seafarer:	Min. Inj.	Ser. Inj.	Fatality	Total
Master/Skipper		1		**1**
Ch. Off				**0**
OOW Navigation		1	1	**2**
Ch. Engineer	1	2		**3**
2nd Engineer	1	2		**3**
OOW Engineer		3		**3**
ETO / Electrician				**0**
Deck / Dual Rating	9	4		**13**
Engine Rating				**0**
Deck / Eng. Cadet		1		**1**
Cook / Steward / Purser	2			**2**
Other Seafarer				**0**
Total	**13**	**14**	**1**	**28**

	All Ships		MLC Ships		Non-MLC Ships	
No. of Seafarers	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**
Fleet estimate	12338		9225		3114	
Fatalities	1	8	1	11	0	0
Serious injuries	14	113	13	141	1	32
Minor injuries	13	105	13	141	0	0

Rate per 100,000

Note:

1. The number of seafarers is estimated based on a seafarer average per ship type per ship size. Number of seafarers is based only on seafarers employed on board ships only and does not include seafarers at home on leave.
2. "MLC Ship" means any ship to which the Maritime Labour Convention 2006 applies.
3. A seafarer is a member of the vessel's marine crew that operate the vessel and does not include passengers, yacht guests, supernumeraries, offshore project crew, stevedores or visitors to the ship.

5.2 Non-seafarer Injuries and Fatalities Reported per person

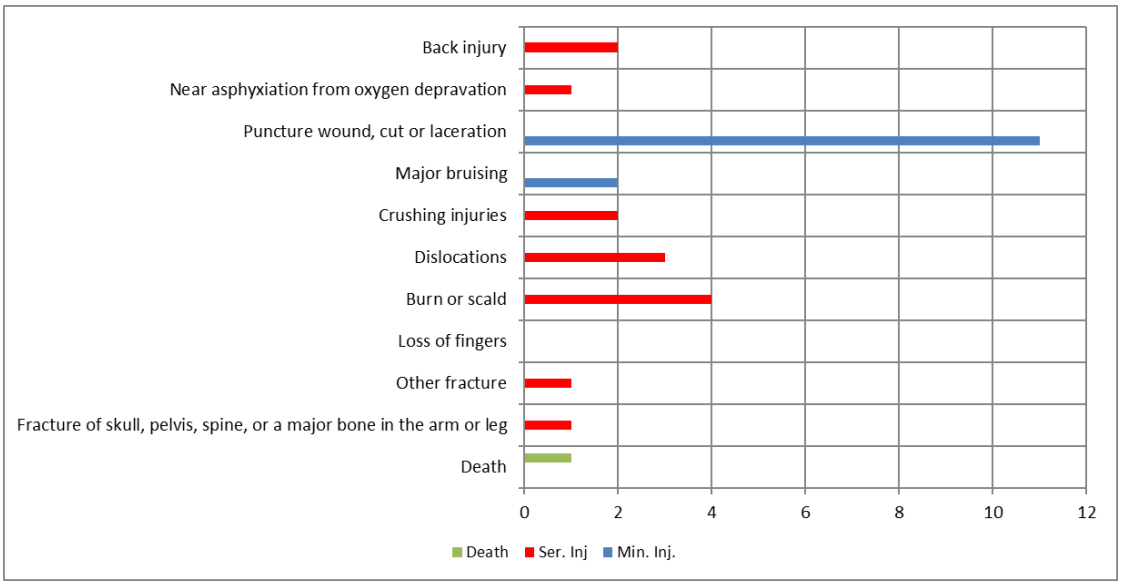
Non-seafarer injuries reported per person*;

Non-seafarers:	Min. Inj.	Ser. Inj.	Fatality	Total
Passenger / Yacht Guest / Supernumerary	1			**1**
Offshore Project Crew	1	2		**3**
Port Visitor / Stevedore	1			**1**
Total	**3**	**2**	**0**	**5**

*Nb In some cases more than one injury may have occurred to the same person. Cases involving illness, suicide or death due to natural causes are not included.

5.3 Seafarer Injury Type

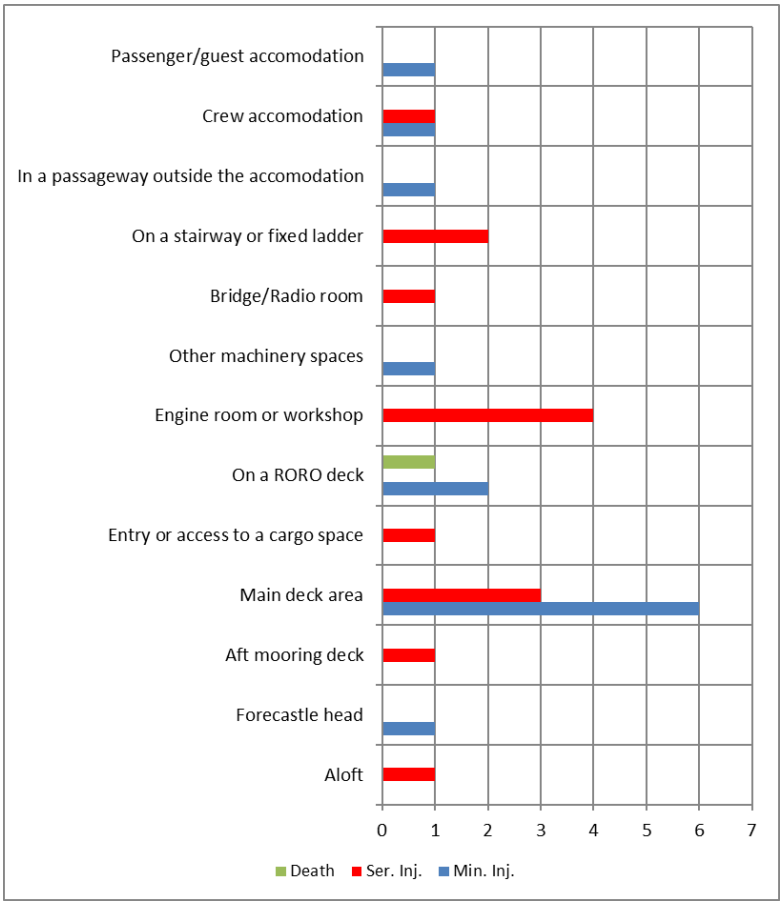
(Total of 28 individual seafarers injured – 1 fatality, 13 minor injuries and 14 serious injuries)



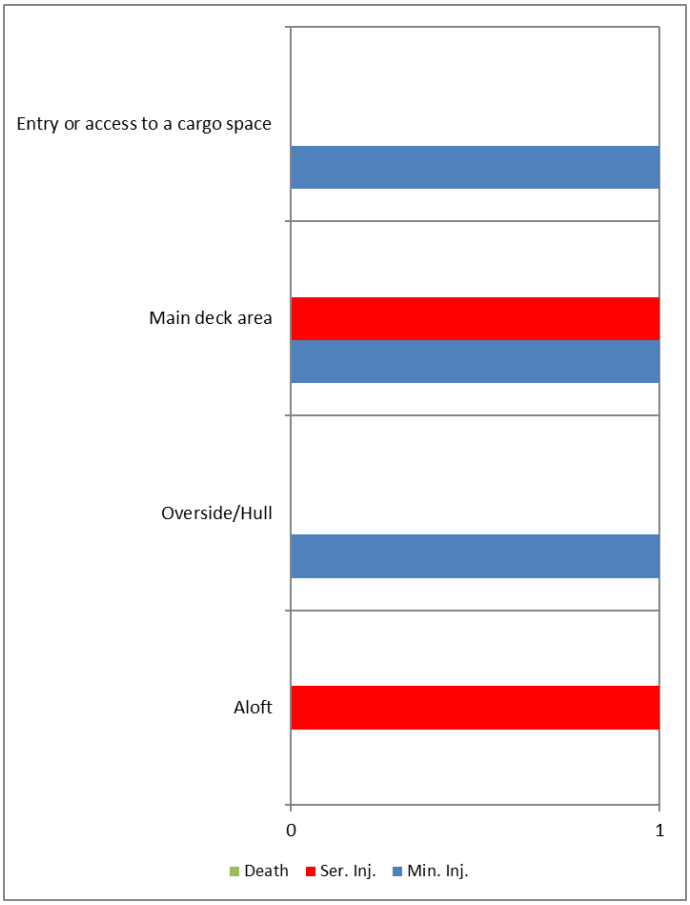
	Min. Inj.	Ser. Inj.
Head	5	2
Torso	1	3
Leg	2	1
Arm	1	5
Hand	4	3
Foot	0	0
Total	**13**	**14**

Age Range	Min. Inj.	Ser. Inj.	Fatal Inj.
16-19			
20-29	4	5	
30-39	2	1	1
40-49	4	3	
50-59	2	3	
60+	1	2	
Total	**13**	**14**	**1**

5.4 Place Where Injury Occurred

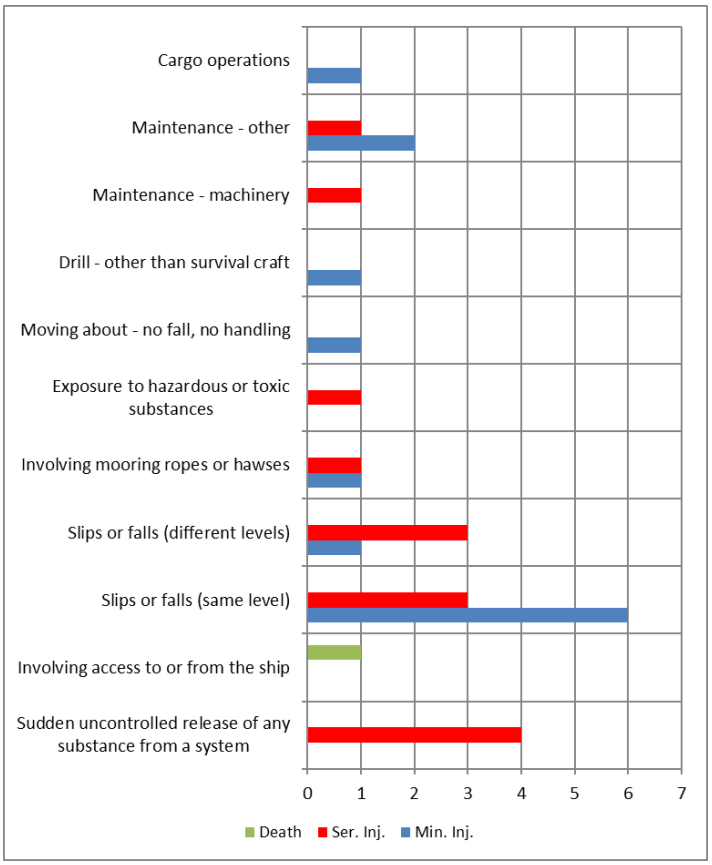


Seafarers

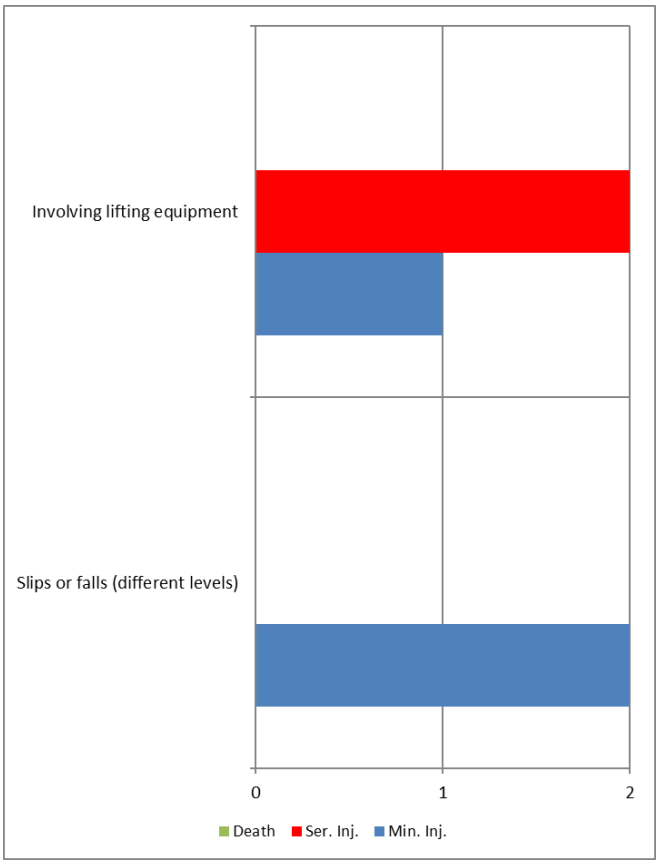


Non-seafarers

5.5 Type of Occurrence Leading to an Injury

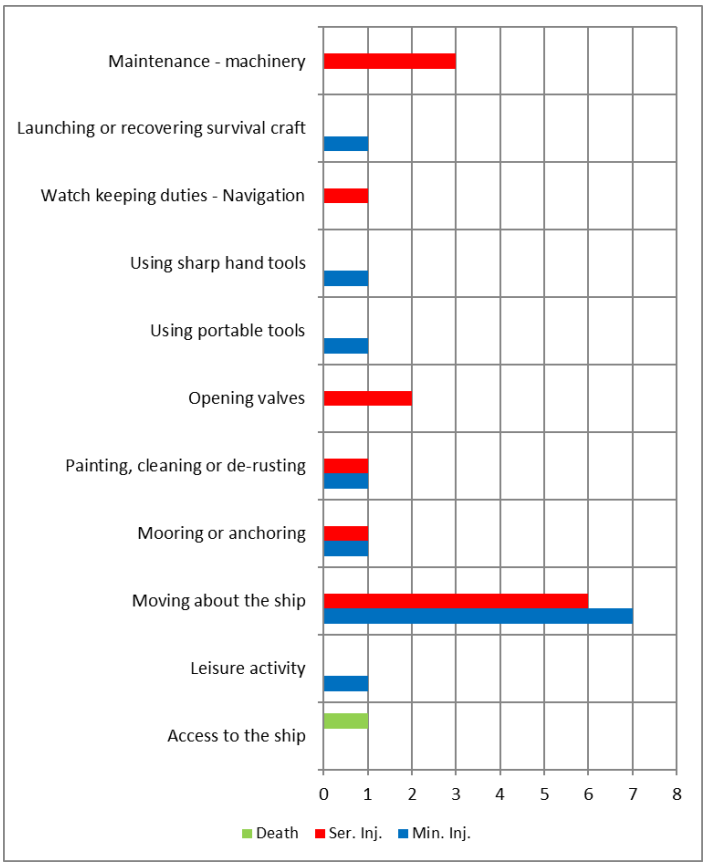


Seafarers

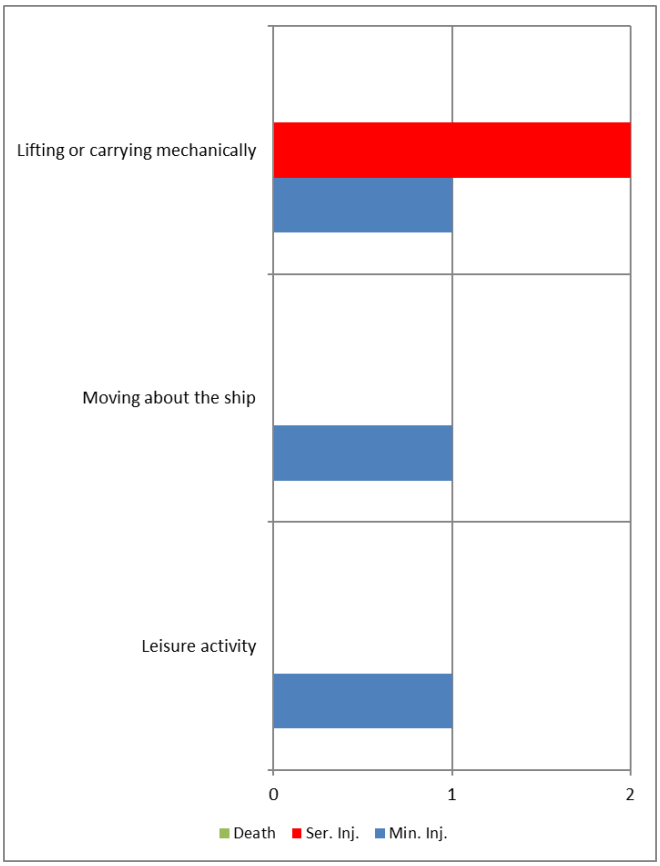


Non-seafarers

5.6 Type of Activity Leading to an Injury or Fatality



Seafarers



Non-seafarers

Chapter 6 - IMO Casualty Investigation Code

Reports received by IOMSR in 2019 have been classified in this chapter according to the International Maritime Organisation (IMO) Casualty Investigation Code.

6.1 IMO Casualty Investigation Code Definitions

A **marine incident** means an event, or sequence of events, other than a marine casualty, which has occurred directly in connection with the operations of a ship that endangered, or, if not corrected, would endanger the safety of the ship, its occupants or any other person or the environment. However, a marine incident does not include a deliberate act or omission, with the intention to cause harm to the safety of a ship, an individual or the environment.

A **marine casualty** means an event, or a sequence of events, that has resulted in any of the following which has occurred directly in connection with the operations of a ship:

.1 the death of, or *serious injury* to, a person;
.2 the loss of a person from a ship;
.3 the loss, presumed loss or abandonment of a ship;
.4 *material damage* to a ship;
.5 the stranding or disabling of a ship, or the involvement of a ship in a collision;
.6 material damage to marine infrastructure external to a ship, that could seriously endanger the safety of the ship, another ship or an individual; or
.7 severe damage to the environment, or the potential for severe damage to the environment, brought about by the damage of a ship or ships.

A marine casualty does not include a deliberate act or omission, with the intention to cause harm to the safety of a ship, an individual or the environment.

Serious injury means an injury which is sustained by a person, resulting in incapacitation where the person is unable to function normally for more than 72 hours, commencing within seven days from the date when the injury was suffered.

Material damage in relation to a marine casualty means:

1. damage that:
    a. significantly affects the structural integrity, performance or operational characteristics of marine infrastructure or a ship; and
    b. requires major repair or replacement of a major component or components; or
2. destruction of the marine infrastructure or ship.

A **very serious marine casualty** means a "marine casualty" involving the total loss of the ship or a death or *severe damage* to the environment. (*NB this does not include death by natural causes*). A marine safety investigation shall be conducted into every very serious marine casualty.

Severe damage to the environment means damage to the environment which, as evaluated by the State(s) affected, or the flag State, as appropriate, produces a major deleterious effect upon the environment.

6.2 Reported Cases Classified as per IMO Casualty Investigation Code

The tables below represent the cases reported to IOMSR in 2019 classified as per the IMO Casualty Investigation Code for different vessel types.

Cases per Ship Type	Total	Passenger	Oil Tanker	Chemical Tanker	Gas Carrier	Bulk Carrier	Offshore/ Standby	Other Cargo	Comm. Yacht	Pleasure Vessel	Fishing Vessel
Very Serious Marine Casualty:	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
Fatality	**1**							1			
Severe Damage to Environment	**0**										
Loss of Ship	**1**										1
Marine Casualty:	**28**	**0**	**5**	**0**	**4**	**5**	**4**	**8**	**1**	**1**	**0**
Serious Injury	**15**		4		3	2	3	2		1	
Material Damage to Ship	**3**				1	1		1			
Stranding, Disabled, Collision	**10**		1			2	1	5	1		
Marine Incident:	**59**	**5**	**7**	**0**	**4**	**8**	**11**	**9**	**14**	**0**	**1**
Total:	**89**	**5**	**12**	**0**	**8**	**13**	**15**	**18**	**15**	**1**	**2**

	Year	2017	2018	2019	2019 Cases
	Cases	**81**	**76**	**89**	
Very Serious Marine Casualty	Fatality	0	0	1	See Chapter 7.1 case 1
	Severe Damage to Environment	0	0	0	
	Loss of Ship	1	0	1	See Chapter 7.1 case 2
	Total Cases	**1**	**0**	**2**	
Marine Casualty	Serious Injury	14	13	15	See Chapter 7.1 cases 3-17
	Material Damage to the ship	6	3	3	See Chapter 7.1 cases 18-20
	Stranding, Disabled, Collision	9	5	10	See Chapter 7.1 cases 21-30
	Total Cases	**29**	**21**	**28**	
Marine Incident	**Total Cases**	**51**	**55**	**59**	See selected cases in Chapters 8 and 9

The numbers of Marine Incident, Marine Casualty and Very Serious Marine Casualty cases are reported by IOMSR to the International Maritime Organisation annually.

Chapter 7 – Casualties in 2019

A total of 30 casualty cases were reported in 2019 and are outlined below.

Casualties	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting	Total
Passenger	0	0	0	0	0	0	0
Oil	2	0	0	1	2	0	5
Chem	0	0	0	0	0	0	0
Gas	1	0	0	0	3	0	4
Bulk	2	0	0	1	2	0	5
Offshore/Standby	2	0	0	0	1	1	4
Other cargo Vessel	4	0	0	1	4	0	9
Comm Yacht	0	0	0	0	1	0	1
Pleasure Vessel	1	0	0	0	0	0	1
Fishing Vessel	0	0	0	0	0	1	1
Total	12	0	0	3	13	2	30

7.1 Brief Summary of All 30 Casualty Cases in 2019

1 Other cargo ship – Fatality case

During cargo discharge operations the officer of the watch was stood on the vessel's RoRo stern ramp when he was struck by a reversing trailer.

The emergency services arrived shortly thereafter where it was quickly determined the officer had unfortunately suffered fatal injury.

- This case was the subject of a joint safety investigation by the Isle of Man Ship Registry and the United Kingdom Marine Accident Investigation Branch.

2 Fishing vessel – Vessel Foundering Case

Whilst at sea conducting fishing operations the crew were retrieving the fishing gear to the deck when the fishing gear struck the hull causing structural damage. As a result of the damage significant water ingress flooded the vessel causing the vessel to founder.

The crew were rescued by other local fishermen in the area. No injuries were incurred however minor oil pollution occurred when the vessel sank.

- This case was the subject of a safety investigation by the Isle of Man Ship Registry.

3 Bulk carrier – Serious injury case

The Second Engineer planned to carry out inspection and maintenance on the incinerator. He asked the duty oiler to remove the cover bolts and instructed him to leave 2 bolts to be removed later. When the Second Engineer was removing the remaining bolts, the cover fell while he was holding the cover and crushed his hand on the side wall of the incinerator causing serious injury.

4 Gas carrier – Serious injury case

Whilst at sea in heavy weather the master was walking across the bridge as the ship rolled heavily. The master slipped, fell onto the deck and suffered a severe back injury. As the master shouted for help the officer of the watch and lookout attempted to reach the master in between the vessel's heavy rolling. The master was at this time on his back sliding across the deck as the vessel rolled.

The crew aided and secured the master. The ship was diverted to a nearby port where the master was transferred ashore for medical treatment.

5 Oil tanker – Serious injury case

A seafarer heard a loud noise and a call for help from an adjacent cabin. He rushed to the cabin and noticed a fellow seafarer lying on the deck. The ship's medical officer was called for help. The injured seafarer was unable to move. Radio medical advice was sought and an evacuation was arranged. The injured seafarer was taken to a shore hospital for treatment. The cause of the seafarer's fall was not determined.

6 Oil tanker – Serious injury case

Whilst the ship was making way at sea the vessel was pitching moderately to a long heavy swell. A seafarer was descending a stairway to the fo'c'sle store in order to fetch paint. He misjudged his step and slipped down the stairway. At the time he slipped he was holding the hand rail with both hands. He lost his grip on his left hand which resulted in the right arm taking his full weight thereby causing his shoulder to dislocate. The seafarer was given immediate first aid on board.

The stairway steps were constructed of checker plate with non-skid aggregate applied to paint coating as per industry best practice and both hand railings were found in good order. There was no excessive condensation noted on steps.

7 Offshore vessel – Serious injury case

Whilst the ship was making way the Second Officer was walking along the main deck when he heard a banging noise on the starboard forward side of the vessel. As he walked to investigate the noise he felt sea-spray on this face, he turned and fell landing on his shoulder dislocating his shoulder in the process.

The ship diverted to a nearby port where the injured seafarer was transferred ashore to receive medical treatment.

8 Offshore vessel – Serious injury case

During maintenance work it was considered necessary to obtain a physical measurement from the top of a mast in order to fix a pad-eye. It was proposed that a crane-basket would be used to access the mast.

The assigned personnel had a toolbox-talk prior to the start of operations which required project crew to ride in the crane-basket to the top of the mast.

The project crew entered the crane-basket wearing full PPE including safety harnesses which were secured. After checking radio communications between the drill floor and crane-basket, the crane-basket was slowly raised in a controlled manner. During raising the crane-basket suddenly dropped approximately 6 feet and was arrested on the compensator cylinders.

A project crew member was injured and taken to hospital for treatment for a fractured leg. An investigation discovered that during the preparation the crane-basket was not secured properly.

9 Gas carrier – Serious injury case

Whilst the vessel was making way at sea an engineer officer was taking an inventory of the chemical stores inside the forecastle store. During the inventory the officer climbed onto the racks. While standing on the rack the officer lost his balance, slipped and fell around 1 meter during which he injured his ribs on an adjacent staircase railing.

An on-board investigation recommended properly secured portable ladders be provided for the job in future.

10 Oil tanker – Serious injury case

Whilst at sea an engine room rating cleaned a sludge pump filter and started oil transfer from sludge tank to a waste-oil tank. During the sludge transfer a defective O-ring of the filter caused a leak of hot oily water. As the rating tried to stop the leak hot oily water sprayed onto his hands when he was closing the suction valve of the pump.

The rating was given first aid treatment on board. The vessel arrived in port the following day where the rating was sent to hospital for burns treatment and surgery to his hands.

An on-board investigation determined the rating should have stopped the pump first and allowed the hot oily water to drain naturally (or possibly try to collect the oily water) rather than placing his hand into the spray zone to shut the valve.

11 Pleasure vessel – Serious injury case

Whilst working aloft washing down the mast a seafarer aggravated an old shoulder injury and dislocated his shoulder. The work was stopped immediately and the seafarer was sent ashore for medical treatment.

12 Offshore vessel – Serious injury case

While landing the ROV work basket on deck following recovery from sea, a crew member sustained an injury to his right hand.

As the work basket was lowered, the load transferred to the legs causing movement in the locking pin mechanism. This resulted in the seafarer's finger being caught between the locking pin handle and the corner post. The tip of the crew member's finger was severed.

The work was stopped and the crew member was taken to the on-board hospital for medical assistance.

An on-board investigation identified not only did the crew member place his hand in the wrong place, the locking pin mechanism in use was the wrong design fitted. New locking pins were fabricated on board and installed resulting in removal of the pinch points.

13 Bulk carrier – Serious injury case

Whilst in port a rating was preparing an air hose with a cadet for blowing cargo residues from frames and pipe guards inside a cargo hold.

The rating entered the cargo hold using the forward hatch and vertical ladder to check if the cargo level had cleared enough for him to start knocking down any residues using the air hose. On reaching the first landing platform in the trunking he was observed becoming unsteady and then collapsing on the platform. The cadet saw this and immediately raised the alarm by shouting for help. On hearing the shouts for help, the Second officer proceeded to the cargo hold and saw the AB lying on the platform.

The Second officer immediately alerted everyone by VHF radio and the Master went to the bridge and raised alarm and made announcement through public address system for emergency rescue.

An Oiler proceeded the cargo hold with an SCBA set on hearing the alarm soon after other rescuers and emergency team also arrived at location. The oiler went down to the platform and wearing the SCBA to check and aid to the AB. A second rescuer also went down with an EEBD. They checked the AB's pulse and breathing confirmed positive but the AB was unconscious.

The emergency services arrived at the scene and assembled a pulley for lifting the AB from the hold with ship crew assisting them. The AB was lifted out successfully and taken to the hospital by ambulance.

14 Oil tanker – Serious injury case

While the ship was alongside in port the crew were preparing the vessel for departure. The mooring parties assembled at their mooring stations fore and aft ready to unmoor the ship.

When letting go the mooring lines the Chief Eng. shouted out with pain when he put his hand between a rubber jetty fender and the ship's side. Unmooring and manoeuvring were then ceased. First aid was applied on board the Chief Eng's hand and the Dock Master arranged an ambulance to take the Chief Eng to a local hospital for medical treatment.

15 Gas Carrier – Serious injury case

An engineer officer was taking soundings of all bunker/fuel tanks when he tried to slowly open the sounding pipe of a HSFO service tank. Suddenly the heated HSFO fuel splashed out from the sounding pipe. A cadet who was nearby tried to help the officer, however both suffered 1st and 2nd degree skin burns.

Both crew members were sent ashore for medical treatment.

16 Other cargo ship – Serious injury case

While on watch the Second Engineer was trying to take water sample from Main Engine. The ship was making way at sea. While the Second Engineer opened the valve the vessel rolled causing him to accidentally open the valve fully.

Hot water from the pipe at 85°C burned his stomach, upper parts of legs, right hand and genitals. He moved back pushed by the water pressure, shocked by the temperature and lost his balance. He fell back and hit his head on the valve behind him. His head was found bleeding badly but he was conscious all the time. The Second Engineer removed his boiler suit and called for help. A Fitter who was nearby helped him to cool him with cold water and informed Bridge and Chief Engineer about accident.

The Master arranged shore paramedics advice who advised the crew to keep cooling down the burned area. On arrival the Second Engineer was immediately transferred to a shore hospital for treatment.

17 Other cargo ship – Serious injury case

As the Chief Engineer was proceeding from his cabin to the engine room he fell down a stairway in the accommodation, around one meter. The stairway was in very good condition and well lit. After a couple of minutes of lying there, the Chief Engineer was discovered by other crew members who aided the Chief Engineer back to his cabin.

The following day the Chief Engineer was taken to hospital where it was determined he had fractured his hip requiring surgery.

18 Gas carrier - Material damage to the ship case

Whilst making way at sea the vessel encountered a main engine shut down activated by the oil-mist detector. The main engine crankcase was opened where it was discovered there had occurred two bearing failures. Bearing material was also discovered in the ME LO filter.

As a consequence of the damage sustained the vessel was immobilized and required tug assistance to tow vessel to her destination port where further investigation and repairs were conducted.

19 Other cargo ship – Material damage to the ship case

Following the vessel's departure from port the vessel experienced a low water level alarm instantly followed by a blackout.

Upon investigation it was discovered a generator had suffered a major mechanical failure with a piston connecting rod and big end bearing punching their way through the crankcase door.

20 Bulk carrier – Material damage to the ship case

As the vessel arrived in port an attending tug driver noticed a hole penetration in ship's hull and informed the bridge team.

An investigation concluded no attributable cause could be identified as to the hull penetration and that it likely happened when striking an object at sea during heavy weather.

21 Other Cargo ship – Grounding, collision/allision case

Whilst alongside conducting cargo discharge operations it was noted that a movable bulkhead appeared misaligned and some of the associated locking pins were damaged. As further cargo was unloaded there appeared to be further damage.

Upon investigation it was apparent the ship had touched bottom while alongside causing damage to the ship's hull and that the seabed was irregular differing from the charted conditions. Following cargo discharge the ship proceeded to dry dock for repairs.

22 Other cargo ship – Grounding, collision/allision case

Whilst making way in the Yellow Sea the vessel was involved in a collision with a fishing boat in reduced visibility. Immediately prior to the collision the fishing boat altered course suddenly to pass ahead of the cargo ship. The manoeuvre resulted in the two vessels colliding causing the fishing vessel damage and to overturn.

- This case was the subject of a safety investigation by the Chinese Maritime Safety Administration.

23 Offshore vessel – Grounding, collision/allision case

The vessel entered port and was preparing to moor in anticipation of cargo loading operations. The vessel approached the planned berth with tug assistance in squally conditions and moored alongside. The vessel was able to hold position with the aid of a tug and ship's thrusters. As the wind speed increased it was reported the mooring lines were slipping causing the vessel to surge forwards. This eventually resulted in the mooring lines parting and setting the vessel adrift.

The forward mooring party was instructed to let-go the port anchor. The wind was observed gusting 50-65knots and it was not possible to bring the vessel round into the wind. The dynamic positioning officer had applied full thrust but the vessel drifted onto the quay with the anchors dragging through the water which slowed the rate of drift.

The vessel landed on the quay where all fenders were forced out of the water and onto the quay. The vessel's stern then landed heavily on the quay fendering aft and began move forward. The wind was 50kn at this time and manoeuvring was difficult due to vessel thrusting off the quay to avoid landing heavily. At this point heavy contact was made between the tug and the vessel. The vessel was able to manoeuvre clear and berth alongside where a damage assessment commenced.

The vessel sustained a triangular hole in the hull as well as shell plating indentation.

24 Oil tanker – Grounding, collision/allision case

Whilst the vessel was passing through a lock entrance with the aid of tug assistance, the vessel made heavy contact with an unprotected wall causing indentation and fracture of the hull plating.

25 Other cargo ship – Grounding, collision/allision case

As the vessel departed port in a buoyed channel the Master noticed the vessel was setting to the edge of the channel. This was assumed to be interaction with the bank. As varying degrees of helm was applied to avoid grounding, the vessel made contact with the sea bottom. After grounding the vessel continued proceed to sea when a list of approximately 5 degrees was observed. The ballast system was then used to upright the vessel. There were no injuries and no pollution was observed.

After grounding the company and authorities were informed. Sounding of all tanks was then undertaken where seawater was discovered in a void space. The Master and Harbour Master decided to return the vessel to port with tug-boat assistance since there was no fuel leak to sea. Repairs were carried later carried out at a nearby port.

- This case was the subject of a safety investigation by the United Kingdom Marine Accident Investigation Branch.

26 Other cargo ship – Grounding, collision/allision case

While the vessel was moored alongside another vessel was mooring onto an adjacent berth when it collided with the vessel. The collision resulted in structural damage to both vessels.

27 Commercial yacht – Grounding, collision/allision case

As the yacht was making way in the vicinity of other yachts and pleasure boats it was noted that the depth reading was decreasing. The engine throttles were placed to idle to reduce speed. A short time later a shudder was felt through the vessel indicating that part of the yacht had made contact with the seabed. The impact was not violent and there were no physical injuries to guests or crew.

An inspection of the internal spaces commenced concluding there was no damage or leaks. The vessel then made way at idle speed but any increase in RPM created vibration indicating propeller damage.

The vessel continued at idle speed to a safe anchorage where a diver inspected the underwater sections of the yacht. It was discovered both propellers were seriously damaged.

28 Bulk carrier – Grounding, collision/allision case

Whilst making way in the South China Sea the vessel was involved in a collision with a fishing boat. The collision caused a breach in the hull and flooding of a ballast tank. Both the ship and the Fishing Vessel were confirmed safe with no casualties. No pollution was observed around the vessel.

29 Other cargo ship – Grounding, collision/allision case

While approaching a lock entrance to a canal the local Pilot took over steering, bow thruster and Main Engine command. At this time the Master decided to leave the bridge to attend to other matters leaving the pilot alone to conduct the manoeuvring of the vessel into the lock.

The vessel's navigation equipment was reported to be responding adequately to the pilot's command but was affected by the external weather conditions and the ship did not follow the desired track.

The vessel's bow made heavy contact with a berth before the lock entrance. The Master was then instructed by the local authorities to berth the vessel and wait for the Classification society to attend for inspection.

As a result of the heavy contact with the berth the vessel sustained significant structural damage to the hull plating requiring repair before proceeding on voyage.

30 Bulk carrier – Grounding, collision/allision case

Whilst moored alongside in port cargo discharge operations were completed and the crew prepared the ship for departure. A local pilot boarded the vessel and two tug boats were arranged to assist.

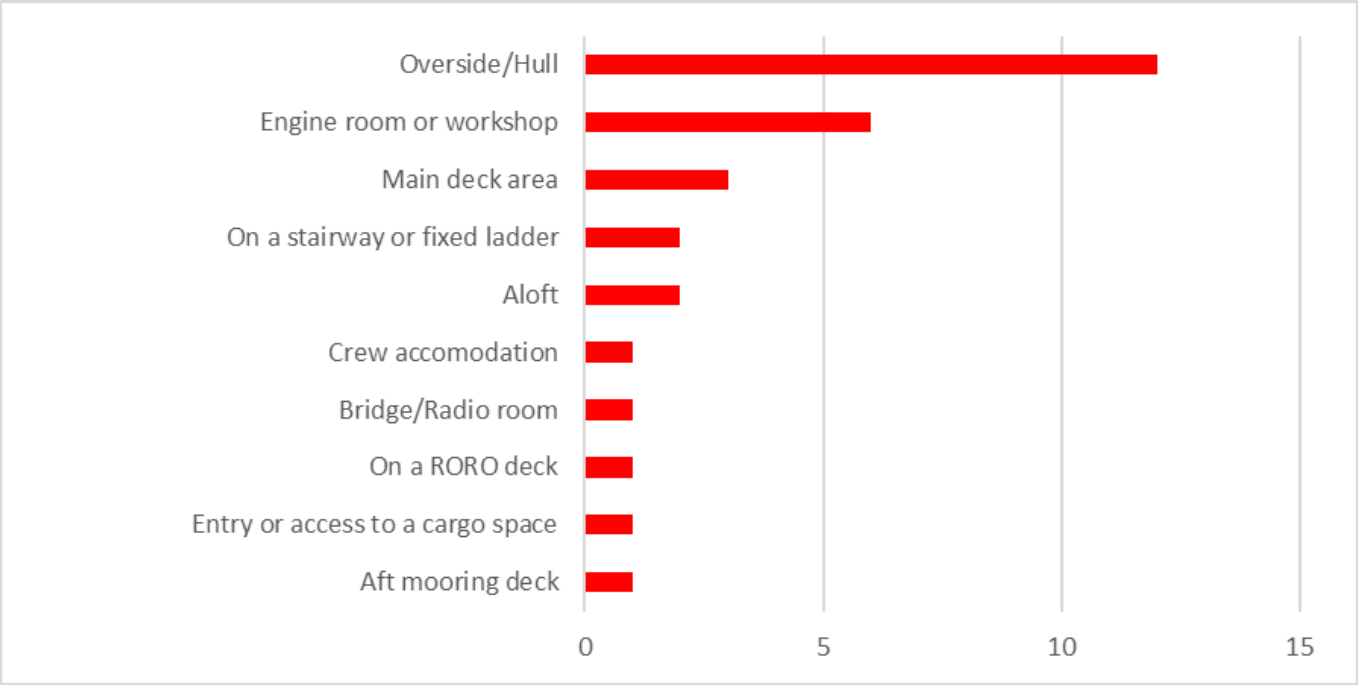
While unberthing, another vessel was manoeuvring to a nearby berth with tug boat assistance. The pilots on board each vessel communicated with one another and along with the VTS and agreed a crossing manoeuvre.

It was agreed that the vessel shall alter course to starboard and pass ahead of the other vessel. On noting that the other vessel was not turning as initially agreed, the pilot ordered helm hard-starboard and then the wheel was put on mid-ship and Main Engine was ordered full astern. Shortly after this, the bow made contact with the other vessel causing structural damage to both vessels. No crew members were injured in the incident and there was no oil spill was observed into the water.

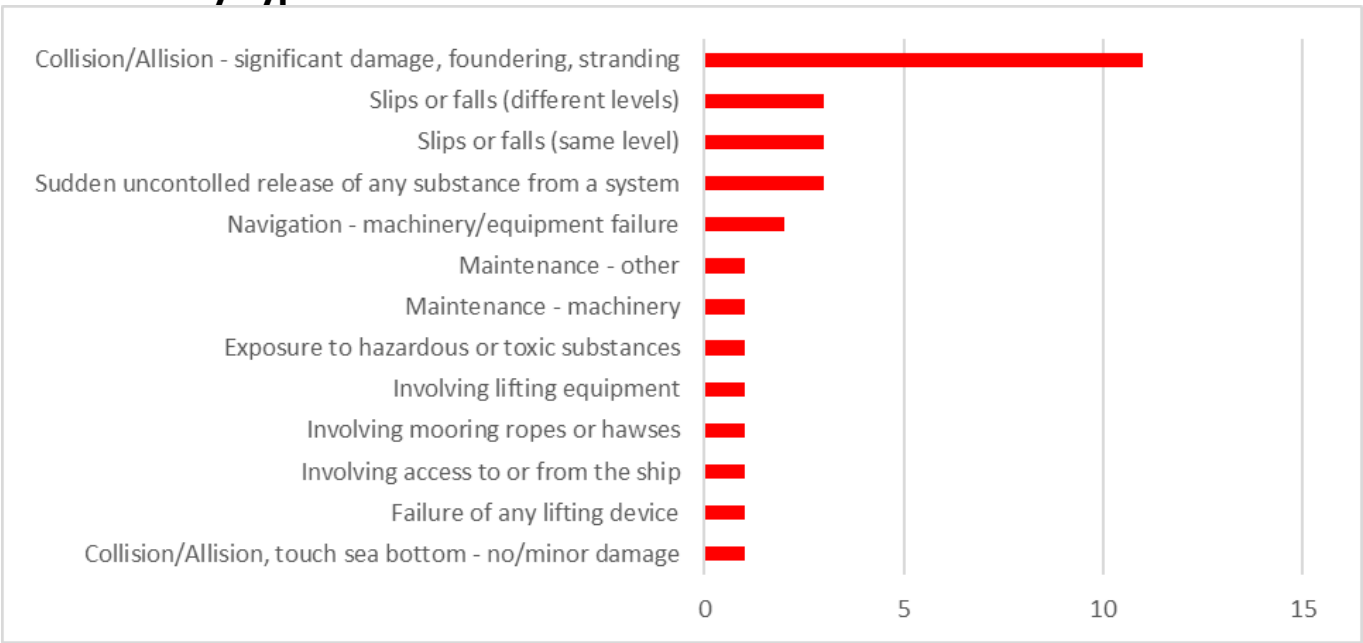
The vessel was then instructed to anchor while the other vessel ceased berthing and anchored to enable the local authorities conduct an investigation.

7.2 Casualty Chart Representations

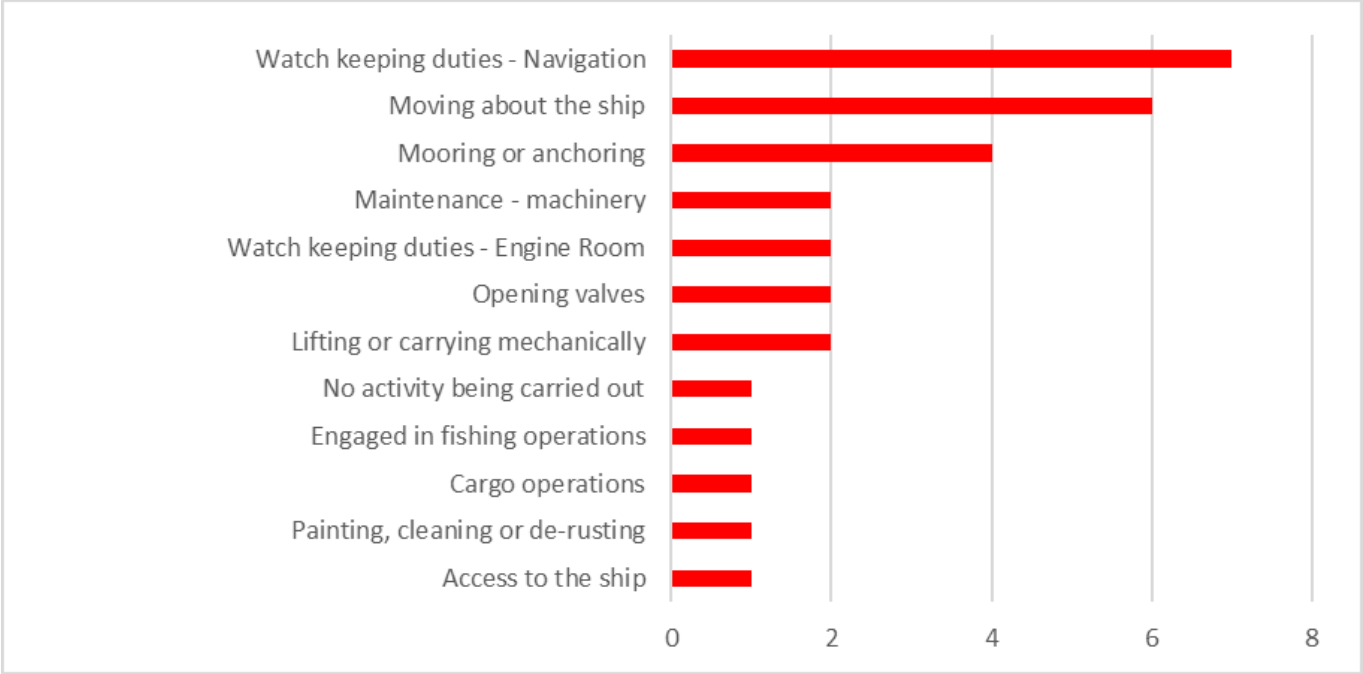
2019 Casualty Places



2019 Casualty Types



2019 Casualty Activities



Chapter 8 – Accidents in 2019

A total of 20 accident cases were reported in 2019 and are outlined below.

Accidents	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting	Total
Passenger	0	0	0	1	1	0	2
Oil	0	0	0	0	0	0	0
Chem	0	0	0	0	0	0	0
Gas	1	1	0	0	0	0	2
Bulk	2	0	0	0	1	0	3
Offshore/Standby	1	0	0	0	0	8	9
Other cargo Vessel	0	0	0	0	1	0	1
Comm Yacht	2	0	0	0	0	0	2
Pleasure Vessel	0	0	0	0	0	0	0
Fishing Vessel	0	0	0	0	1	0	1
Total	6	1	0	1	4	8	20

8.1 Brief Summary of Selected Accident Cases in 2019

Fishing vessel – Fire

Whilst the vessel was at sea the smoke alarm sounded due to smoke in the ER. On seeing the smoke, the crew assumed an engine compartment fire. The crew isolated the fuel and electrical systems remotely. Fixed and portable fire extinguishers were then operated as a precaution.

Lifeboat assistance and a tow back to port was later requested as the engine was disabled.

- This case was the subject of a safety investigation by the Isle of Man Ship Registry.

Commercial yacht – Fire

Whilst berthed alongside a smoke detector pre-alarm activated in the sprinkler room.

The first responder on scene reported there was thick white smoke in the sprinkler room which appeared to be coming from the starter box for a fire pump located in the sprinkler room. The fire detection system then went into full activation mode.

The power to the fire pump was isolated then the smoke began to dissipate as soon as the power was removed.

The control box was not hot to the touch and upon opening further smoke was seen to be emanating from the Variable Frequency Drive VFD for the fire pump. The casing of the VFD was not deformed nor was there any signs of heat or discoloration.

Passenger Ship – Fire

On arrival into port the bridge received a call from the galley to report a small fire originating at one of the galley microwaves. At the same time the galley supervisor shut down the ventilation and power using the emergency stops and used a CO2 extinguisher to extinguish the fire.

Gas carrier – Fire

Whilst in port conducting cargo operations the fire alarm was triggered on the alarm panel indicating an auxiliary engine fire in the engine room. At this time a crew member in the vicinity also noticed smoke coming out from the turbo charger. The crew member informed fellow engineers and proceeded to extinguish the fire using a portable CO2 fire extinguisher. Meanwhile the engineers immediately went to the Control Room to turn off the Main Breakers for the Cargo Plant to reduce load on the switchboard and

turn off the generator. Around the same time a fire team was dispatched and prepared hoses in preparation of possible re-ignition. The fire was successfully extinguished within minutes.

An investigation noted the main cause of the fire was the lagging material wrapped around the exhaust of the auxiliary engine's turbo charger. The lagging material was found in poor condition and soaked with oil.

No damaged observed on auxiliary engine and it was tested afterwards and found in good working condition.

Passenger ship – Oil spill
As the vessel was arriving into port manoeuvring towards the intended berth the alarm monitoring system indicated a loss of hydraulic oil. The Chief Engineer ordered an inspection of the internal spaces however no leaks were found.

Checks continued on the main deck areas where a leak was reported at the rescue boat. The hydraulics were then isolated preventing further loss of hydraulic oil and maintaining manoeuvrability of the vessel.

As the investigation of the leak was being established by the Engineering department. The Deck crew at forward and aft mooring stations were informed by the bridge to run mooring lines ashore as soon as possible. The vessels momentum was used to allow her to drift towards her berth - with minimal use of the mechanical systems.

Once engineers had isolated the hydraulics to stop the leak, clean-up of the oil with the SOPEP equipment commenced.

The local authorities were informed who put booms round the vessel to contain any oil round the ship.

Offshore vessel – Oil spill
Whilst in port conducting loading operations it was planned to launch and manoeuvre the ship's rescue boat. During launching a hydraulic hose burst causing a spray of hydraulic oil into the dock water.

Commercial Yacht – Oil spill
During bunker operations the supplier was asked to stop pumping while the yacht still had 2000l capacity remaining in the overflow tank. The bunker supplier stopped pumping oil and then blew air into the pipe to empty the fuel before disconnection. The air pressure used forced some fuel to escape through a mast vent.

The SOPEP alarm was raised and all crew on mustered on deck. An oil boom and absorbent pads were deployed where needed. The rescue tender was launched to pull the booms around the spillage as much as possible. Absorbent pads were then used to collect as much oil as possible.

The local authorities were informed who also assisted with the oil clean-up.

Bulk carrier – Oil spill
Whilst in port during a transfer of marine gas oil to the service tank an overflow occurred from the DO service tank. The drip tray contained approximately 200ltrs. and it was estimated a further 50ltrs spilled onto the main deck of which 5-10ltrs seeped through a leaking scupper plug to the sea.

An onboard investigation concluded a junior engineer took it upon himself to make an unplanned oil transfer without calculating the available capacity of the tanks.

Offshore vessels – Oil spill
Several reports were received from offshore vessels concerning minor hydraulic oil spills while conducting subsea ROV operations.

The main cause of the spills concerned either defective hoses/hose connectors, cartridge filters, faulty thruster bearings and faulty manipulators. The spills resulted in the ROV operations to be terminated and the equipment retrieved to the ship for inspection and repair.

Gas carrier
The crew were assigned to prepare launch the free-fall lifeboat (FFLB). Following initial checks, everything appeared to be working properly. The FFLB release system was checked. The FFLB was released from the release system inside the lifeboat.

Following manoeuvring in the water the FFLB was attached on recovery slings the lifeboat was lowered down to the water by davit without any crew onboard. Following successful tests and checks the crew prepared to recover the FFLB. The crew disembarked FFLB by ladder and commenced securing the FFLB to the hoist.

Following hoisting of the FFLB to the stowage position the FFLB fell onto the main deck as the boat was being secured. The crew evacuated the area and an assessment was made of the situation.

An investigation onboard found the aft lifting bracket had failed due to poor condition which had not been identified in prior inspections and the launch preparation.

Bulk carrier
During repair of a cargo crane hydraulic system by a local shore technician assisted by ships staff, the crane jib fell down unexpectedly hitting a fixed log stanchion post and the forward panel of a hatch cover (in open position). This caused damage to the crane jib and small section of hatch cover. No injuries were incurred.

Bulk carrier
Whilst the ship lay at anchor a planned lowering and manoeuvring of the free fall lifeboat (FFLB) was conducted with 4 crew members onboard.

After the lifting hook was connected and weight taken, one of the links connecting the lifting hook to the shackle of the traverse bar fractured and parted. As the link parted the boat was raised slightly out of the water with 2 crew members in the process of embarking the ship via a ladder on the stern. The crew members lost their grip and fell in the water. No injuries occurred otherwise. The 2 crew members were brought back onboard safely by the embarkation ladder.

An investigation noted the lifeboat was lifted by connecting an unsuitable shackle in place of a broken centre link.

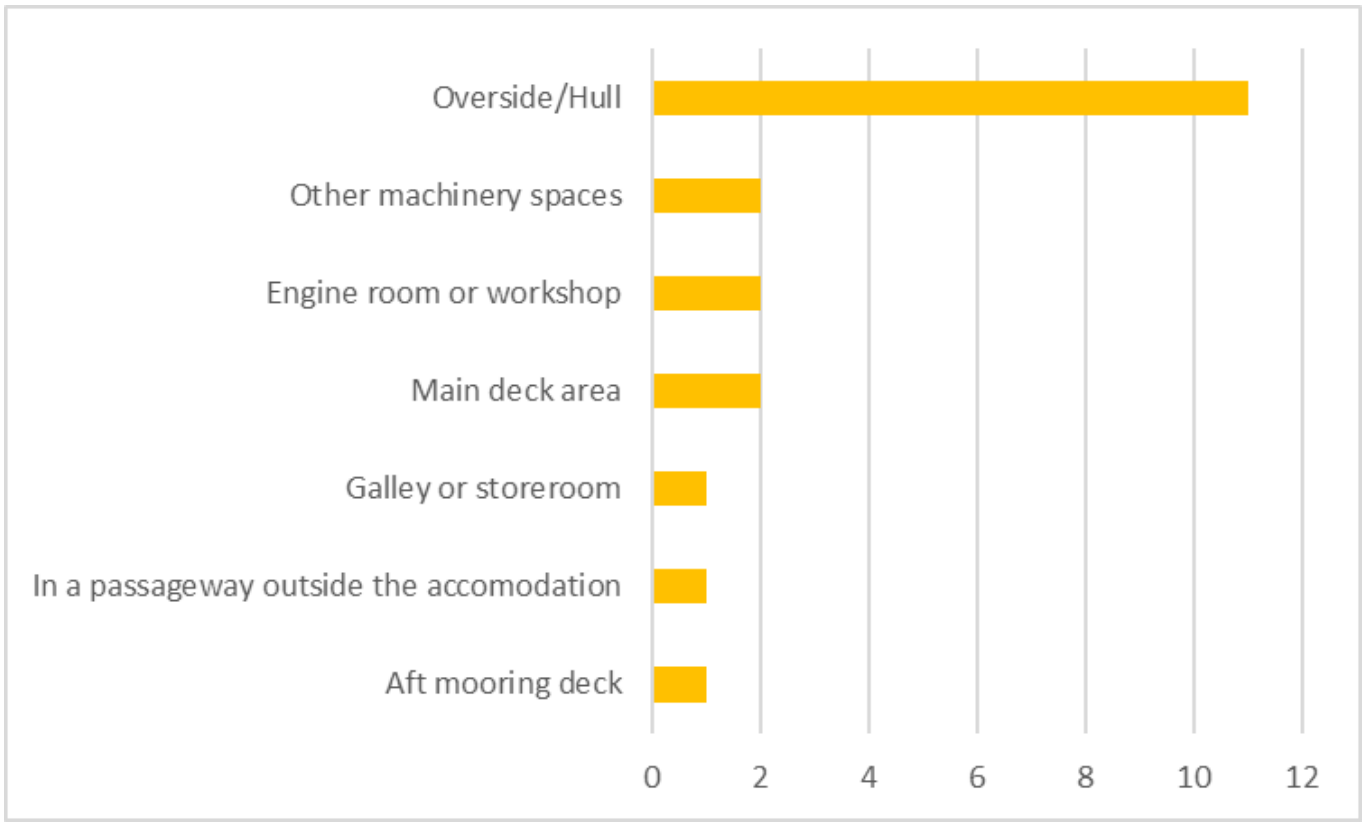
Other cargo ship
Whilst the vessel was making way at sea a crew member noticed the bow thruster room & emergency fire pump compartment flooded with seawater.

After visual inspection of flooded area, a decision was made to pump out the water by the ejector system so the water level could be reduced. During pumping out the water level decreased and the overboard valve was closed. The vessel continued to port and berthed safely where an investigation and repairs could be undertaken.

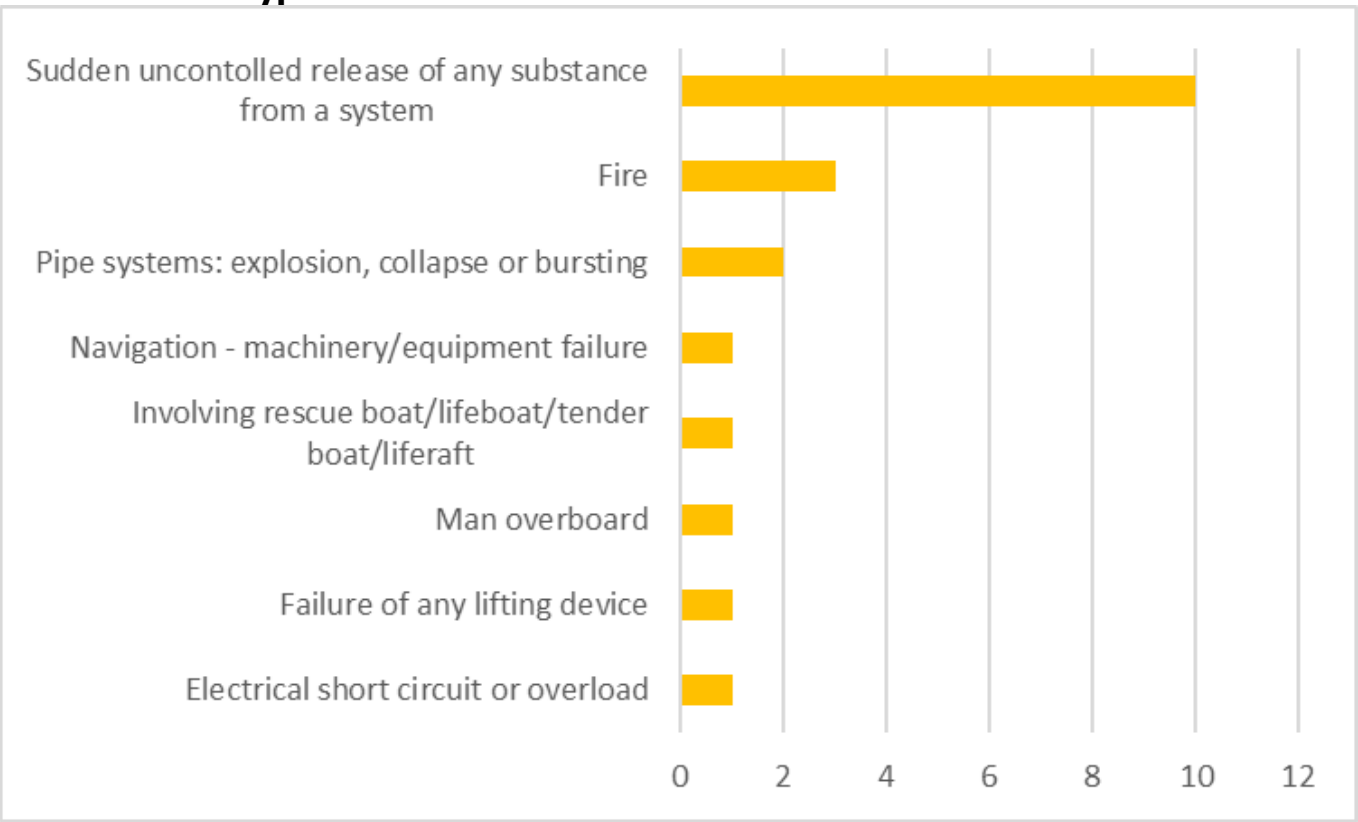
An investigation found a water hose (priming pipe) on the emergency fire pump suction line had become disconnected which then flooded the compartment. The investigation also noted the bow thruster bilge high level alarm had been inhibited previously by an engineer without informing bridge watch officer & chief engineer.

8.2 Accident Chart Representations

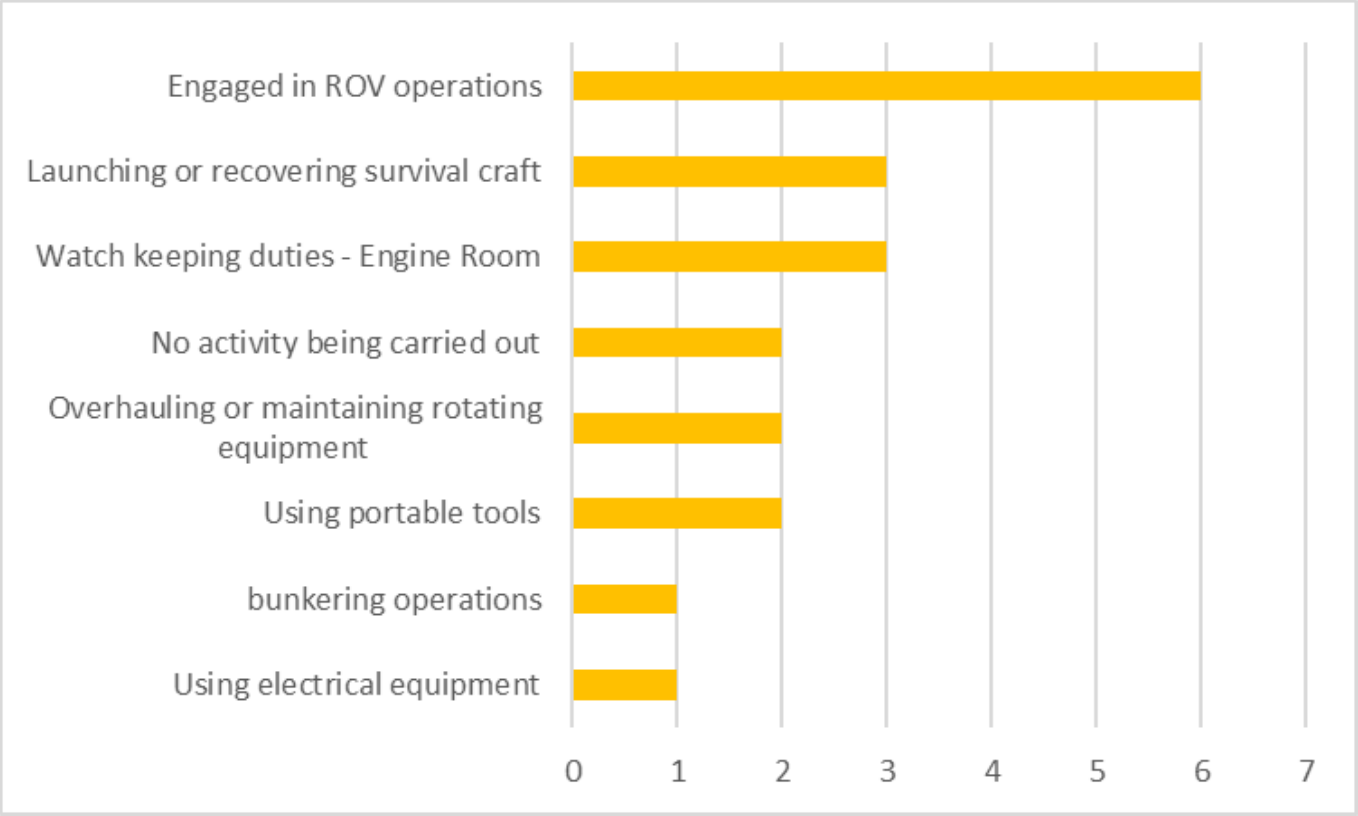
2019 Accident Places



2019 Accident Types



2019 Accident Activities



Chapter 9 – Incidents in 2019

A total of 39 incident cases were reported in 2019 and are outlined below.

Incidents	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting	Total
Passenger	1	0	2	0	0	0	3
Oil	1	0	2	2	0	2	7
Chem	0	0	0	0	0	0	0
Gas	0	0	0	2	0	0	2
Bulk	0	1	2	1	1	0	5
Offshore/Standby	0	1	0	0	0	1	2
Other cargo Vessel	2	0	2	4	0	0	8
Comm Yacht	6	4	0	1	1	0	12
Pleasure Vessel	0	0	0	0	0	0	0
Fishing Vessel	0	0	0	0	0	0	0
Total	10	6	8	10	2	3	39

9.1 Brief Summary of Selected Incident Cases in 2019

Commercial yacht – minor injury case

The Second Engineer was working on a malfunctioning sliding door which required the removal of a wooden panel above the door in order to access a space where the operating motor is located. The wooden panel is attached to a metal frame.

While inspecting the space the Second Engineer accidentally brushed past a sharp edge of the metal frame with his chin causing a skin laceration. First aid treatment was given on board and later several stitches at a medical centre ashore.

Other cargo ship – minor injury case

While walking between stowed trailers on the main deck a seafarer tripped on a lashing chain causing a laceration on his leg. At the time this was not reported on board. After one week the seafarer reported the incident after the wound began causing him pain. After examining the wound, it was noted the wound had healed but the whole lower side of the leg around the wound was swollen with infection.

Commercial yacht – minor injury case

The Chief Engineer was about to enter the crew entrance when he was stood outside on the main deck. The forward-most deckhead panel became detached from its fixings and fell onto his head causing small cuts, at which point he caught it, to stop it falling further. If the panel had fallen further under its own weight, it would have pulled electrical cables down as well. Other seafarers in the vicinity came to the Chief Engineer's aid straight away and assisted with holding the up panel and rectifying the situation.

A later investigation found the panels were incorrectly fixed with insufficient mountings. The fixings were subsequently replaced with a new fixing system.

Commercial yacht – minor injury case

While conducting a steering gear drill in the steering gear room a seafarer was moving between the port and starboard steering rooms. As he leaned into the starboard steering room the magnetic on the door released due to the swell and the door closed on the seafarer's fingers.

Oil tanker – minor injury case

A seafarer was walking along the main deck when he tripped on a longitudinal support, fell and injured his face. The seafarer suffered a large laceration to the inside of his mouth and to his face.

Oil tanker – minor injury case
While working on deck paint-chipping a seafarer felt pain on his knee so he sat and later lay down on deck. When he felt better, he tried to stand-up, fainted and fell on his back hitting his head on the deck. The seafarer sustained a cut to his head.

Commercial yacht – minor injury case
A seafarer was stood on stairs concentrating on flying a remote-controlled drone. As he was adjusting his position, he missed the next step and fell injuring his leg as he landed on the stairway.

Commercial yacht – minor injury case
A deckhand fell during a routine launch of the inflatable jet ski dock resulting in minor injuries to his elbow. The deckhand was launching the inflatable dock by hand, a routine operation with the assistance of 2 other deck crew.

Upon launching the dock, the crew were positioned holding 2 lines that would be later secured to the yacht. One of these lines was shorter than the other and due to the timing of the launch the shorter line came under tension first pulling the deckhand across the deck causing him to lose balance and fall against the threshold of the tender garage door. The deckhand got up straight away, stating he was ok and no further action was required.

An investigation later noted a lack of coordination amongst the crew involved launching the equipment and holding the line in a way that couldn't be freed quickly in the event something went wrong. Crew training and a review of the R/A was implemented addressing the correct positions to stand, line handling and the importance of coordination amongst each other during the launch.

Commercial yacht – minor injury case
A stewardess was walking down the stairs to the crew mess when she slipped at the lower end of the stairs. She slipped as a result of misplaced footing on the inside edge of the stairs. She fell onto her lower back and suffered a small graze and localized bruising. She came back to her feet immediately assisted by fellow crewmembers who were in the vicinity. The stewardess received medical treatment on board.

An investigation noted the edge of each step tread in covered in non-skid strip and non-skid tape. Hand rails are also available and the tower is well lit.

Following the fall the crew were reminded to take care when using the stairs, take their time, not to rush and not to overload themselves by carrying excess items. 'Dumb waiters' should be used where necessary.

Oil tanker – minor injury case
During mooring operations, a seafarer transferred a breast line from the drum end to the bitts using a stopper. At this time sea swell caused the vessel to move away from the quay. This in turn caused excess load to come onto the stopper which subsequently parted. The mooring line then struck the seafarer's hand causing minor injury.

Following this, further movement of the vessel resulted in another mooring line to part. The master decided to abandon mooring and proceed back out to sea.

Offshore ship – minor injury case
A seafarer was washing the main deck with a high-pressure washer when he tripped on a manhole cover approximately 15 cm higher than the deck. The manhole cover was marked with yellow and black zebra paint. As he tripped, the beam from the HP washer hit the seafarer in the face around his eyes and nose. He was wearing protective glasses, but they were blown off by the water jet.

The seafarer was brought inside the accommodation by fellow crew members where he was given first aid treatment. The seafarer was bleeding from the area around his eyes so he was sent to a shore hospital for a check-up.

Commercial yacht – minor injury case
Whilst performing routine maintenance, a deckhand was using a plastic 'T' shaped tool to smooth over deck caulking he had applied on the teak. The deckhand was unaware that the tool housed a blade and upon cleaning the caulking the lid popped off the tool and he cut his thumb.

First aid was applied on board and the deckhand was sent ashore to a medical centre for a check-up.

Passenger Ship – minor injury case
A high trailer was loaded in position directly forward of the internal ramp. As the trailer was raised to allow a trestle to be put in position, the top corner of the trailer made contact with the trailer behind causing a steel trim to break off, fall and hit a seafarer on the head.

The seafarer was wearing a bump cap rather than a hard hat. The piece of metal was heavy, crushing the bump cap on impact causing a cut to his scalp of around 4 cm. The seafarer was given first aid treatment on board and was later transferred to hospital for further assessment.

Other cargo ship – minor injury case
Whilst the ship was alongside a stevedore was entering a cargo hold by a fixed ladder when he slipped and fell slowly down the ladder from tween-deck level to tank-top level, a height of 5.8m. As the stevedore fell, he hit the left side of the body on a step and receiving a bruise on his left shoulder.

The local agent was informed and an ambulance was called. The ship's crew prepared stretcher, first aid kit and rescue tripod equipment, picked up the injured stevedore from the hold and brought to the ambulance. After a medical examination the Stevedore left the hospital with no injuries apart from bruising.

An onboard investigation noted all ladders in cargo hold in satisfactory condition, without rust, all painted and marked. All lights in the area working 24 hours inside and outside the cargo entrance.

Bulk Carrier – grounding, collision/allision case
While berthing alongside a small section of vessel's stern quarter swung toward the quay and made contact with the leg of a shore crane causing minor damage to the crane leg.

The bollard-pull (BP) distribution between both the tugs was uneven. A concern was raised by the Master about the bollard pull and deployment of the tugs during the Pilot/Master information exchange. It was agreed the pilot will communicate with tugs etc in English only. This communication was not followed completely.

The forward tug (17t BP) was made fast through the forward centre lead but was unable to arrest the bow swing. The aft tug (64t BP) was made fast through the aft canter lead. During berthing the pilot decided to shift the aft tug position to come on starboard side and push the vessel inwards. The tug line was cast off and the tug had no means of controlling the swing of the stern towards the quay.

Oil tanker – grounding, collision/allision case
Whilst the vessel was approaching a mooring buoy with a pilot on board the vessel made contact with the mooring buoy. As a result of the contact the mooring buoy sustained indentation damage on the body and the vessel's bow also sustained indentation damage.

Following the contact an investigation confirmed there was no breach of hull, no injury and no oil pollution. All tank soundings were noted intact. An internal inspection of Fore Peak Tank was carried out which confirmed the tank was intact except a dent and scratches on the ship's bow area.

Oil tanker – grounding, collision/allision case
Whilst transiting the Suez Canal under pilotage the vessel experienced a soft touch of the Canal bottom. At the time of incident the visibility was moderate, wind blowing at 15-20kts and the sea state was slight.

The vessel proceeded to a designated anchorage where it anchored safely in order to arrange additional inspections. An inspection found all ballast tanks were intact and a small indentation was noted in the bilge keel area.

Bulk carrier – grounding, collision/allision case
While the vessel was moored alongside conducting cargo operations a bunker barge attempted to moor alongside the ship in preparation to conduct bunker operations. While attempting to come alongside the bunker barge made hard contact with vessel's hull in a ballast tank and void space area causing indentation to the hull plating.

It was later confirmed that there were no injuries and no pollution resulting from the contact. An investigation later found the cause was main engine failure on the bunker barge.

Bulk carrier – grounding, collision/allision case
Whilst making way in a traffic separation scheme another vessel sailing on a parallel course suddenly altered her course to port across the vessel's bow without any warning. On noting the other vessel's course alteration, the vessel tried to alter course to port then followed by hard-a-starboard on the rudder in an attempt to prevent collision. Despite the attempt to avoid collision, the bow made contact with the other vessel.

After checking with the other vessel, it was confirmed there were no injuries, no pollution and no apparent damage. The vessel also carried out further checks and confirmed that there was no water ingress, no pollution and no damage to machinery.

Other cargo ship – grounding, collision/allision case
Whilst manoeuvring alongside the quay with the assistance of tug boats and a pilot on board the master observed the bow was swinging too fast towards the quay. The pilot attempted to contact the tugboat only to realise he had lost communications with the tug boat. The master ordered the anchor be let go however the time was too short notice for the mooring party and the vessel's bow made slight contact with a shoreside crane.

An investigation noted poor organisation of work between the pilot and tug boat when manoeuvring the vessel.

Other cargo ship – grounding, collision/allision case
While the vessel was alongside the berth during cargo discharge operations the vessel touched bottom on soft mud during low tide.

Company procedures and checks were initiated immediately where all ballast tanks, fuel tanks, hull and engine room spaces were inspected. The inspection noted no breach of the hull and no pollution was reported. An underwater inspection was also carried out which noted only minor indentation of the hull.

An investigation found that before the vessel berthed the charted depths were known to be inaccurate. Prior to arrival an official undertaking on drafts and water depth was accepted with a risk assessment. It was agreed to berth the vessel. However, the depth alongside was found to be inadequate at low tide.

Bulk Carrier – grounding, collision/allision case
Whilst proceeding outbound to sea on a river passage the vessel had a minor collision with another vessel. During the collision both vessels had pilots on board.

The collision resulted in slight indentation to the bulwark of the vessel's port bow. The vessel's water tight integrity and seaworthiness were confirmed to be fully intact with no personal injury or environmental pollution. Both vessels were instructed to anchor and await investigation.

- This case was the subject of a safety investigation by the Chinese Maritime Safety Administration.

Other cargo ship – grounding, collision/allision case
While approaching port the vessel grounded. No oil spill was sighted. All oil and ballast tanks checked - no water ingress. Attempts to get afloat by own means failed hence tug assistance will become necessary. Recovery plan under preparation in order to coordinate actions with tugboat company. Local authorities boarded the vessel and issued a 'notice of detention'. It was confirmed no injuries on board occurred, no pollution to the environment and all ballast tanks were intact.

A recovery plan was approved by local authorities and the next day two tugs connected for refloating. Unfortunately, after 2 hours attempts to get vessel off the ground operation suspended with no success. The vessel commenced lightering operation with use of self-discharging vessel who made cargo runs to a shore facility. A second attempt to refloat the vessel commenced using 2 tugs. This time refloating was successful and the vessel proceeded to a nearby port where further inspection of the vessel commenced.

A diving inspection noted no damage to the ship's bottom - only few minor scratches not affecting antifouling protection. ME crankshaft deflection carried out where all readings were confirmed in order.

An investigation into the grounding confirmed company SMS passage planning and risk assessment procedures were not followed and it was also possible the Deck Officers' were fatigued due to non-compliance with rest periods.

Passenger Ship – grounding, collision/allision case
Vessel made heavy contact with the quayside while berthing in strong gusting winds causing minor damage to the hull belting.

Other cargo ship – grounding, collision/allision case
As the vessel was approaching a gate with a pilot on board the pilot expressed his intention to turn the vessel into the locks. As the vessel turned the forward team warned about the proximity of the lock wall. The pilot did not take corrective actions. The master intervened and took back control of the engine manoeuvring by giving full engine power astern to avoid contact. The main engine was reversed and worked full astern but the vessel made slight contact with the lock wall at about 3kn. After the vessel came free, a brief check of damage indicated minor damage and decision was made to proceed. Pilot took back control and the vessel continued to the berth.

Oil tanker
Whilst proceeding from anchorage to the intended berth with a pilot on board the ME suddenly stopped while manoeuvring at 110 RPM due to low FO pressure. An inspection of the fuel oil system found the ME FO Inlet Quick Closing Valve (QCV) fully closed. The malfunction was immediately rectified by manual opening the valve and temporally securing the valve open by the wire. At the same time the speed increased but could not to reach the set RPM. All ME parameters were in acceptable working limits such as FO pressure, Cylinder Exhaust Gas temperature, Scavenge Air temperature, lubricating oil temperature and pressure, HT CW temperature and pressure.

The ME Governor settling speed air has been changed according to the Telegraph position but the ME still could not reach the required RPM (above full manoeuvring speed). The vessel ceased the passage and returned to anchorage. The fuel was drained from the pipes and QCV was opened.

The valve was found to be worn out and not closing fully. An on-board investigation found the problem to be either the ME Remote Speed Control system or poor quality of the fuel. The fuel was changed over the fuel from MGO to ULSFO until further repairs and investigation made.

Commercial yacht
The yacht's tender boat was standing by off the stern waiting to go alongside the yacht in preparation for guest departure. The Coxswain had the engines on standby and was keeping a look out at the time.

The Coxswain noticed that a jet ski travelling at fast speed in the vicinity as part of a training school. The Coxswain noticed that the jet ski appeared to be out of control and heading towards the tender boat.

The coxswain immediately put the both tender engines astern to manoeuvre the tender boat clear of the jet ski.

The jet ski collided with bow area causing damage to the tender boat. No personal injury occurred.

Commercial yacht
On recovery of the starboard anchor, the gearbox of the windlass in use had failed causing the anchor and the chain to pay out before coming to a stop at the bitter end.

Prior to departure a deckhand began heaving the starboard anchor. The anchor had been successfully returned to the home position. The deckhand had informed the Bridge the anchor was successfully returned home and was the ship was clear to maneuverer.

At this time the officer of the watch began to increase the engine RPM and pitch on the main engines. Seconds later the anchor fell from its housing in a water depth of 55m, paying out all the chain at high speed. When the anchor securing failed the deckhand did not immediately put the brake on as she noticed the gypsy wheel and capstan spinning together, noting this was a major failure of equipment. As such she decided to evacuate the area quickly.

The officer of the watch immediately engaged astern propulsion once the chain began paying out and the ship returned to a stop before the chain finished paying out. The yacht's crew eventually retrieved the anchor by devising a detailed plan and risk assessment.

An investigation determined the failing of the starboard anchor is believed to have been caused by an internal mechanical failure. Initial tests determined that the main key way on the central shaft and motor couplings intact and that the most probable cause was be the gearbox components.

The anchor was being operated as part of a routine operation with nothing out of the ordinary to play a major factor. The deckhand felt it unsafe to put the brake on as it was a major failure of the gear (evident of the capstan wheel and gypsy spinning together which they should not have been able to do) and as such got themselves out of the danger area.

Although the actions of the deckhand were safe it is thought the total paying out of anchor chain could have been prevented had;
1. the anchor brake been applied the second that the anchor was home;
2. the deckhand had been more aware to put on the brake as soon as they heard the sound of the anchor paying out. The slight hesitation prevented the anchor brake being applied as it very quickly became too dangerous to attempt once the chain gathered momentum.

Commercial yacht
While the yacht was moored alongside the crew were adjusting fenders and mooring lines in gale force winds and heavy swell. During a large surge a spring line came under heavy tension causing a roller lead to fail. The crew were not in the immediate vicinity during the incident. The stainless-steel roller was sheared from the securing bolts and dropped into the water. There was no further damage to the surrounding area.

Other cargo ship
Whilst the vessel was manoeuvring in a lock system the vessel experienced a loss of steering control due to a mechanical malfunction. There was possibility of a collision with another vessel. To prevent a collision, mooring lines were sent to shore and both anchors were dropped. The vessel stopped at a safe distance without collision or damage.

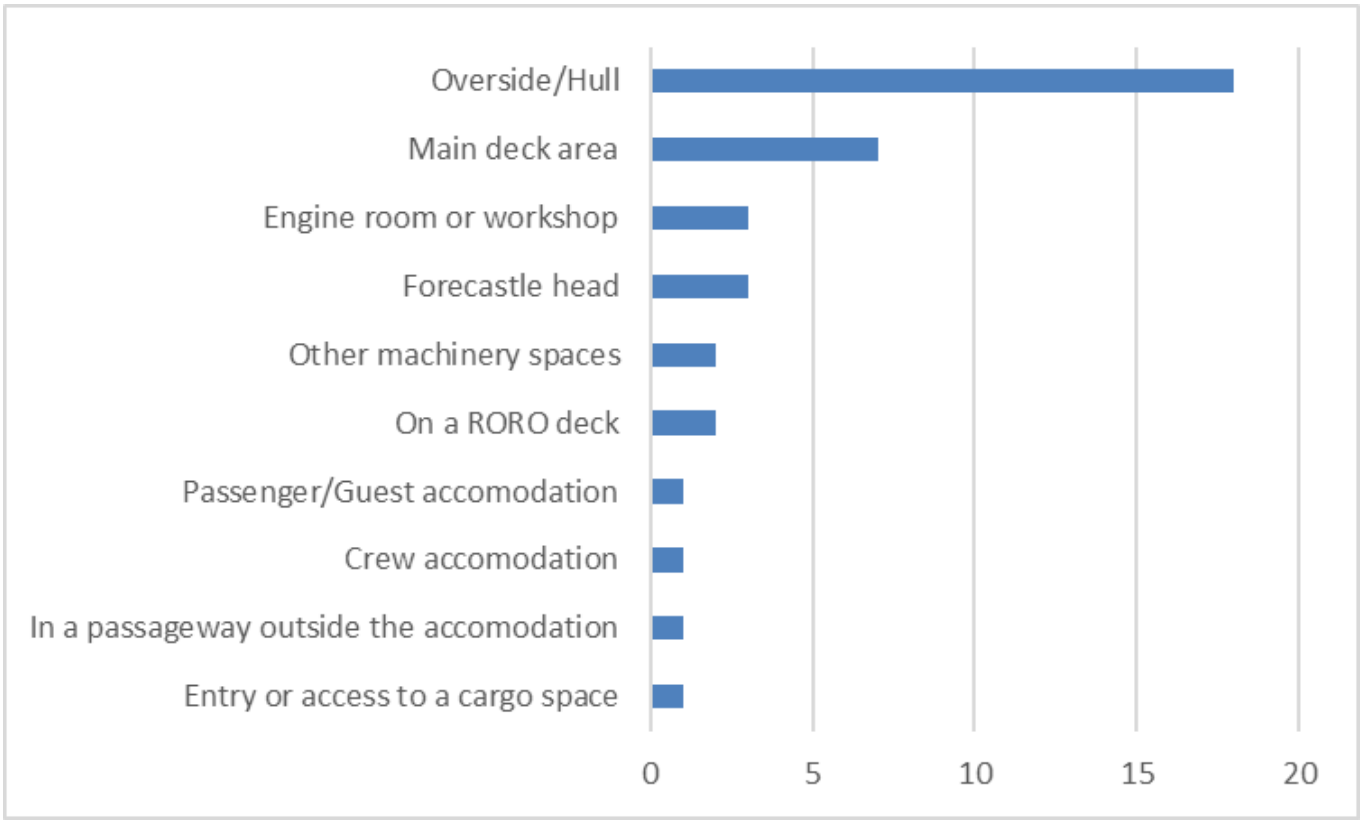
Bulk carrier
Shortly after the vessel anchored a launch boat with company staff & third-party contractors went alongside the vessel. When embarking the vessel one of the visitors slipped from the pilot ladder and fell into the water. The vessel's crew reacted promptly and retrieved the visitor safely on board. No injuries were reported after the incident.

Immediate first aid was provided. Vital statistics were checked and found within normal limits.

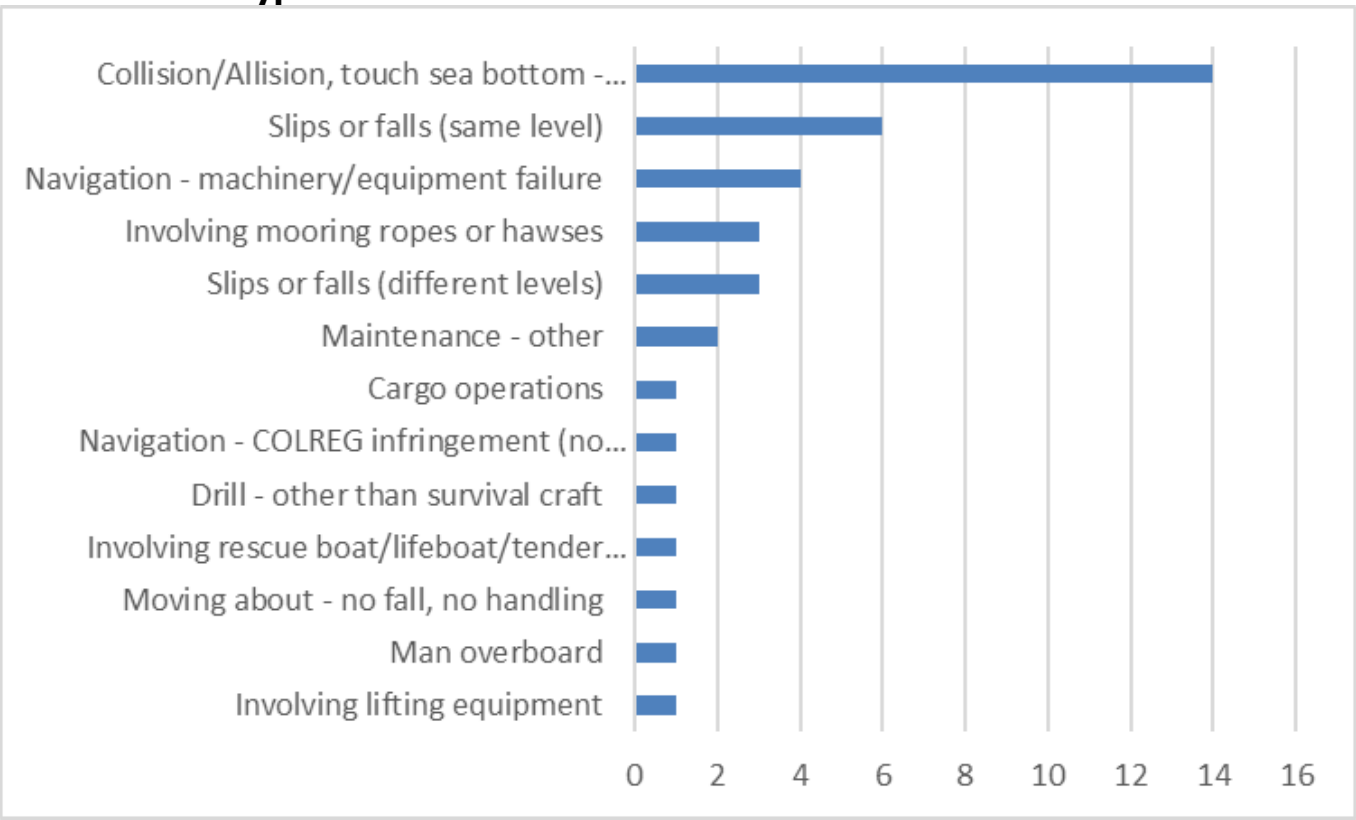
- This case was the subject of a safety investigation by the Maritime Port Authority of Singapore

9.2 Incident Chart Representations

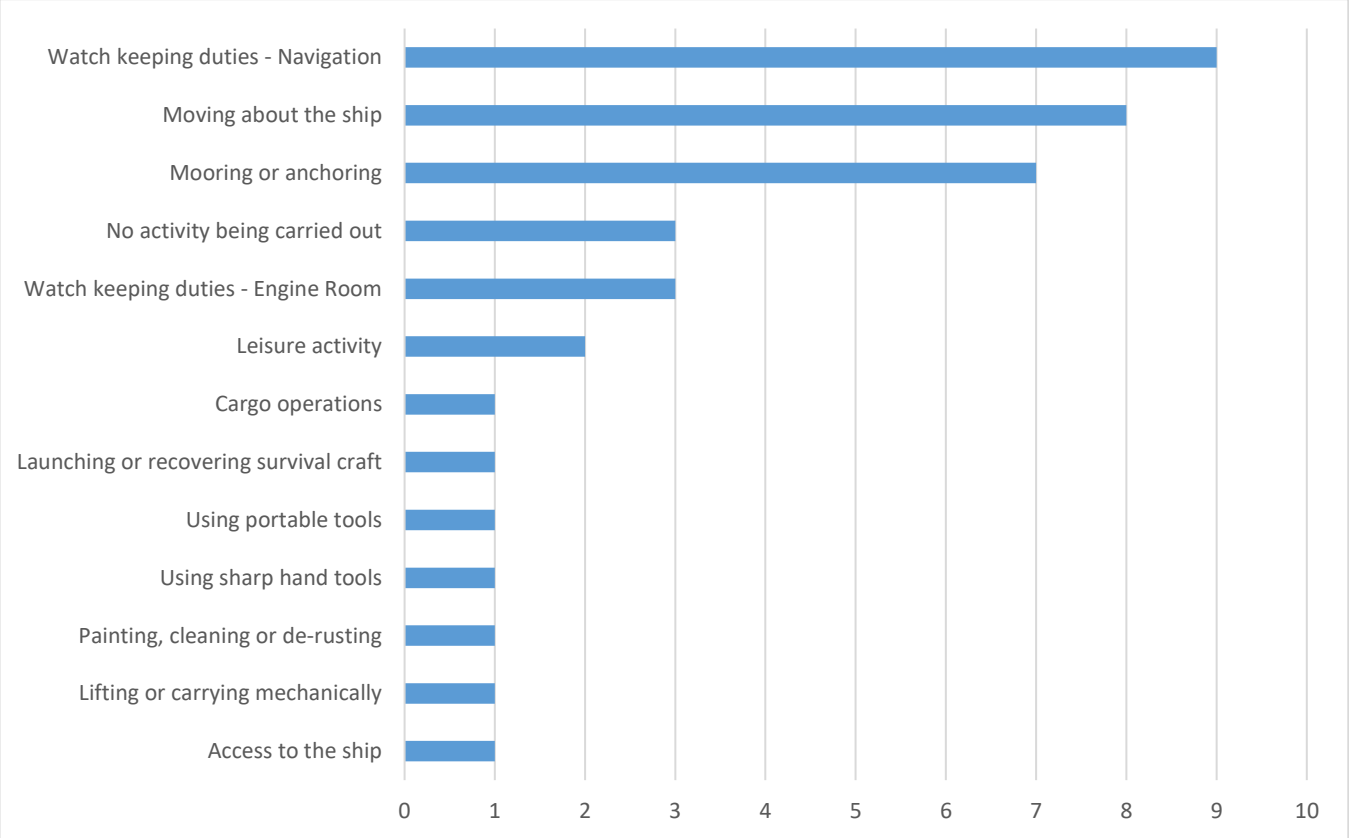
2019 Incident Places



2019 Incident Types



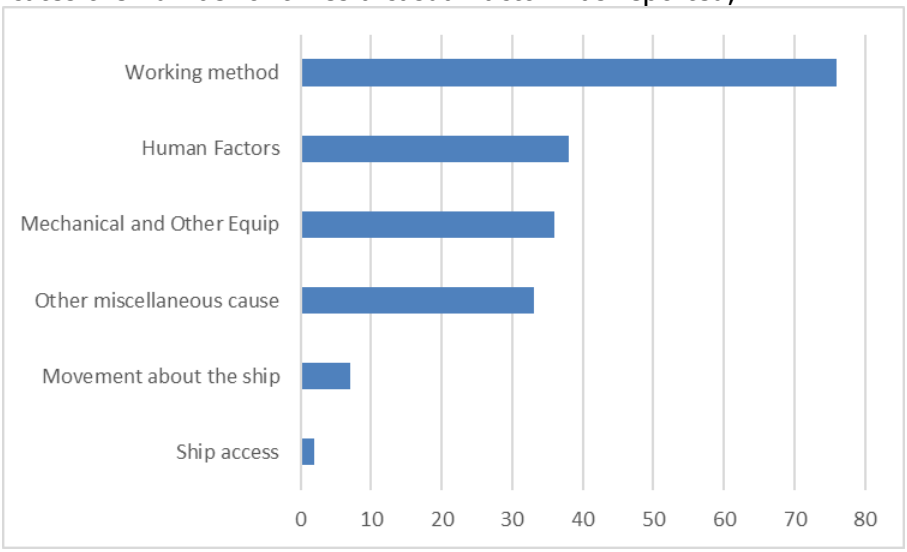
2019 Incident Activities



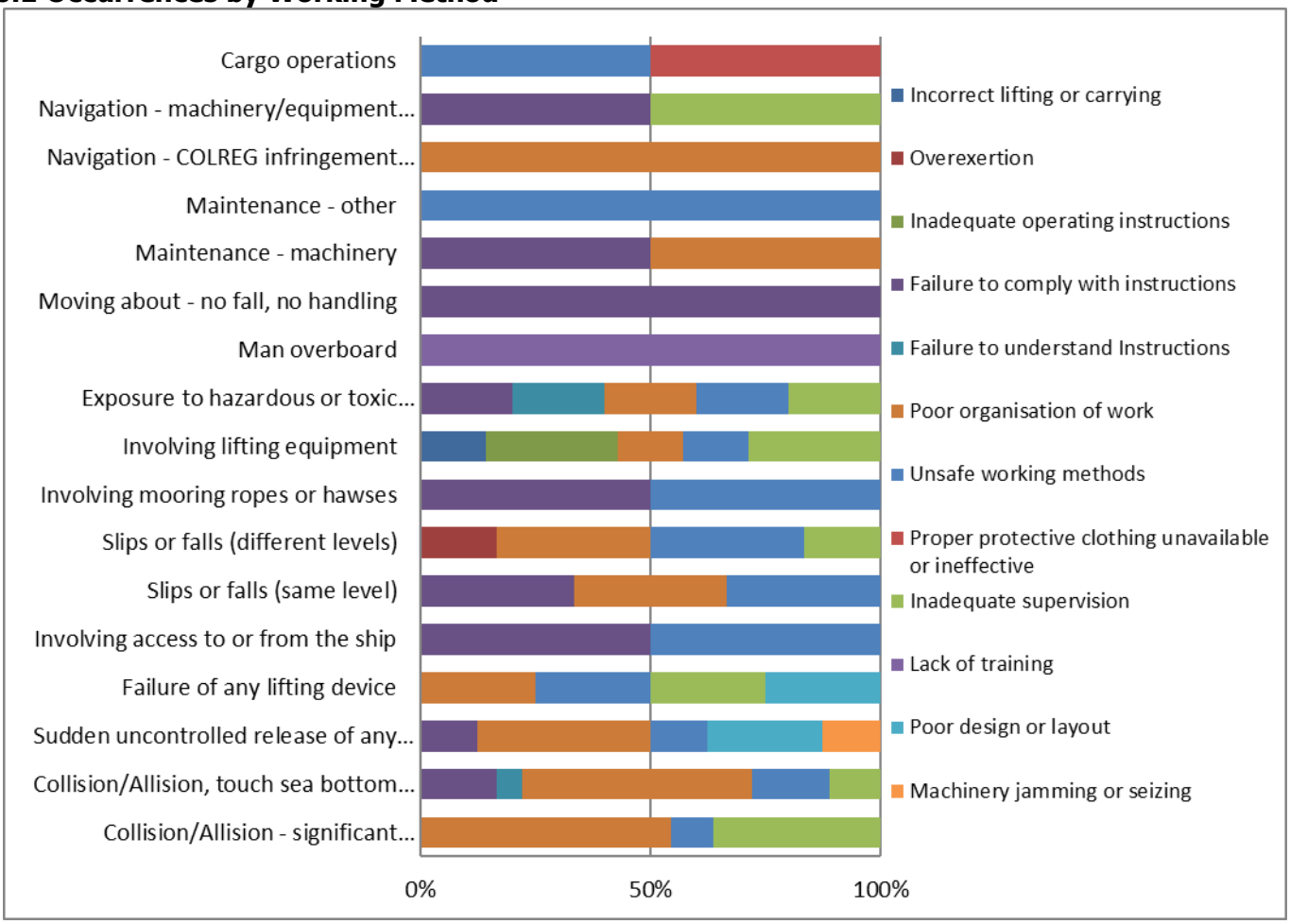
Chapter 10 – Breakdown of Occurrences in 2019 by Cause

The following charts represent a breakdown of all the occurrences by cause divided into several categories represented on the ARF Form. Determination of the various causes is following an investigation into the occurrence by the ship's staff, company investigators or an external investigating body. **It is important to remember that an occurrence may be the result of several causes across different categories**.

The chart below indicates the number of times a casual factor was reported;



10.1 Occurrences by Working Method

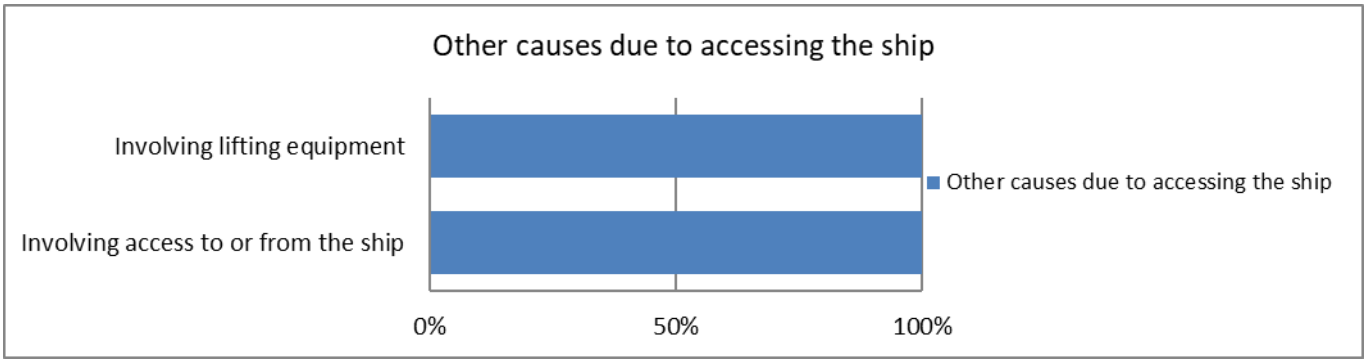


In 2019 the predominant working method cause has been attributed to "poor organisation of work". This was also the predominant factor in cases involving collision and grounding.

Seafarers should plan their work and safety precautions adequately and avoid taking shortcuts in order to get the job done more quickly. This highlights the importance of effective risk assessment. A seafarer should not feel they must put themselves in a dangerous situation to complete the job or to save a few minutes of time.

"Poor organisation of work" stresses the need for effective planning and execution with good communication. Where "poor organisation of work" led to a collision or grounding this highlights the need for effective bridge team management.

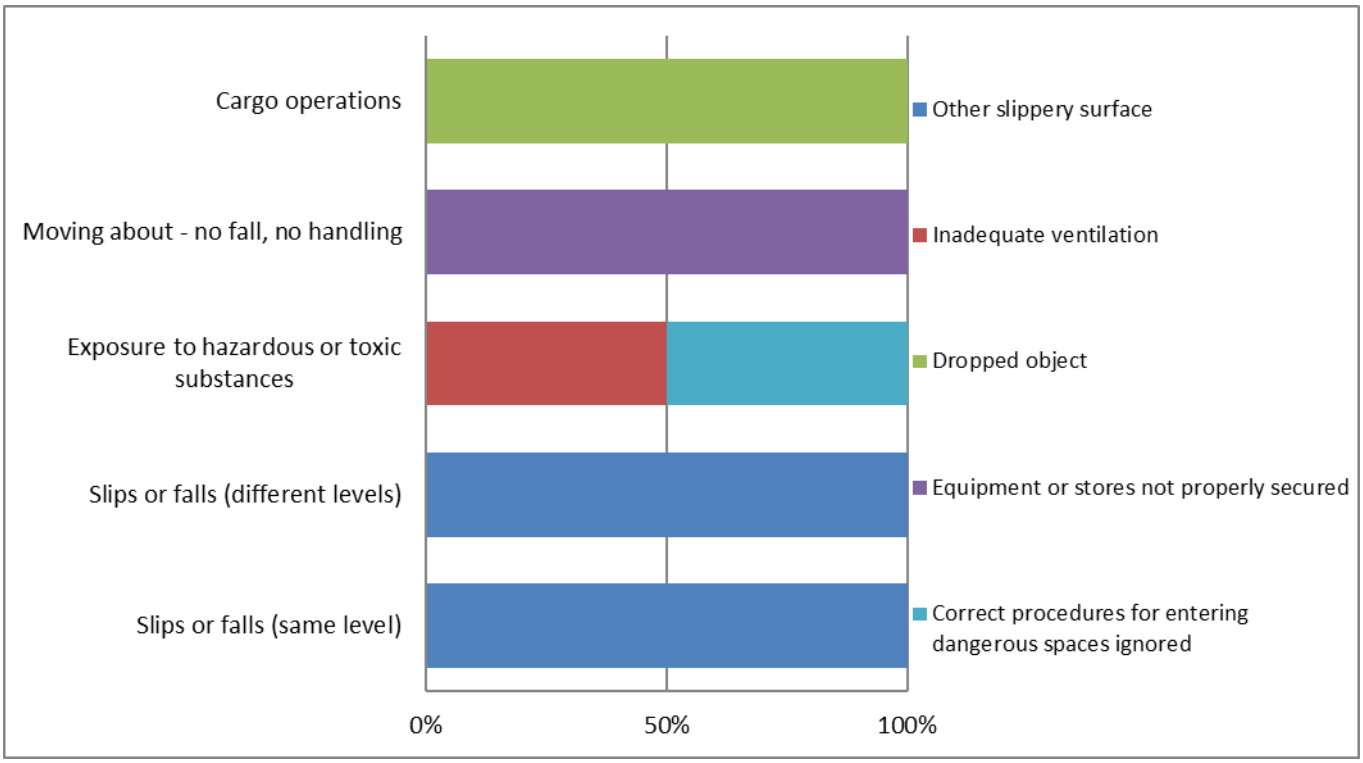
10.2 Occurrences by Ship Access



All personnel boarding a vessel are required by the regulations to use the means of access provided. The master is required to ensure that a safe means of access is provided to the vessel at all times and to ensure that it is maintained in a safe condition. Everyone intending to board or leave the vessel should be strongly encouraged by the ship's staff to use the safe means of access provided even if a shortcut appears to be an easier or shorter journey.

Crew members joining the vessel from a launch boat are strongly encouraged to wear appropriate lifejackets and only consider the transfer under suitable conditions taking into account the weather and vessel motion.

10.3 Occurrences by Movement about the Ship

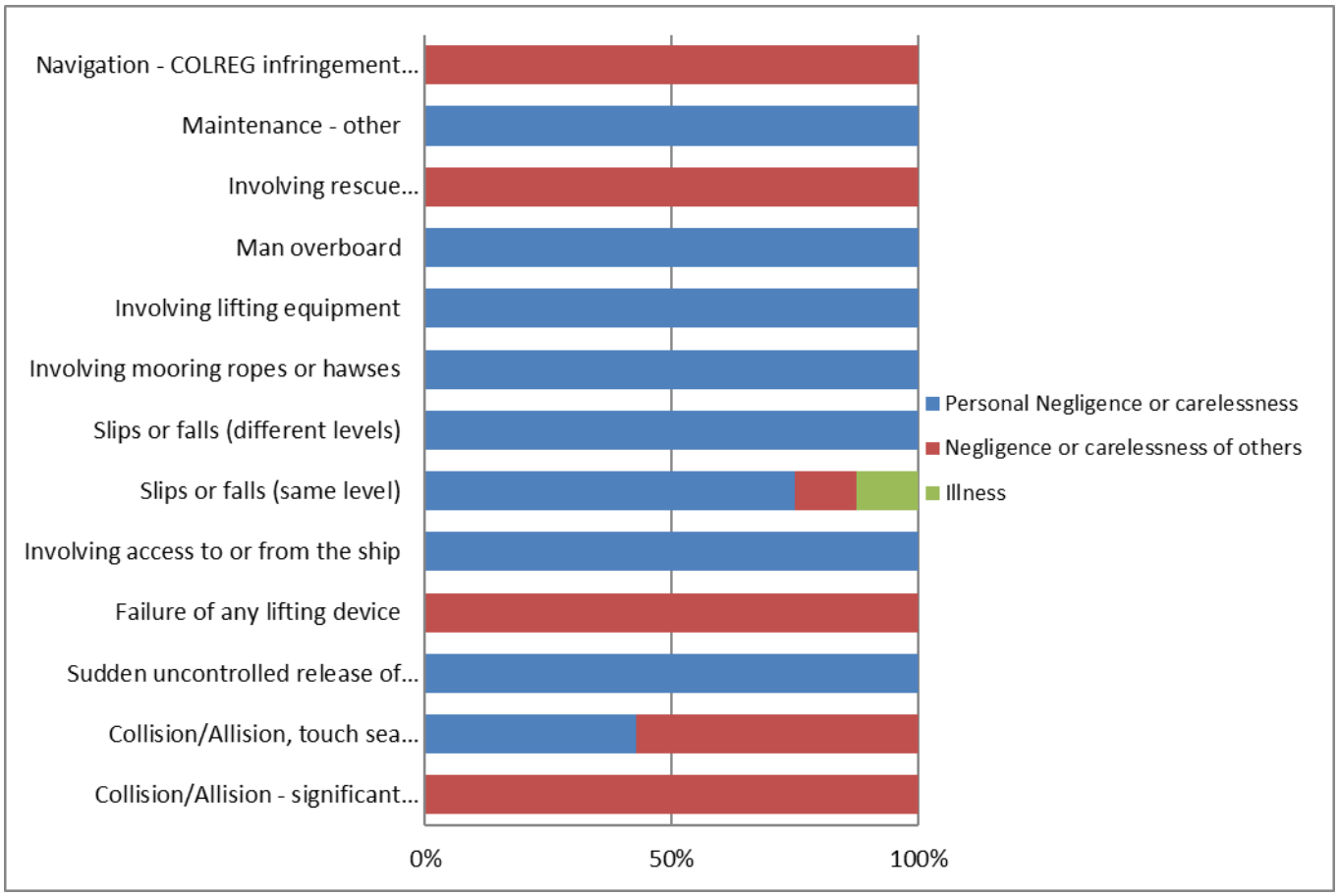


In 2019 "Other slippery surface" was the predominant cause associated with moving about the vessel. This was also the predominant factor in cases involving slips or falls.

Crew members should also take note of warning signs highlighting risks and dangers. Slips and falls on slippery surfaces was the predominant cause in 2019. Crew members should be aware of any associated risks of slipping when moving about the ship under various conditions.

Where appropriate masters should ensure that deck working areas have non-slip surfaces. This can be achieved by either clearing/cleaning the deck, placing non-slip mats or use of non-slip paint mixes. Injuries caused by unprotected openings can be avoided by effective barriers, signs and communication.

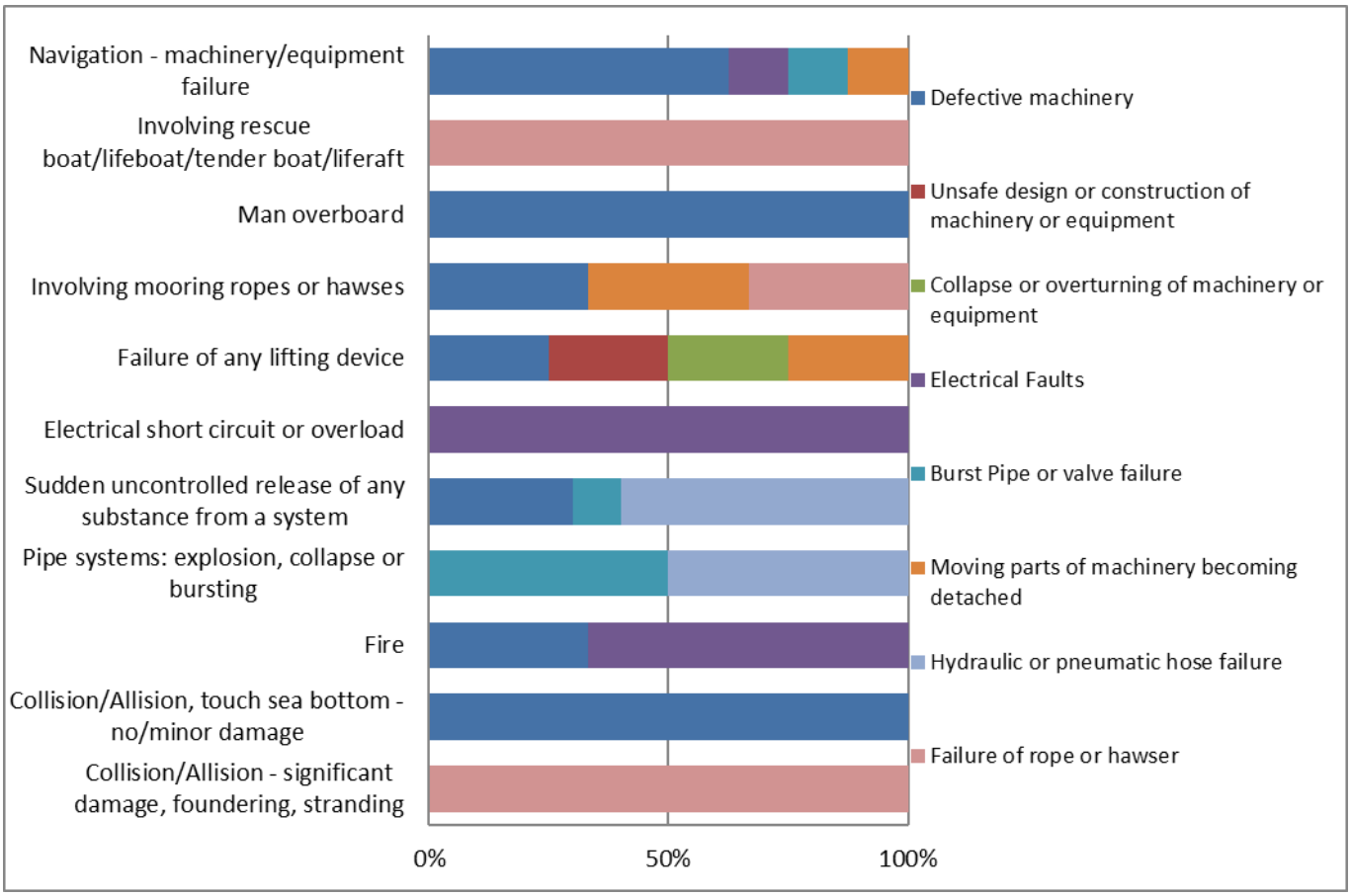
10.4 Occurrences by Human Factor



In 2019 the predominant human factor cause has been attributed to "personal negligence or carelessness". This was also the predominant factor in cases involving slips or falls.

By "human factor" we mean the act or omission of a person to do something that leads to the occurrence happening. This stresses the need for adequate training/knowledge and situational awareness associated with a particular work activity. Crew members should be made aware of any associated risks and for crew members to pay attention to any risk mitigation measures in place.

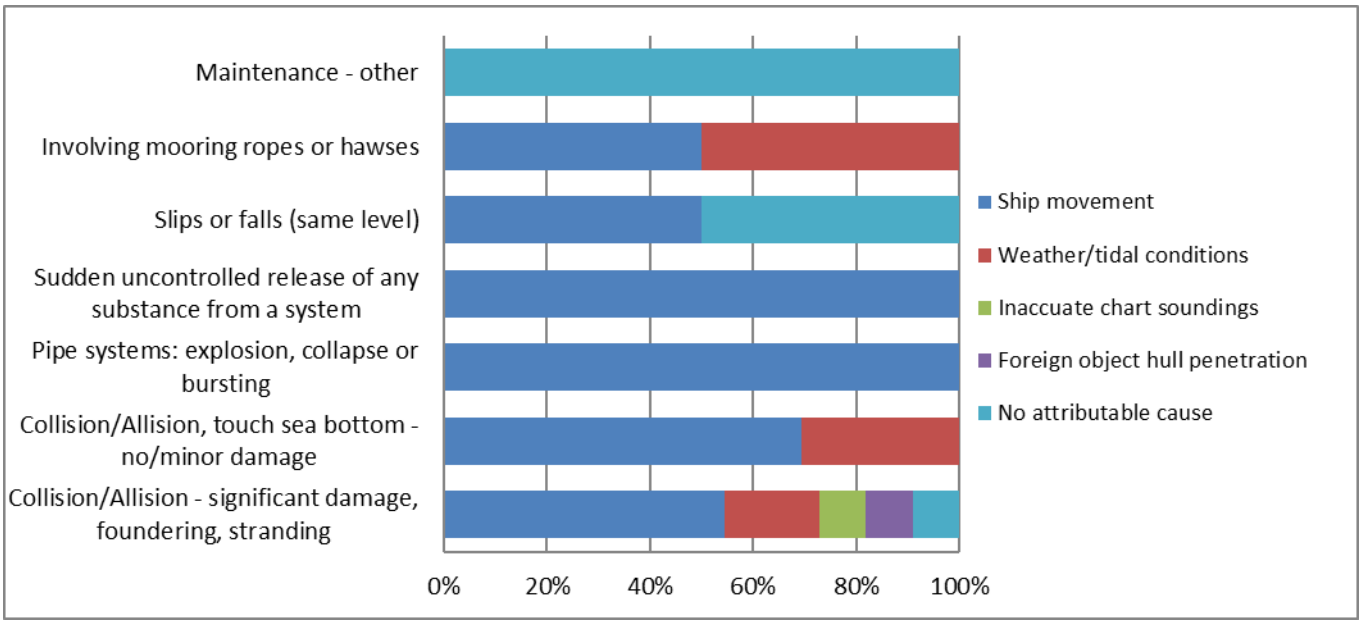
10.5 Occurrences by Mechanical & Other Equipment



In 2019 the predominant mechanical & other equipment has been attributed to "defective machinery". This was also the predominant factor in cases involving "sudden uncontrolled release of any substance from a system".

Equipment failure stresses the need for effective inspection and maintenance to ensure they are in good condition and fit for purpose.

10.6 Occurrences by Other Miscellaneous Causes



In 2019 the predominant 'other miscellaneous cause' has been attributed to "ship movement". This was also the predominant factor in cases involving collisions and grounding.

Crew members should take into consideration the movement of the vessel in the prevailing sea and weather conditions when planning work activities and movement around the vessel. If the movement of the vessel is too great the work activity should not be attempted or consideration should be given to manoeuvring the vessel to reduce the vessel's movement to an acceptable level.

Chapter 11 – Conclusions

2019 saw more ARF reports submitted compared to previous years. More casualty and accident cases were reported compared to 2018 where the number of incidents reported remained the same. No reports from foreign flagged ships in Isle of Man territorial waters were received in 2019 (Chapter 3.1 and 3.2)

The most prevalent cases in 2019 were cases involving collision/grounding (no/minor damage) and sudden uncontrolled release of any substance from a system. (Chapter 4.1)

Occurrences mostly happened when conducting Navigation Watchkeeping activities. The place where most occurrences happened was over-side/hull. (Chapter 4.2, 4.3)

Deck ratings received the most injuries during the course of their work. The place where most serious injury occurred was on the main deck for minor injuries and in the engine room for serious injuries. (Chapter 5.1)

The most prevalent minor injury were puncture wounds/lacerations and the most common serious injury were burns/scalds. (Chapter 5.3)

The most prevalent occurrence that led to an injury was slips and falls and the most prevalent activity leading to an injury was moving about the ship. (Chapter 5.5, 5.6)

Most reported 2019	Occurrence	Place	Activity
Casualty	Collision/Allision (significant damage)	Overside/hull	Watchkeeping duties (Navigation)
Accident	Sudden uncontrolled release of any substance from a system	Overside/hull	ROV operations
Incident	Collision/Allision (no/minor damage)	Overside/hull	Watchkeeping duties (Navigation)

(Chapters 7, 8, 9)

The ARFs received highlight the causes identified when occurrences happened. Below are the most common causes identified for each ARF cause theme (Chapter 10);

- Working method – poor organisation of work
- Human factor – personal negligence and carelessness
- Mechanical and other equipment – defective machinery
- Other miscellaneous causes – ship movement
- Movement about the ship – slippery surfaces
- Ship access – individual causes

Personal negligence and carelessness remain overwhelmingly prevalent throughout most of the reports received and therefore highlights the importance that seafarers must take care and pay attention to the task in hand.

Seafarers should not take any unnecessary risks with their safety in order to get the job done or take unsafe shortcuts in order to get the job done more quickly. Safety on board a vessel should be everyone's concern. Seafarers should be able to observe and monitor their own safety effectively and where possible the safety of those around them.

It is the responsibility of the master or skipper to ensure that all activities carried out on board are conducted safely, with an acceptable level of risk. Where vessels have technical managers ashore, then the technical managers should ensure that the master or skipper is given the necessary support and resources on board to determine the risk and to reduce the risk to an acceptable level.

Seafarers should be aware of their own abilities and limitations and the limitations of the equipment they use. Seafarers should not attempt any work activity where they perceive the risks to be unacceptable. If the vessel has an appointed safety officer then he or she should be informed and the circumstances investigated.

Should unacceptable risks present themselves, then the work should not commence until the risks are investigated and measures introduced to reduce the risks to an acceptable level. Risk assessments are designed to be used for this purpose and are required by the ship's safety procedures to be used in specific situations. It is important to remember that if the risks cannot be reduced to an acceptable level then the work activity should not go ahead. Should this occur, then specialist advice should be sought.

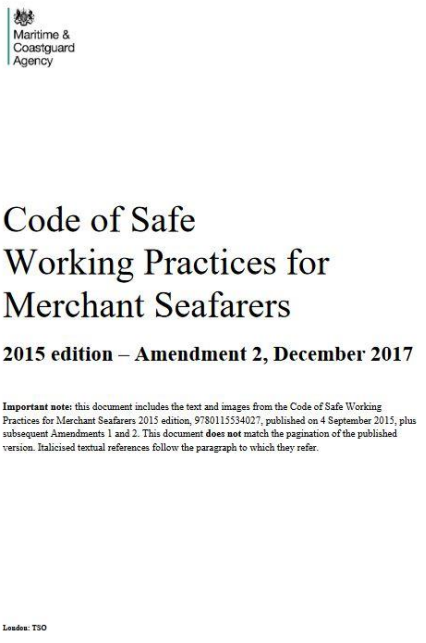
Where a vessel has established safety procedures, it is important that these are observed correctly. Appropriate personal protective equipment (PPE) should always be provided and worn where appropriate. Any dedicated safety equipment should be regularly maintained and inspected before use.

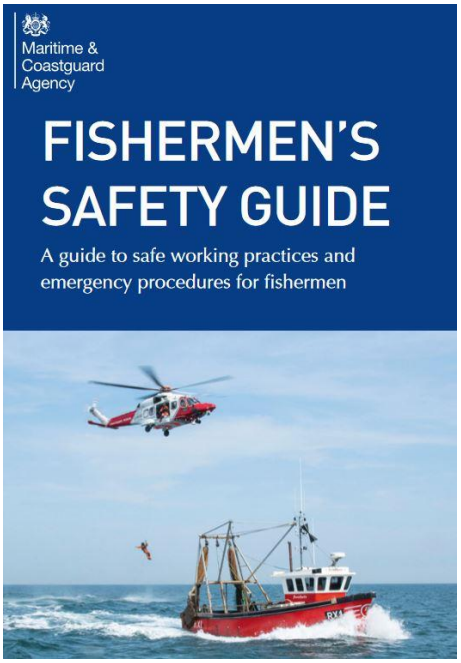
The Code of Safe Working Practices for Merchant Seafarers and the Fishermen's Safety Guide (below) are valuable references depending on the ship type for most work activities conducted on board and should be consulted frequently. Risk assessments, Permits to Work and plain old common sense are all important factors in reducing the level of risk posed by work activities.

If you are in any doubt about the safety concerned with a particular work activity, stop and re-evaluate.

Additional Information

- Manx Shipping Notice 003 – Accident Reporting
- Maritime Labour Notice 4.3E
- Code of Safe Working Practices for Merchant Seafarers and Fishermen's Safety Guide (below) published by the UK Maritime and Coastguard Agency (available free on the UK MCA website)





- Master's / Yacht Master's Handbook (available free on the IOMSR website)
- Merchant Shipping (Accident Reporting and Investigation) Regulations 2001 SD815/01 (available free on the IOMSR website)
- Isle of Man Ship Registry website – www.iomshipregistry.com
- Contacting the Isle of Man Ship Registry – email marine.survey@gov.im

The Isle of Man Ship Registry welcomes any feedback concerning this report. If you have any suggestions for future reports or any other comments please email the Isle of Man Ship Registry.

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