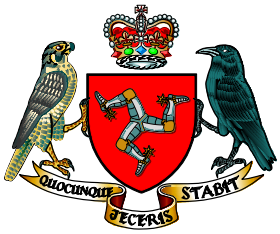
Isle of Man Ship Registry

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

2020

Isle of Man Government
Department for Enterprise



Isle of Man Government
Reiltys Ellan Vannin

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Published June 2021

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.*

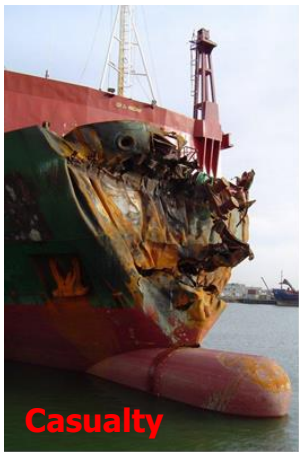
The notification and reporting scheme is reliant upon masters, skippers or operators reporting '**occurrences**' in an accurate and timely a manner as possible in accordance with the regulations. From these reports the Isle of Man Ship Registry can alert the shipping industry about areas and activities 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.

Occurrences defined Under IMO Classification

The International Maritime Organisation (IMO) Casualty Investigation Code (IMO Resolution MSC 255(84)) defines an occurrence as either 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. This also includes the vessel's boats.

Occurrences on board ships in ports 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.

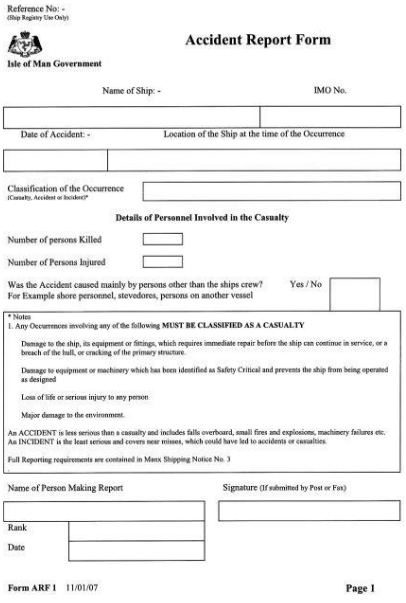
When an **INCIDENT** occurs the master, skipper or technical manager must report the incident to the IOMSR before the vessel departs from the next port.

2.3 How to report

Initial reports can be made directly by telephone, fax or email to the IOMSR. An Accident Report Form (ARF – see right) should be completed and forwarded 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 to those vessels required to maintain an Official Log Book – see MSN004.



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 Investigation Code (refer to Chapter 6), are investigated and a report will be published. The Isle of Man has delegated the investigation of a "Very Serious Marine Casualty" to the United Kingdom Marine Accident Investigation Branch.

For all other reports received a decision is made by the Isle of Man Ship registry as to whether an investigation is required or not. 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 ship 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

For vessels to which the International Safety Management (ISM) Code applies, the Safety Management Manual should include procedures for ensuring accidents and hazardous situations are reported (ISM9.1). The IOMSR will accept the vessel's reporting form in lieu of the ARF provided it contains at least all of the information required by the ARF.

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 on-board investigation.

2.5 Safety Investigations by IOMSR in 2020

Type of Ship	Nature of Investigation
None	

2.5.1 "Very Serious Marine Casualty" Safety Investigations conducted by United Kingdom Marine Accident Investigation Branch on behalf of Isle of Man in 2020:

Name of Ship	Type of Ship	Nature of Investigation
Moritz Schulte	Gas carrier	Engine room fire and fatality

www.gov.uk/government/organisations/marine-accident-investigation-branch

2.6 Reports Published by IOMSR in 2020

Ship Name	Type of Ship	Nature of Investigation
Polaris	Fishing vessel	Foundering (2019)
Ice Angel	Yacht	Grounding in Polar Waters (2018)

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

2.7 Investigations by other investigation bodies on Isle of Man vessels in 2020

Type of Ship	Nature of Investigation	Investigation Authority
Other Cargo ship	Grounding	United Kingdom MAIB

Chapter 3 – ARF Reports Received in 2020

3.1 Reports from Isle of Man Registered Ships

In 2020 IOMSR received a total of 85 ARF reports from Isle of Man registered ships. The table below shows the number of reported occurrences by type in 2020 and the preceding 4 years including a breakdown per ship type for 2020.

Year	2016	2017	2018	2019	2020	2020									
Casualties	31	30	21	30	21										
Accidents	12	23	16	20	35										
Incidents	28	28	39	39	29										
Collision/Allision - significant damage, foundering, stranding	9	7	5	11	6	Passenger	1								1
Collision/Allision, touch sea bottom - no/minor damage	10	16	12	15	11	Oil Tanker	1	2			1				
Fire	6	9	6	3	5	Chemical Tanker									
Explosion	1				1	Gas Carrier		1	1						
Pressure vessel: explosion, collapse or bursting		2		2	4	Bulk Carrier	1	1	2						1
Pipe systems: explosion collapse or bursting	1				1	Offshore / Standby		1	1		23				
Sudden uncontrolled release of any substance from a system or pressure vessel	5	12	10	13	25	Other cargo Vessel	3	4	1						
Accidental ignition of flammable material			3			Comm. Yacht					1				1
Electrical short circuit or overload		3		1		Pleasure Vessel									
Failure of any lifting device		2	2	2	1	Fishing Vessel									1
Failure of any access equipment	1														
Involving access to or from the ship	1	2		1											
Slips or falls (same level)	8	5	6	9	4			2							
Slips or falls (different levels)	4	2	3	6	1			1							
Involving mooring ropes or hawses	2	3	1	4	1				1						
Involving lifting equipment	3	4	3	2	4			1							
Exposure to hazardous or toxic substances		1	1	1	1				1						
Man overboard	1			2	2				1						
Electric shock	2	1													
Violence to the person	1														
Other															
Closing doors or hatches	2		1												
Moving about - no fall, no handling	3	1	4	1	3										
Moving about - manual handling	2	1	1		2										
Involving rescue boat/lifeboat/liferaft				2											
Drill - other than survival craft				1											
Cargo securing failure	1	2													
Maintenance - machinery	2	3	4	1	2										
Maintenance - other	1		4	3	3										
Cargo hold cleaning															
Navigation - COLREG infringement			1	1											
Navigation - machinery/equipment failure	2	3	5	7	5										
Navigation - other			2												
Illness															
Bunker operations															
Cargo operations	1	1		1	1										
Galley operations			1												
Mooring/anchoring operations	1				2										
Unauthorised boarding															
Leisure activity on board/in sea	1	1	1		1										
Total	71	81	76	89	85		2	6	0	6	11	32	18	8	0	2

The tables below represent a breakdown of **cases** reported per ship type in 2020.

Cases per Ship Type	Total	Casualty	Acc.	Inc.	Fatalities	Serious Injury	Minor Injury
Passenger ship	**2**	2	0	0	0	0	0
Oil tanker	**6**	1	2	3	0	0	0
Chemical tanker	**0**	0	0	0	0	0	0
Gas carrier	**6**	3	2	1	1	2	0
Bulk carrier	**11**	3	2	6	0	1	2
Offshore/Standby	**32**	2	25	5	0	2	3
Other cargo ship	**18**	9	1	8	0	6	0
Commercial Yacht	**8**	0	3	5	0	0	3
Pleasure vessel	**0**	0	0	0	0	0	0
Fishing vessel	**2**	1	0	1	0	1	0
Total cases:	**85**	**21**	**35**	**29**	**1**	**12**	**8**

Cases per Ship Type and Voyage Segment	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting/ DP	Total
Passenger ship	1	0	0	1	0	0	**2**
Oil tanker	1	2	1	1	1	0	**6**
Chemical tanker	0	0	0	0	0	0	**0**
Gas carrier	1	4	0	0	0	1	**6**
Bulk carrier	0	3	1	1	6	0	**11**
Offshore/Standby	5	0	0	0	5	22	**32**
Other cargo ship	5	2	1	5	4	1	**18**
Commercial Yacht	4	3	0	0	1	0	**8**
Pleasure vessel	0	0	0	0	0	0	**0**
Fishing vessel	0	0	0	1	0	1	**2**
Total	**17**	**14**	**3**	**9**	**17**	**25**	**85**

Nb. In some cases more than one person may have been injured 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

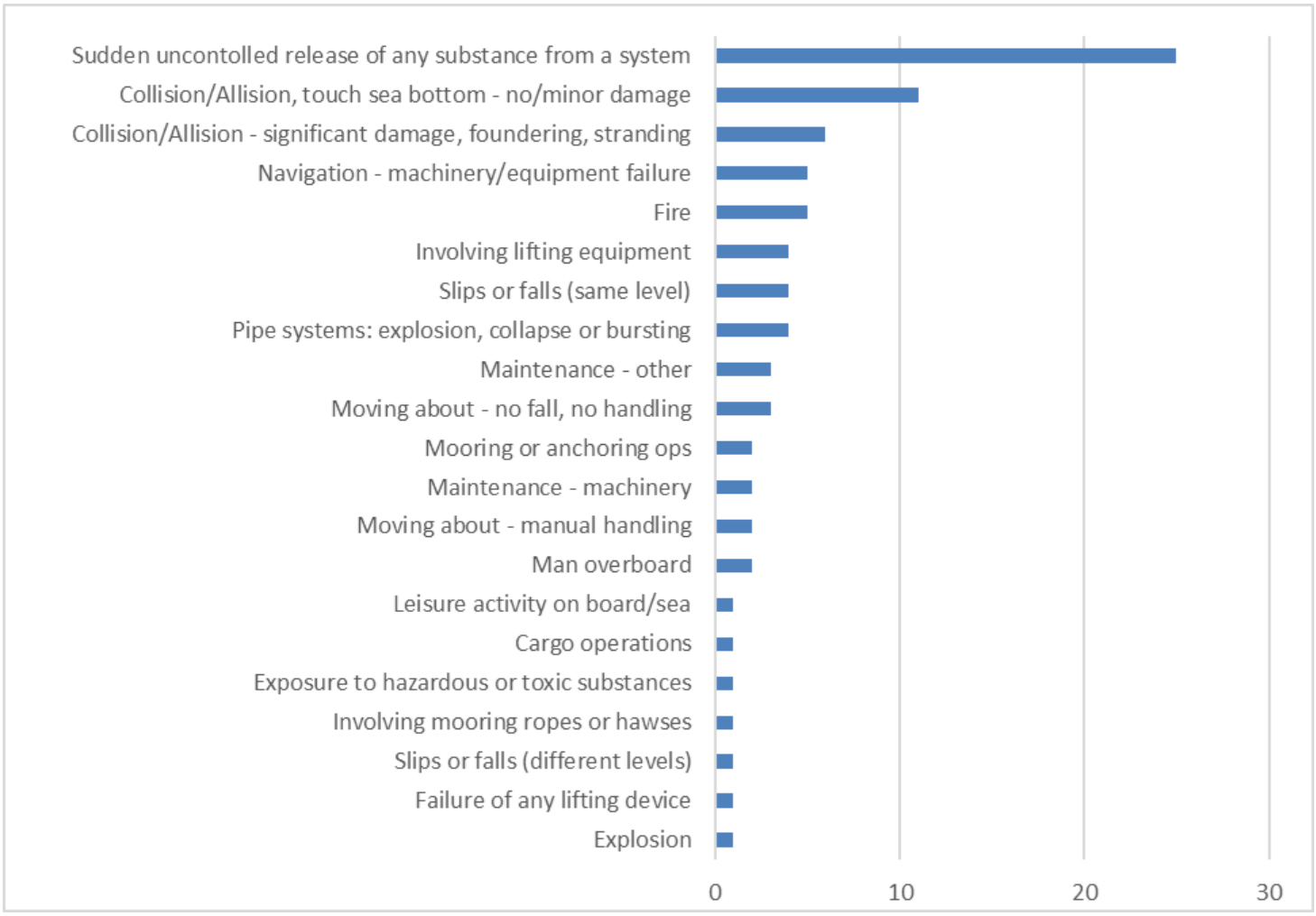
Chapter 4 – Analysis of ARF Reports Received in 2020

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

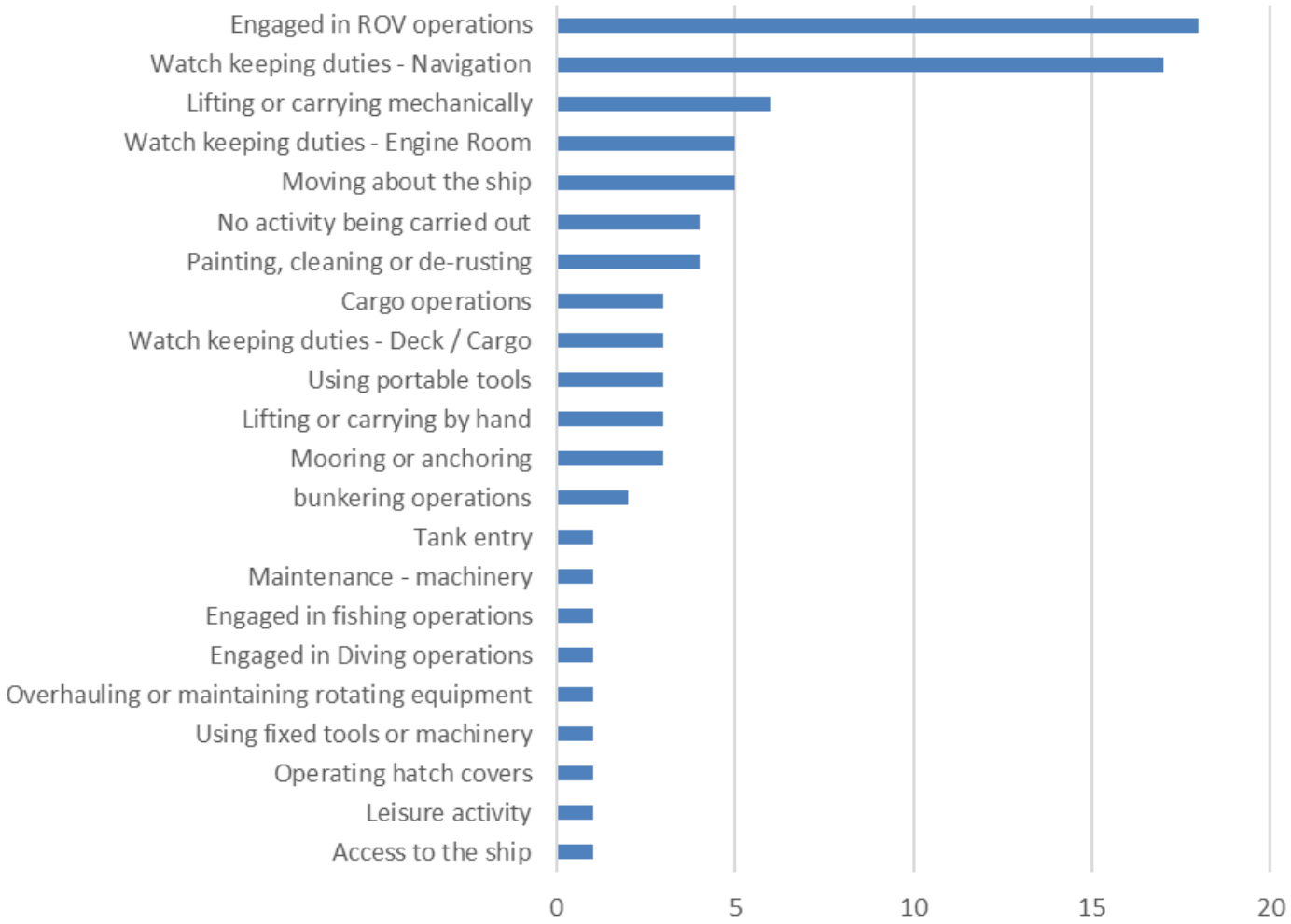
Voyage segment	Total Occurrences			Cases involving		
	Cas	Acc	Inc	Fatality	Serious Injury	Minor Injury
Berthed/Docked	5	5	7	1	3	3
At Anchor/Anchoring/Weighing Anchor	2	4	8	0	2	1
Mooring/Unmooring	2	0	1	0	1	0
Making Way in Port/Confined Waters	4	0	5	0	0	0
Making Way Open Sea	5	6	6	0	3	3
Stopped - Drifting/DP	3	20	2	0	3	1
Total cases:	**21**	**35**	**29**	**1**	**12**	**8**

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.

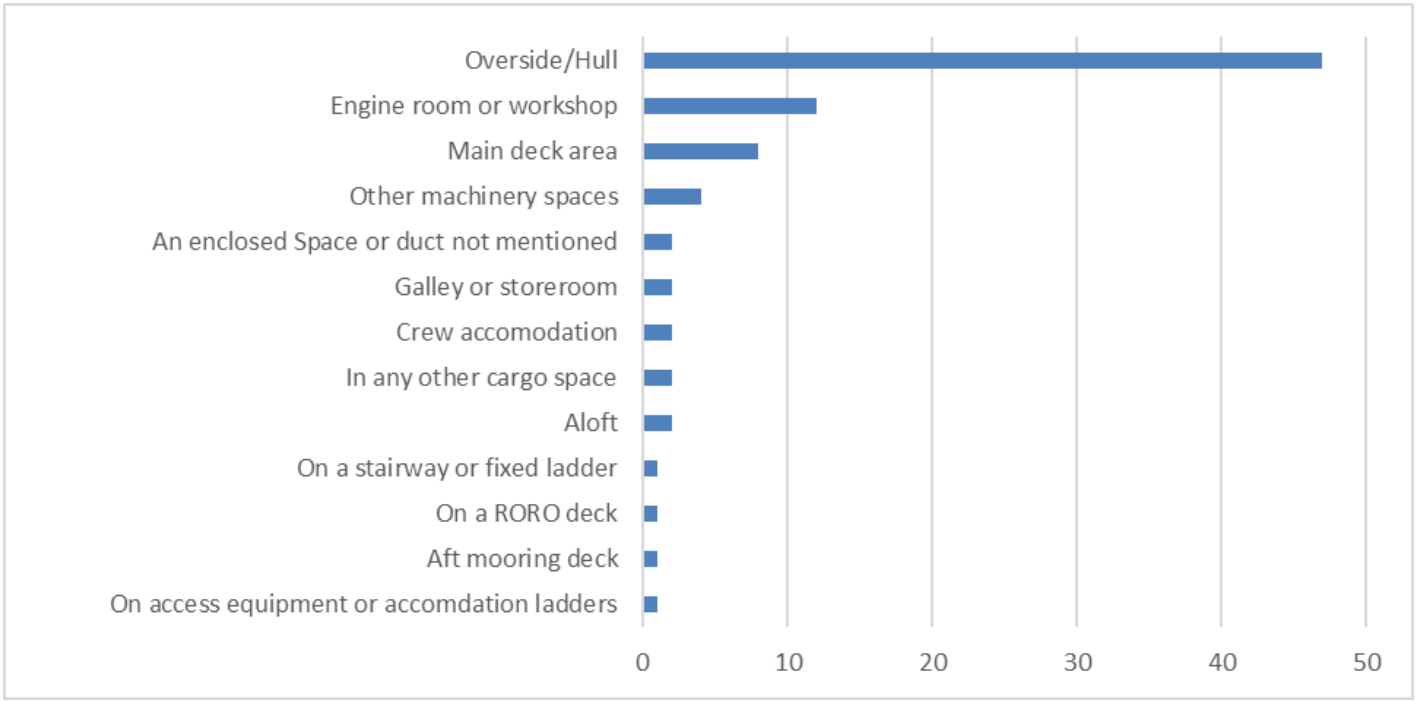
4.1 Type of Occurrences



4.2 Occurrence by Activity



4.3 Place of All Occurrences



Chapter 5 – Reported Injuries and Fatalities

5.1 Injury Summary

Seafarers Injured	All Ships		MLC Ships		Non-MLC Ships	
	Number	Rate	Number	Rate	Number	Rate
Fatalities	1	9	1	13	0	0
Serious injuries	12	109	10	125	2	66
Minor injuries	11	109	10	125	1	33

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. MLC seafarer does not include passengers, yacht guests, visitors or crew members employed on a non-MLC ship.
4. See note in Section 3.1 regarding "Serious Injuries" and "Minor Injuries" definitions.

5.2 Number of Injuries and Fatalities Reported

MLC seafarers injuries*;

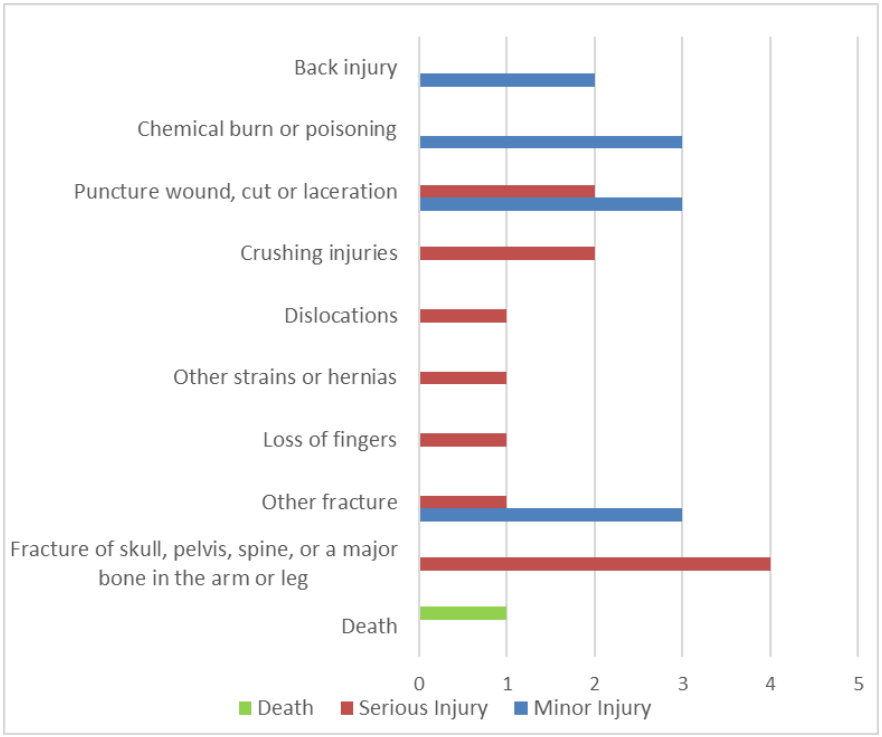
MLC Seafarers	Total	Min. Inj.	Ser. Inj.	Fatality
Master/Skipper	**0**	0	0	0
Ch. Off	**0**	0	0	0
OOW Nav.	**3**	2	1	0
Ch. Eng.	**0**	0	0	0
2nd Eng.	**1**	0	1	0
OOW Eng.	**1**	0	0	1
Electrician	**0**	0	0	0
Deck/Dual Rating	**8**	5	3	0
Eng. Rating	**3**	1	2	0
Deck/Eng. Cadet	**2**	0	2	0
Cook /Steward/Purser	**3**	2	1	0
Other Seafarer	**0**	0	0	0
	21	**10**	**10**	**1**

Non-MLC seafarer injuries*;

Non-MLC seafarers:	Total	Min. Inj.	Ser. Inj.	Fatality
Passenger / Yacht Guest	**1**	1	0	0
Visitor/Contractor/stevedore	**1**	0	1	0
Fishing Vessel crew	**1**	0	1	0
	3	**1**	**2**	**0**

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

In 2020 there was a total of 1 fatality and 23 people injured as follows;

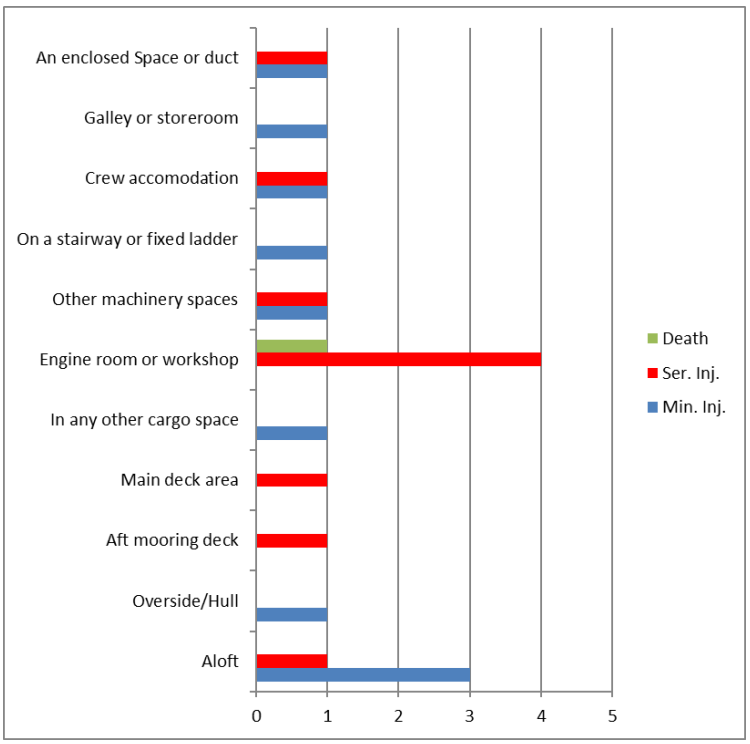


Age Range	Total	Min. Inj.	Ser. Inj.	Fatality
0-19	1	1	0	0
20-29	9	3	5	1
30-39	5	2	3	0
40-49	4	3	1	0
50-59	5	2	3	0
60+	0	0	0	0
	24	11	12	1

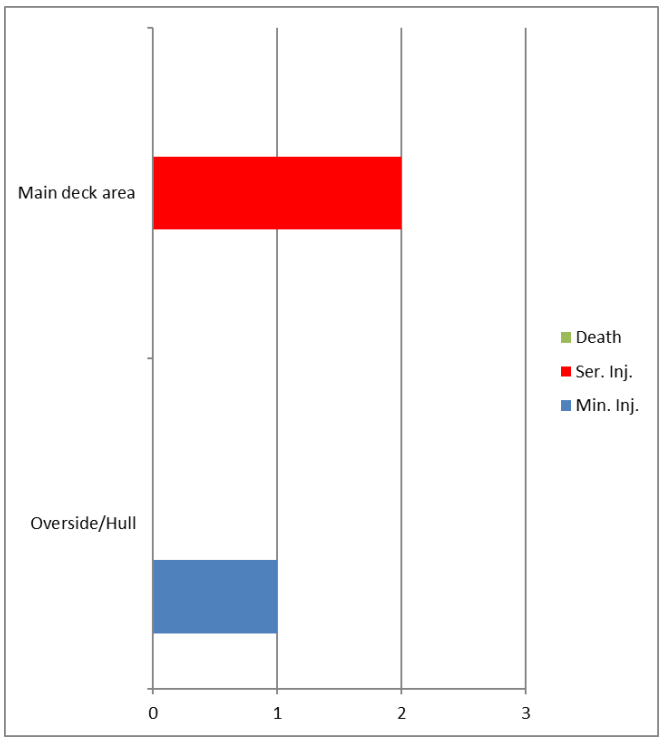
Minor and Serious Injury to person;

	Total	Min. Inj.	Ser. Inj.
Head	3	2	1
Torso	3	2	1
Leg	4	2	2
Arm	6	3	3
Hand	6	2	4
Foot	1	0	1
Total	23	11	12

5.3 Place Where Injury or Fatality Occurred;

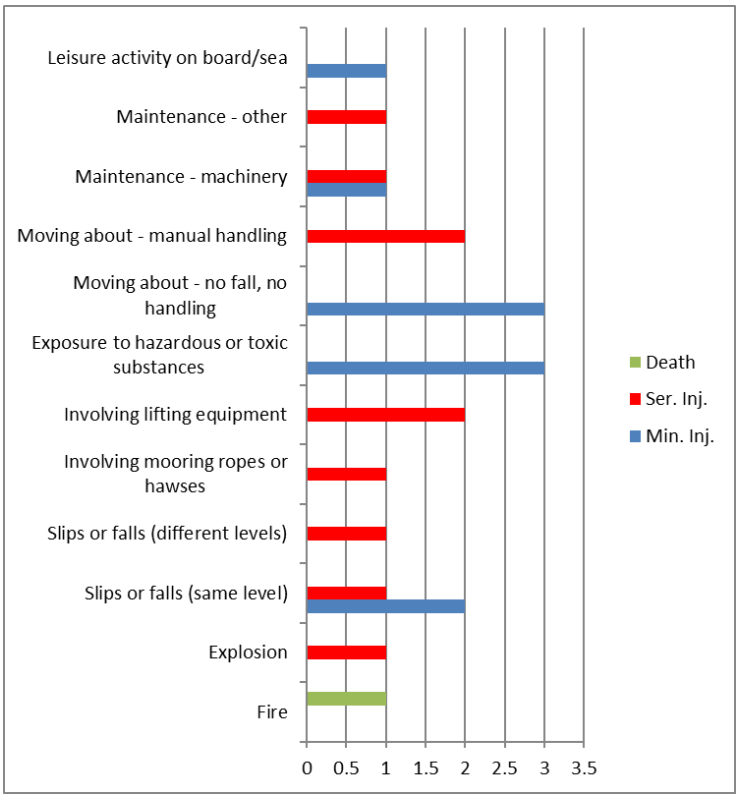


21 MLC Seafarers

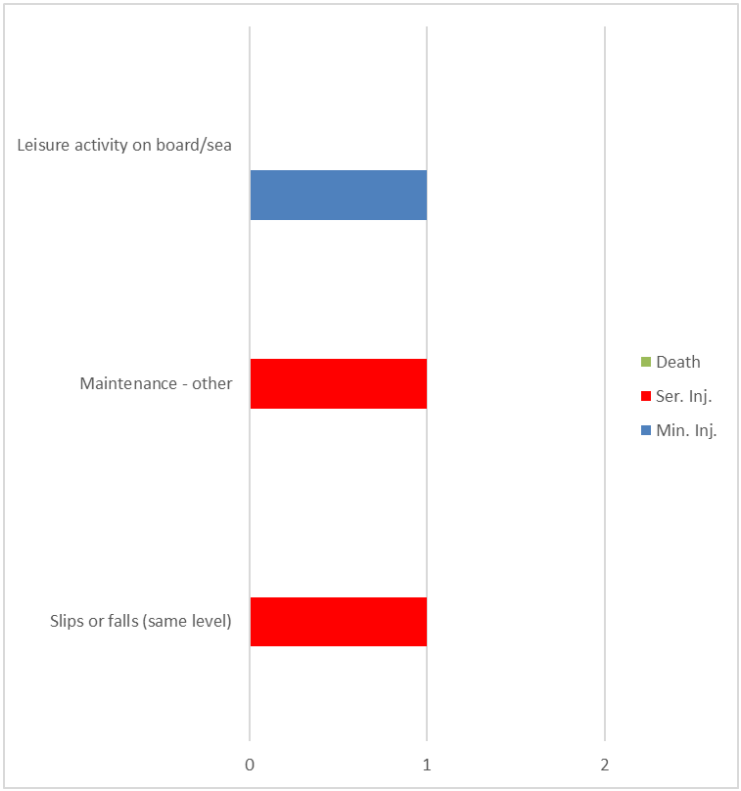


3 Non-MLC Seafarers

5.4 Type of Occurrence Leading to an Injury or Fatality;

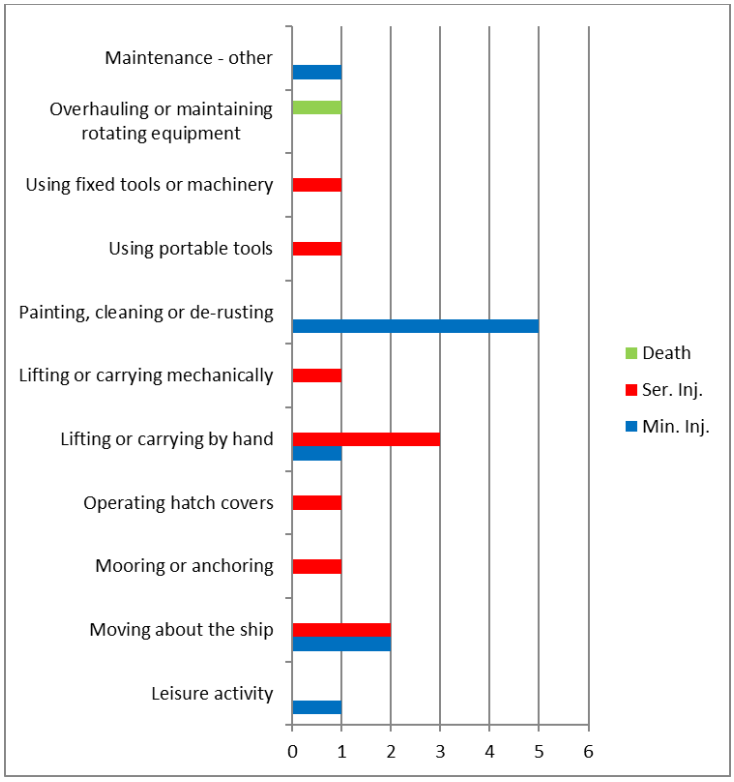


21 MLC Seafarers

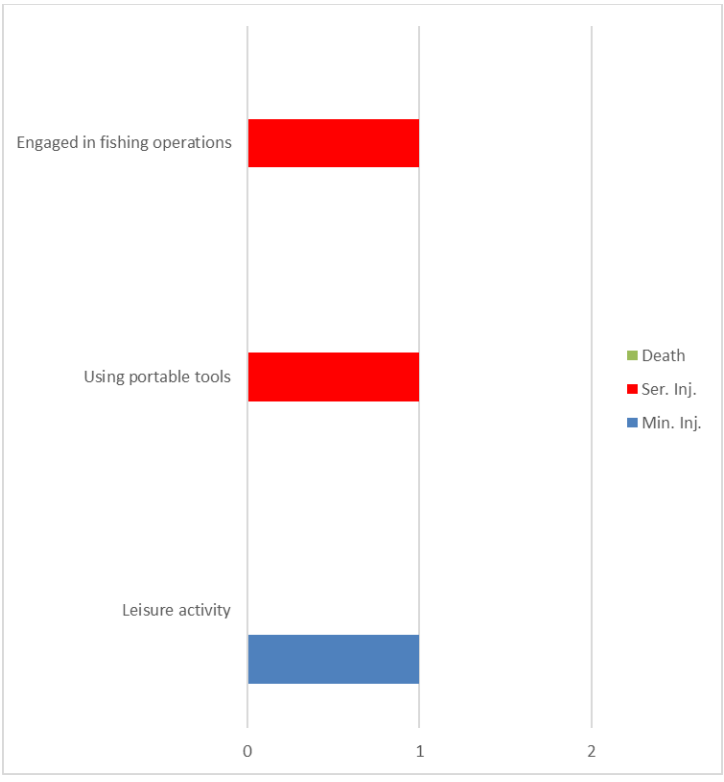


3 Non-MLC Seafarers

5.5 Type of Activity Leading to an Injury or Fatality;



21 MLC Seafarers



3 Non-MLC Seafarers

Chapter 6 - IMO Casualty Investigation Code

Reports received by IOMSR in 2020 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. 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 2020 classified as per the IMO Casualty Investigation Code for different vessel types.

Cases per Ship Type	Passenger	Oil Tanker	Chemical Tanker	Gas Carrier	Bulk Carrier	Offshore/ Standby	Other Cargo ship	Comm. Yacht	Pleasure Vessel	Fishing Vessel	**Total**
Very Serious Marine Casualty:	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
Fatalities	0	0	0	1	0	0	0	0	0	0	1
Severe Damage to Environment	0	0	0	0	0	0	0	0	0	0	0
Loss of Ship	0	0	0	0	0	0	0	0	0	0	0
Marine Casualty:	**2**	**1**	**0**	**2**	**3**	**2**	**9**	**0**	**0**	**1**	**20**
Serious Injury	0	0	0	2	1	2	6	0	0	1	12
Material Damage to Ship	1	0	0	0	1	0	0	0	0	0	2
Stranding, Disabled, Collision	1	1	0	0	1	0	3	0	0	0	6
Marine Incident:	**0**	**5**	**0**	**3**	**8**	**30**	**9**	**8**	**0**	**1**	**64**
Total:	**2**	**6**	**0**	**6**	**11**	**32**	**18**	**8**	**0**	**2**	**85**

Year		**2018**	**2019**	**2020**	**2020 Cases**
Number of Cases		**76**	**89**	**85**	
Very Serious Marine Casualty	Fatality	0	1	1	See Chapter 7.1 case 1
	Severe Damage to Environment	0	0	0	
	Loss of Ship	0	1	0	
	Total Cases	**0**	**2**	**1**	
Marine Casualty	Serious Injury	13	15	12	See Chapter 7.1 cases 2 - 13
	Material Damage to the ship	3	3	2	See Chapter 7.1 cases 14 - 15
	Stranding, Disabled, Collision	5	10	6	See Chapter 7.1 cases 16 - 21
	Total Cases	**21**	**28**	**20**	
Marine Incident	**Total Cases**	**55**	**59**	**64**	See selected cases in Chapters 8 and 9

Chapter 7 – Casualties in 2020

A total of 21 casualty cases were reported in 2020 and are outlined below.

Casualty cases	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting / DP	Total
Passenger ship	1	0	0	1	0	0	2
Oil tanker	0	0	1	0	0	0	1
Chemical tanker	0	0	0	0	0	0	0
Gas carrier	1	2	0	0	0	0	3
Bulk carrier	0	0	1	0	2	0	3
Offshore/Standby	0	0	0	0	1	1	2
Other cargo ship	3	0	0	3	2	1	9
Commercial Yacht	0	0	0	0	0	0	0
Pleasure vessel	0	0	0	0	0	0	0
Fishing vessel	0	0	0	0	0	1	1
Total	5	2	2	4	5	3	21

7.1 Brief Summary of All 21 Casualty Cases in 2020

1	**Gas Carrier – Fatality** Whilst alongside in port the Third Engineer was working on the fuel oil filter conducting planned maintenance where a fire occurred. The fuel oil filter had been partly disassembled without being adequately drained of residual fuel pressure. The cause of the fire was due to fuel spray under pressure from a fuel oil filter onto a hot surface on an adjacent auxiliary engine (the engine was not running at the time). Once the fire started, the fire alarm sounded. Upon mustering, the Third Engineer was noted to be missing. Subsequent attempts made by the crew to locate him within the engine room were unsuccessful due to high temperatures and zero visibility. The shore fire brigade arrived on board and commenced a search as well as firefighting with the assistance of the ship's crew. The Third Engineer was found and evacuated from the engine room by the shore fire brigade. Medical attention was immediately provided on-board by the attending shore medical services. The Third Engineer was transferred directly to a hospital where he was cared for in intensive care. Unfortunately he later succumbed to his injuries and passed away. Consequences • Loss of life • Extensive damage to the engine room *A Safety Investigation was conducted by the UK MAIB on behalf of the Isle of Man. For further information please refer to the published investigation report.*
2	**Gas carrier – Serious injury** While the vessel lay at anchor, the Third Engineer and Motorman were manufacturing a new securing pin for an anchor chain stopper. The vessel's lathe was used for this job. The Third Engineer and Motorman were assisted by the Motorman cutting the steel with the Third Engineer operating the lathe. The lathe was used to polish material by use of an emery cloth with the Third Engineer and Motorman working side by side. Shortly after commencing the polishing, the right sleeve of the Motorman's coveralls became caught in the steel material causing his arm to be pulled across the rotating material in the lathe. The lathe's emergency stop was activated.

	The Motorman was escorted to the Engine Control Room and more crew were summoned by sounding the general alarm. First Aid was applied to his injured arm. While the Motorman received first aid on the vessel the Company and coastguard were contacted for medical advice. It was suspected that the Motorman also suffered fractures in his arm so it was decided to medivac him. An on-board investigation concluded; • The person(s) operating the lathe had limited experience in the use. The work should not have started without ensuring that all involved had sufficient knowledge to carry out the job safely. • The supervising officer did not ensure the lathe was correctly set before machining. • The supervising officer did not provide instructions on how to use the emery cloth, thus not minimizing the risk of an item being caught in rotating equipment. Best practice when necessary is to use emery cloth on a rotating item by attaching it to an extension piece to avoid hands and arms in the proximity of the rotating piece.
3	**Gas carrier – Serious injury** A cargo hold void space was scheduled for routine inspection. After a risk assessment and toolbox meeting were carried out the persons involved gathered at the aft entrance/access hatch. After positive testing of the atmosphere with personal gas detectors, last check of correct PPE and obtaining permission from the bridge, the chief officer entered the space by use of an access ladder and stepped out on the first maintenance platform. A cadet then entered the space and climbed down to the height of about 1mtr above the first maintenance platform. The cadet misjudged the distance and stepped off the ladder letting go of his hands from the ladder. This caused him to lose his balance and fall onto the handrails of the maintenance platform. At that point the bridge was alerted by VHF, the alarm was raised for all crew and an enclosed space rescue operation was conducted. The cadet was lifted up on a stretcher from the space and transported to the ship's hospital. The cadet was later taken from the ship to a shore hospital.
4	**Bulk carrier – Serious injury** As the vessel was mooring alongside the pilot asked for dead slow ahead. The aft spring lines were slack in the water and came under tension as the vessel moved ahead. A loose spring line running over a drum end then came under tension before parting. When the line parted, the seafarer was hit by the parting line striking him on the leg. The seafarer was brought to the ship's hospital. The vessel was pushed against the quay and kept in place by the attending tugs. The pilot contacted the port authorities and called for an ambulance, which arrived within several minutes. The deck officer was given first aid by the paramedics and taken to a local medical centre for treatment.
5	**Offshore vessel – Serious injury** A seafarer was installing a hydraulic high torque tool on one of the bolt nuts in order to continue disconnection of the head from a water injection line at the working table. The seafarer was adjusting the tool socket manually when his little finger was caught between tool and an adjacent bolt. At the same time an operator turned the tool socket resulting in the seafarer's fingertip becoming severed. First aid was given to the seafarer immediately by the medic on board. The seafarer was transported to a local hospital for further treatment. An on-board investigation concluded there was inadequate supervision especially concerning pinch points and a lack of communication between personnel involved in the task.
6	**Offshore vessel – Serious injury** As part of the maintenance schedule on the ship's 400t crane, renewal of the batteries in the crane's E-rooms was planned. The old batteries from the crane E-room were inside the knuckle boom room in the crane pedestal and needed to be brought down to main deck.

	The job has a two-year frequency and had not been carried out before. To carry out the job a basket was landed on top of the crane operator cabin. It was planned to hoist the batteries down the vertical ladders inside the crane pedestal by means of a handheld rope but this soon found to be troublesome due to lack of space. The vertical distance inside the crane is relatively high and control of the batteries by a handheld line was difficult and not considered safe. It was then decided to carry the batteries by hand from the knuckle boom room and load them in the basket. Seafarers were passing the batteries between each other and loaded into a basket. The weight of each battery is approx. 50kg. Two persons were receiving the batteries passed by the crane trainee. On receiving the second battery, the battery sat awkwardly on a seafarer's right shoulder when he felt a severe and sudden pain in his shoulder and arm. The seafarer had previously had surgery in the shoulder following an accident. The seafarer was sent ashore for a medical check and it was decided to repatriate the seafarer home for recovery. An on-board investigation concluded; • The lifting straps designed for lifting the batteries did not have sufficient strength to support the weight of the battery and another carry method was attempted. • In future change of batteries will take be done by hoisting the batteries up and down inside the crane by means of an electric chain block.
7	**Other cargo ship – Serious injury** While the vessel was drifting at sea the second engineer sustained an injury to his finger which became trapped between an empty nitrogen gas bottle and bottle holder. The weather conditions at time of incident were favourable; slight sea, low swell, with no rolling or pitching. The job was to remove a gas bottle from the A/C room to the weather deck in order to be landed ashore the following day. The pre-job briefing was carried out by the chief engineer and two men were tasked due to the limited space in the A/C room. Both men were equipped with PPE (helmet, coveralls, leather gloves, goggles and safety shoes). While positioning the bottle the second engineer lost his grip and his finger became trapped between the bottle and bottle holder causing a significant crushing injury to his finger.
8	**Other Cargo Ship – Serious injury** The vessel was double berthed with another vessel in the port of Beirut at the time of the massive port explosion on 4th Aug 2020. The Chief Cook suffered injuries to his right arm and ankle while he was walking down a stairway and fell. He was immediately provided first-aid on board and later transferred to a local hospital. The vessel did not suffer any structural damage other than minor damage to portholes, accommodation fire doors, bulkhead and deckhead panels, A/C ducts and insulation inside the accommodation area.
9	**Other cargo ship – Serious injury** The fitter was instructed to fabricate a new garbage drum cover with the fourth engineer with the oiler assigned to assist. A routine "tool box talk" and "take 5" were carried out with the engine room staff and safety concerns were discussed. In the storeroom the thin steel plate required was stacked under thick steel plates which had to be moved. The fitter requested the fourth engineer and oiler to assist him in removing the steel plates. The thick steel plates were moved piece by piece until the required plate was found. Later the fourth engineer, fitter and oiler started re-stowing the thick steel plates back in position. Once all the plates were in position, the fitter went to fetch the securing wire while the fourth engineer and oiler were holding the steel plates from both sides. The oiler inadvertently nicked his left palm on a sharp edge of the steel plate causing his hand to move. As a result he tried to use

	his leg to support the steel plates. The fourth engineer on the other side couldn't hold these steel plates by himself and the oiler's leg could not take the weight. The steel plates slipped and fell on the leg of the oiler. On learning of the accident, the Ch. Engineer and other engine room staff came down to the engine room to assist. The master was notified of the incident and first aid was administered. The oiler was shifted to the engine control room on a stretcher and then to the ship's hospital for medical treatment. He was later evacuated to a shore side hospital.
10	**Other Cargo Ship – Serious injury** Some ratings were tasked with replacing hatch cover cleats. In order to move the cleat, a cleat bar was required to pull the cleat down and turn it while the nut is being held by a spanner. As the cleat was being pulled down the cleat bar slipped out causing a seafarer to lose his balance and step heavily on his own foot with all his body weight. This caused a sudden swelling and pain. Initially this incident was believed to be a sprained ankle. After several days he showed little sign of recovery so the master arranged a doctor on arrival at next port.
11	**Other Cargo Ship – Serious injury** While the vessel was alongside in port an oiler injured his hand during maintenance of an engine unit. When the piston crown was being re-stowed back into its housing by an overhead crane, the piston rod hit the mounting causing the piston crown to swing, hit a cylinder cover stud and then the hand of an oiler trying to steady the piston crown. An on-board investigation highlighted that all persons who participate in this type of job should understand the risk assessment and safely instructions given by person in charge in a "tool box meeting" before the work commences. Personnel holding steady lines should stay in a safe position mindful of the load's movement when handling a heavy object held by an overhead crane.
12	**Other Cargo Ship – Serious injury** An electro-technical cadet was assigned to plug/unplug reefer containers during port stay. While he was standing by for his assigned duty he tried to repair a damaged grinder in the electrical workshop. After he fixed some electrical parts on the grinder, he tried to test it. He was not aware the start/stop switch was in the ON position when he inadvertently put his finger on the grinder disc. While holding the grinder he plugged the grinder in. When grinder got power, the disc spun and cut his finger causing a severe laceration to his finger and hand.
13	**Fishing Vessel – Serious injury** The vessel departed port in F7 wind conditions and proceed to a sheltered area in a nearby bay. The crew were experienced and all were wearing PFDs (personal floatation devices). During the operation of "shooting away" the trawl gear the main trawl winch is used to lift the inboard gear and the vessel's motion is used to swing the gear outboard. During this operation all crewmen are required to stand well clear. The vessel conducted three tows of the trawl gear without incident. In preparation for the fourth trawl the starboard side fishing gear was safely outboard. When preparing the portside fishing gear for deployment a crewman removed a securing hook (used to secure the gear fast to the deck) from one end of the gear. Another crewman removed the other securing hook and the skipper lifted gear using the trawl winch. Both crewmen stood clear during the lifting of the gear. As the skipper waited for the vessel's motion to be right before lowering the gear outboard, a crewman attempted to push the gear out in an effort to help swing the gear outboard. The crewman misjudged the vessel's motion, missed the gear and fell forward onto the railing. The

	suspended fishing gear then swung back and hit the crewman, pinning him to the side of the vessel. The crewman suffered a head injury and was eventually aided back inside the fishing vessel where first aid was applied. The local coastguard was contacted and medical advice from a doctor assisted the first aid treatment. A lifeboat was despatched and the injured crewman was transferred to the lifeboat where an ambulance was arranged to wait for the lifeboat's arrival in port.
14	**Bulk carrier – Material damage to the ship** Whilst making way at sea a significant fire broke out in the engine room due to an oil leak from a fuel filter vent plug. The engine room was evacuated and the fire was extinguished by operating the hyper mist system after mustering the crew. The main engine was stopped and the vessel drifted while operating on emergency power. The fire was successfully extinguished and inspections were made by crew in order to conduct a damage assessment of the engine room and machinery. No injury was incurred as a result of the fire.
15	**Passenger Ship – Material damage to the ship** While in port conducting cargo operations a trailer was being reversed onto the vessel where it made contact with a drencher main feeding zone, puncturing a hole in the pipework. The impact resulted in the section of the drencher system being inoperable. The trailer was manoeuvred around a parked bunker wagon into a lane which had inadequate clearance above the trailer. The trailer was too high and driver didn't realise he did not have adequate clearance resulting in the top of the trailer hitting the drencher pipework. Repairs to the drencher system were required before the vessel could depart. An on-board investigation highlighted; Loading officers are to ensure such trailers are not directed into lane with inadequate clearance. Recommendations were made to the freight manager with regards to marking high trailers in order to indicate the trailers do not have adequate clearance throughout the vehicle deck.
16	**Oil tanker – Grounding, collision/allision** As the vessel approached the intended berth the vessel conducted a swing within the channel. When manoeuvring back across the river to the berth the steering gear alarms activated. The steering gear was found damaged and unable to be controlled from the wheelhouse. At the time, the vessel had two pilots on board and had two, 80-tonne bollard-pull tugs made fast. Emergency steering was then used to return the rudder to the midships position and the vessel was safely berthed alongside the dock with the aid tug boats and the ship's engine. There were no injuries to personnel, no damage to the berth or any spillage of oil in the water. An investigation found the steering gear feedback linkage was bent and broken. After performing tests, it was also found the steering gear turned to only 5º to starboard and well past 40º to port. The damage also included damage to the feedback systems of the steering gear (rods connecting the actual rudder to position sensors). It was suspected the rotor spun on the rudder stock due to a suspected grounding, offsetting the rudder to port. A diver's inspection discovered a build-up of sediment on the starboard side of the rudder indicating that the rudder had passed through a significant amount of mud on the channel bottom.

	The area through which the rudder was intended to pass was considered safe by the pilots and to be dredged to a depth easily capable of accommodating the ship's draft.
17	**Bulk carrier – Grounding, collision/allision** Whilst on passage the vessel encountered adverse weather with Force 8 Head Winds and 4.0-5.0 meters of head swell. During the period of adverse weather the vessel was pitching and rolling moderately and at times shipping spray / seas all over forecastle deck up to the forward hatch covers. There was an alarm for the forward bosun store on the de-watering and high-water level alarm panel located on bridge. This was acknowledged by the officer of the watch and relayed to Master and Chief Officer for necessary action. The dewatering system was started remotely from the bridge and the alarm of bosun store was reset on the de-watering and high-water level alarm panel. After discussion with Master, the valves on the dewatering system were remotely shut down from bridge on the basis of resetting the alarm after it was assumed the water was fully pumped out - no physical rounds were made of the bosun store. Later the same day a 110 low insulation alarm for the forward spaces sounded. Whilst the ETO was investigating on the cause of the alarm it was reset to normal status. No further checks were carried out on the reason for low-insulation alarm and it was assumed that all was in order. On the same evening the fore-peak tank high level alarm activated on the bridge. After discussion, it was decided to alter the ship's course to enable physical inspection of the forward spaces and check soundings of the forward tanks and spaces. During inspection of the forward spaces, the team noted the following: 1. Smoke coming out of the bosun store due to short circuit of electrical connections. 2. Water of about 1.5 meters height splashing inside the bosun store. 3. Water was overflowing from the fore-peak tank vents located on the forecastle deck. With water was observed overflowing from fore-peak tank vent, it was reasoned that the fore-peak tank had fully flooded, and no further attempts were made to take sounding of the tank or other adjoining spaces. The general emergency alarm was sounded and crew mustered on the bridge. Fore-peak tank de-ballasting was commenced using 2 ballast pumps and further investigation and corrective actions continued. An on-board investigation found the following: 1. The bosun store dewatering system was unable to pump the water and the vessel did not have submersible pump on-board. 2. Rate of ingress into the fore peak tank was around 70t/hour which could be managed using the eductor to pump out the water continuously from the fore peak tank 3. Windlass motor and electrical fittings in bosun store were substantially damaged beyond shipboard capability and required shore assistance 4. Forward winches and windlass were not operational due to the damage to windlass's electric motor and electrical fittings in bosun store. 5. Fire line in bosun store was found leaking near the port and starboard hawse pipes. 6. Except, the fore peak tank, all other spaces (ballast tanks, void spaces and cargo holds) were noted to be intact with no water ingress. 7. Electric circuit breaker for bosun store located in midship store was found tripped and this was the reason why the low insulation alarm self-reset. 8. Heavy weather precautions taken by the vessel before the occurrence of the water ingress was found to be adequate and in compliance with SMS requirement. Failure to carry out physical checks of the bosun store when water ingress alarm was activated led to a false sense of security when the alarm went off on the panel and it was established without

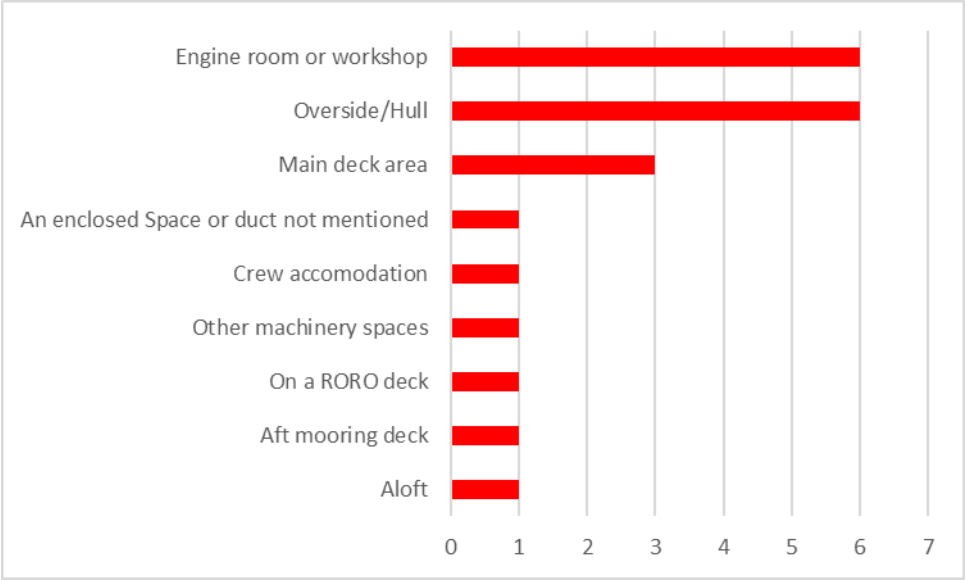
	physical verification that the water had been pumped out using the dewatering system. If a physical round was taken, the reason for water ingress in bosun store could have been established and possibly prevented the scale of damage which happened due to prolonged sloshing of water in bosun store. The chain lockers were found to be flooded and the water was leaking into the bosun store through the manhole covers. On inspection, the manhole packing was found hard and ineffective for the purpose due to aging. Bolts on the flange connections for the anchor wash line were found loosened. This breach in the fire line caused water ingress into the bosun store through the hawse pipe and when using the dewatering system. A breach on side shell plating immediately below the starboard anchor could have been caused due to collision with an unknown object or other vessel that hit the bow during heavy weather. The location of the breach is a heavily strengthened area in fore peak tank and the chances of a heavy weather damage is considered unlikely.
18	**Other cargo ship – Grounding, collision/allision** Upon arrival to harbour the vessel was under the Master's command assisted by a PEC (Pilot Exemption Certificate) holder who had the control of navigation. Once the vessel passed the planned abort position, the visibility deteriorated. The vessel was on hand steering with a speed of 10 knots when approaching the harbour's breakwater. A northerly current was observed and vessel was steered to correct set to north. The speed was reduced once inside the breakwater and the vessel was observed to be north of channel. Visibility was reduced due to thick fog. The PEC holder was warned by the Master that the vessel is still north of the channel. When the PEC holder tried to steer the vessel back to centre of the channel the vessel grounded due to an over correction to port. Significant structural damage was incurred. No personal injury or pollution was reported. A tug boat and local pilot were arranged. The vessel was successfully re-floated and proceeded to the planned berth. *This case is under investigation by the United Kingdom MAIB.*
19	**Other cargo ship – Grounding, collision/allision** The vessel departed the berth on completion of cargo operations and proceeded to sea on a river passage with a pilot on board. During the river passage the vessel lost steering control as the rudder became stuck in a 10° port rudder position. The ship's engineers quickly tried to restore control in the steering compartment but their attempts failed. The master attempted to take the way of the vessel by reducing the ship's speed using astern propulsion. As the ship was slowing down the bow made heavy contact with a sea dolphin used for barges resulting in significant structural damage to the bow area. After the collision the anchors were let go. Following temporary repairs to the steering gear the vessel returned to port to investigate the damage and conduct repairs.

20	**Other Cargo Ship – Grounding, collision/allision** Whilst the vessel was alongside the berth preparing for departure through a lock system the Master was completing the pre-departure checks with all bridge equipment tested and found to be in good working order. For the departure from the berth, the rudders had been split (to operate independently) to enable greater control. The vessel was almost ready to proceed from the berth and was just waiting on confirmation that the forward mooring team had singled up forward and for the OOW to arrive on the Bridge. The Master received confirmation from the forward mooring team and moments later the OOW arrived on to the Bridge. The Master then proceeded to inform the OOW of the plan for departure from the berth and into the lock. The OOW was instructed to inform the Master whether the vessel was clearing the corner/knuckle of the lock entrance (West side) and that the vessel would go straight in. The Master gave the order to "let go" forward & aft with the controls being set to manoeuvre off the berth and informed the Lock Master. No other vessels were reported in the vicinity. The vessel broke away and began manoeuvring. In the middle of the dock, it was noted that the wind had increased to NW 27kts-31kts. The vessel made headway towards the lock entrance and both rudders were synchronised. As the vessel proceeded towards the lock entrance, the OOW stated that the vessel was overlapping (the NW corner of the lock) by approx. 5m. This was a usual manoeuvre for fresh Westerly winds as it gives the Master time & distance to evaluate how the vessel is behaving and being set to the east. On this occasion however, the Master noted that the wind was not having the expected effect. The thruster was stopped and the vessel appeared to continue without any deviation by the wind – this was not expected. As a result of the wind not having the expected effect the Master reduced the headway and began using the thruster to thrust to port to allow the bow to clear the West lock wall. The Master asked the OOW if the vessel was clearing, to which the Officer responded by counting down the overlapping distance. With the bow clear of the west wall and entering the lock, the Master sighted the bow was closing on the east wall. The Master commenced thrusting to starboard to counteract this effect, the wind still in the region of 25kts-30kts. The Master looked astern and noted the stern was starting to swing to the east and applied port rudder & split the M/E's. The Master observed that the engine/rudder & thruster combination appeared to have little effect and the vessel continued to close. The split on the engines was increased while continuing thrusting to stbd. The vessel was now moving bodily towards the North East corner of the lock and although the engines/rudder/thruster combination appeared to be taking effect, the port bow had begun to overlap the concrete on the east wall. The vessel's port shoulder made contact with the corner of the lock. The Master continued to manoeuvre the vessel, clearing the remainder of the concrete structure. The vessel berthed alongside. Once all fast a request was made to the attending linesmen to look along the side of the vessel (forward of the belting) and sight any damage. Damage to the shell was reported and the decision was made to return to the berth to investigate the damage further. The vessel was damaged on the port bow/shoulder approximately 3m above the water line. The damage consists of a penetration/rupture through the shell plating of the hull. There was additional buckling of the shell plating forward and aft of the rupture, including buckling of the internal frames adjacent to the hull.

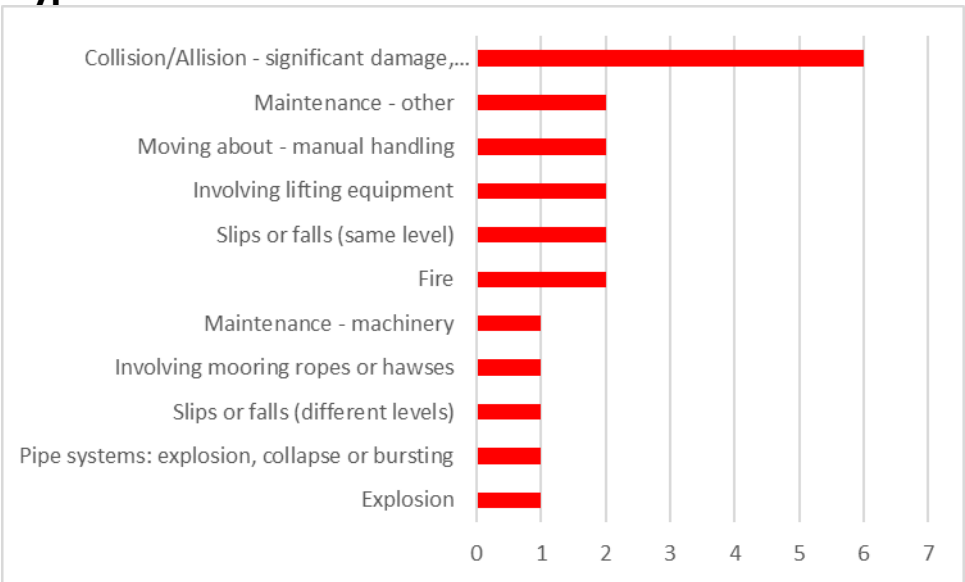
21	**Passenger Ship – Grounding, collision/allision** Whilst approaching the entrance to the harbour the vessel failed to respond to port helm after commencing a starboard turn into the harbour. Both bow thrusters were put on full power to port to assist with the turn along with the pitch on the port engine being put astern, however the vessel failed to respond, resulting in the starboard quarter grounding on the mud/sand bank just inside the harbour entrance. As the vessel grounded the starboard engine shut down, the vessel continued into the harbour and berth utilising the port engine. The starboard engine was restarted on clearing the bank; however, it was evident that there was no pitch available on that engine. Divers attended the vessel and inspected both propellers and surrounding area and found one of the blades on the starboard propeller suffered damage and is distorted, with no other visible damage. There were no mechanical issues with the ship and all the control systems were fully functional and operational at the time. The weather conditions were also good on the approach with light NE winds of 6-8kts. The most recent survey chart also indicated that there should have been sufficient under keel clearance, however it is believed the water depth in the harbour is less than that indicated on the latest sounding chart, which may have prevented the vessel turning to port.

7.2 Casualty Chart Representations

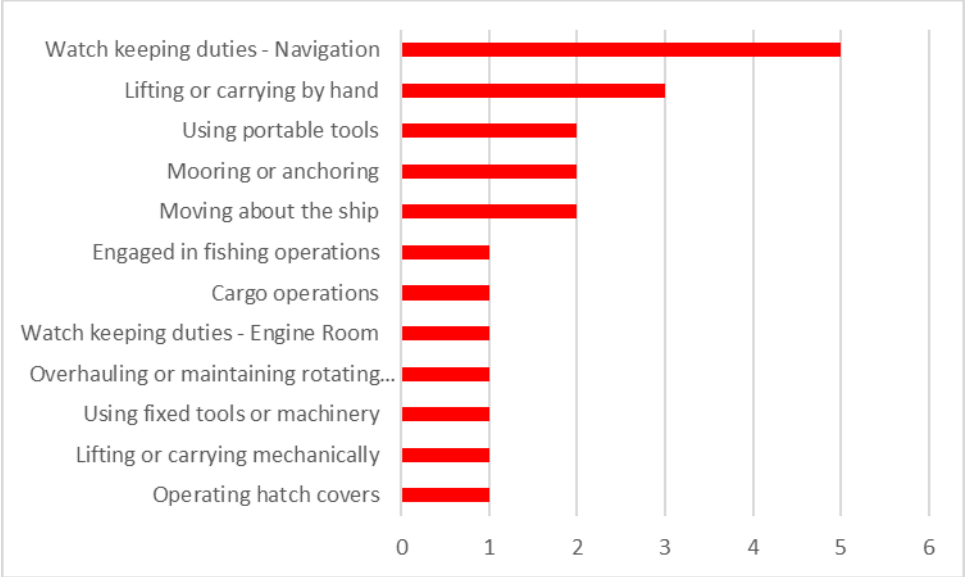
2020 Casualty Places



2020 Casualty Types



2020 Casualty Activities



Chapter 8 – Accidents in 2020

A total of 35 accident cases were reported in 2020 and are outlined below.

Accident cases	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring /Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting/ DP	Total
Passenger ship	0	0	0	0	0	0	0
Oil tanker	1	0	0	0	1	0	2
Chemical tanker	0	0	0	0	0	0	0
Gas carrier	0	1	0	0	0	1	2
Bulk carrier	0	2	0	0	0	0	2
Offshore/Standby	3	0	0	0	3	19	25
Other cargo ship	0	0	0	0	1	0	1
Commercial Yacht	1	1	0	0	1	0	3
Pleasure vessel	0	0	0	0	0	0	0
Fishing vessel	0	0	0	0	0	0	0
Total	5	4	0	0	6	20	35

8.1 Brief Summary of Selected Accident Cases in 2020

Commercial yacht – Fire

The Chief Officer noted a strong smell of electrical burn in the crew area. The Chief Engineer was also called to the scene to locate the source of the smell. When the freezer compartment door was opened black smoke was released where it was noted the freezer was in defrost. The freezer was shut down and electrically isolated.

The freezer evaporator unit is a multiple coil unit with three fans fitted to the rear. Central to the coil is a defrost plate mounted within the chiller vanes. The edges of the plastic cover had burnt through and deformed by melting and the plastic chiller housing had disappeared. Within this hole was the remains of the fan itself. The blade had totally disappeared along with the fan motor assembly itself.

An on-board investigation concluded an electrical problem with the defrost element caused one of the fans as well as part of the plastic chiller housing to melt. This then dripped down onto a plastic food storage box causing that to melt too. It was concluded that fire failed to take hold in the compartment due to the very cold temperature.

Bulk carrier – Fire

While the vessel lay at anchor during a layup period a fire broke out on the boiler burner unit and on the lagging of the fuel oil return line.

An on-board investigation concluded an accumulation of unburnt fuel in the form of solidified carbon in front of swirl plate, blocking approximately 60% of cross section area resulting in inadequate flame propagation. The fuel oil return line was also found disconnected causing fuel to spray over the lagging and burner assembly of the boiler.

Fuel oil spray at high pressure intensified the fire causing damage to burner casing, servo motor assembly, burner wirings and electrical components.

Offshore Vessel – Fire

During regular planned maintenance on a diving bell, emergency lithium battery packs were changed for new. The diving bell was launched to depth during annual trials. During recovery of the bell a status alarm for the emergency battery pack was triggered. While at surface the emergency battery pack pod was visually inspected and the 'jupiter plugs' were disconnected to check for water ingress at the plugs. The plugs were left off to keep the pod isolated for further inspection. It was decided to launch and recover the port bell so

the vessel would not be delayed in completing the test program. After approximately 100 minutes a loud bang, smoke and flames were observed at the bell.

Initial investigation showed that the securing bolts of the battery container sheared and the lid blew off because the lid was secured to the battery pod bracket and it could not fall. The battery pack content was found to have failed catastrophically causing an explosion and a small fire. Some batteries exploded and some water ingress was observed inside the pod.

The bell was unoccupied at the time.

While removing the relief valves, it was noticed that the relief valve on the failed battery pod had been fitted incorrectly during a maintenance period. Subsequent investigation showed that the originally fitted relief valve had been replaced with a commonly available type which was threaded at both ends.

Offshore vessel – Man overboard

The vessel was moored alongside in port (air temperature 15C, water temperature 15C, good visibility, slight rain, light winds 5kts) for the load out of a spool cassette. Following the load out the riggers commenced the sea-fastening. Due to the size and shape of the spool cassette, it overhung on both the port and starboard side of the vessel. In the process of installing a span-set around the production spool in the vicinity of the overhang on the starboard side, one of the riggers fell overboard.

Two lifebuoys with a lifeline were immediately deployed into the water by other riggers working in the vicinity and the bridge team were informed immediately. The searchlight was immediately switched on and pointed at the person in the water.

The seafarer was conscious and was talking to riggers on deck whilst was holding onto one of the lifebuoys in the water. At the same time seafarers were called to deploy starboard a pilot ladder. The seafarer was pulled by the riggers towards the pilot ladder; he was able to climb the ladder without any assistance and was escorted to the ship's hospital, where ship's medic awaited him for assessment. The rigger did not sustain any injuries nor hypothermia.

Oil/chemical tanker – Oil spill

During cargo discharge operations of an oil cargo, an oil spill on deck occurred due to a cargo flexible hose failure connected between ship's cargo manifold and the the off-shore manifold. Discharging operation was immediately stopped to stop the oil flow. The majority of the cargo spilled was contained on-board the ship. However, a small sheen was later observed in the water. The emergency response plan was immediately activated and local authorities were notified.

Gas carrier – Oil spill

The vessel was performing sea trials after installation of a new bow thruster. During testing the crew noticed an oil leak to sea and a low oil level alarm activated shortly after. An on-board investigation was carried out where it became obvious that 20ltrs of oil was lost and the bow thruster needed further repair. The vessel soon anchored to await repairs in a local dry dock.

During the stay at anchor awaiting repair in dry dock the vessel lost an additional 30ltrs of oil from the bow thruster (most likely due to ship's movement and vibration).

Bulk carrier – Oil spill

During bunker operations in port the vessel was in ballast condition, with trim by the stern of approximately 3m. During the topping off operation oil overflowed via the vent heads into local drip trays and some oil spilled onto the deck. HFO and MDO tanks were equipped with high level alarm which activate when tank capacity reaching 85%. The bunker operation was immediately stopped, and a clean-up operation started.

The cause of the overflow was blockage in the aft vent pipe due to large trim of the vessel and amount of fuel exceeding allowable 90% of capacity. The final tank measurement showed 96% of tank capacity.

Commercial yacht – Oil spill
Whilst on sea passage and also later at anchor the crew noticed the stern tube oil seal level in the header tank dropping. Signs of small amounts of oil on water surface and behind the ship while at anchor were observed.

The shaft manufacture was contacted and they advised to close the header tank while at anchor to limit oil loss and recommended replacing the shaft seals at the earliest opportunity. Oil booms were used around the ship to contain small traces of oil while at anchor.

Commercial Yacht – Oil spill
Following a trans-ocean passage the yacht arrived to an anchorage area and moored to a fuel barge. The weather was light westerly winds (3knts) calm seas in daylight conditions.

Before bunkering began the bunker check list was carried out and the deckhand on bunker watch was given a full briefing. Whilst bunkering the fuel hose on the barge split causing a leak of around 10-20 Litres of fuel oil into the anchorage. The deckhand immediately signalled to the barge crew to shut off the fuel valve and called over radio to the crew that there had been a burst fuel pipe and assistance was needed at the bunker station.

The instant reaction from the barge crew to the incident was to cover the area with dispersant. The chief engineer discouraged this to the barge crew, asking them to stop. Booms that had been made available for the bunkering operations on the aft deck were deployed at the stem between the two vessels (current was flowing from bow to stern).

Simultaneously the SOPEP equipment was retrieved and booms were deployed from the bow of the barge to midships sealing in any fuel not dispersed between the two vessels. The booms were left in place for the rest of the duration of the bunkering operation and then retrieved by the bunker barge crew to dispose of ashore.

The cause of the spill was due to the burst fuel pipe used by the fuel barge. The pipe burst at the point at which the pipe was bent over the railing on the fuel barge. The stress of this bend on the pipe may have caused the pressure to be too great and fracture the pipe. The condition of the fuel pipe between the two vessels and on-board yacht was noted to be in satisfactory condition.

It is also thought that having additional booms set up and available at the fore and aft ends of the barge ready for deployment would be also beneficial.

Offshore vessel – Oil spill
While the vessel was alongside in port, engineers were notified of low-level alarm concerning an azimuth thruster gearbox. Approximately12 litres of gearbox oil leaked into the sea. The leak occurred through a defective seal.

When the pressure equalised, the leak stopped.

Offshore vessel – Oil spill
Whilst in port the vessel was engaged in mobilizing project equipment. A stevedore on the quay side informed crane operator about drops of liquid coming from the main crane. Crane operations were then suspended pending further investigation. A leak was found coming from the loose fitting on the hydraulic hose on the knuckle boom.

A 'cherry picker' was organized to carry out the repair. After the repair and additional checks on the other fittings, the crane was function tested and confirmed fit for use.

Offshore vessels – Oil spill

Many reports were received from different offshore vessels concerning minor hydraulic oil spills from ROV equipment while conducting subsea ROV operations.

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

Gas carrier – Marine pollution

While the vessel lay at anchor the crew were engaged transferring stores from a boat to the ship. The weather conditions were good (Wind Force 3 / Sea Force 2 / No swell / Good visibility).

Two pallets were secured on the ship's crane hook by the boat crew. The pallets were being lifted by the ship's crane using nylon slings and lifting equipment provided by the supply boat. One pallet had paint and the second pallet had Deck and Engine stores. At the commencement of lift, the pallets were stable and straight. After initial assessment, ship's team continued to heave up the load.

When the load was almost at deck level, one of the two pallets, which contained paint toppled over and resulted in all the paint along with its packaging falling into the sea. The wooden pallet was lopsided and hanging on with the straps to the crane.

A quantity of 480ltrs of tinned paint fell into the water. Some of the cans opened and burst upon impact causing the paint to spill creating paint-sheen on water surface, but sheen completely dissipated shortly thereafter. It is presumed that not all the cans burst open and some sank down to the sea bottom.

The slipping of the sling from under the pallet to its side caused the pallet to tilt outward. This caused the load of paints along with its packaging to slip on the pallet and fall down into the sea. The paints were packaged with plastic cling film in such a manner that they were not secured to the pallet, but only placed on top of the pallet.

The slings should be secured on the pallet correctly so that they do not slip. When commencing a lift, it is normal practice to initially hoist at a slow rate and stop to confirm if the slings and other lifting equipment is holding well and that the load is in good position. The pallets should be better packaged such that the load itself is firmly secured as an integral part of the pallet.

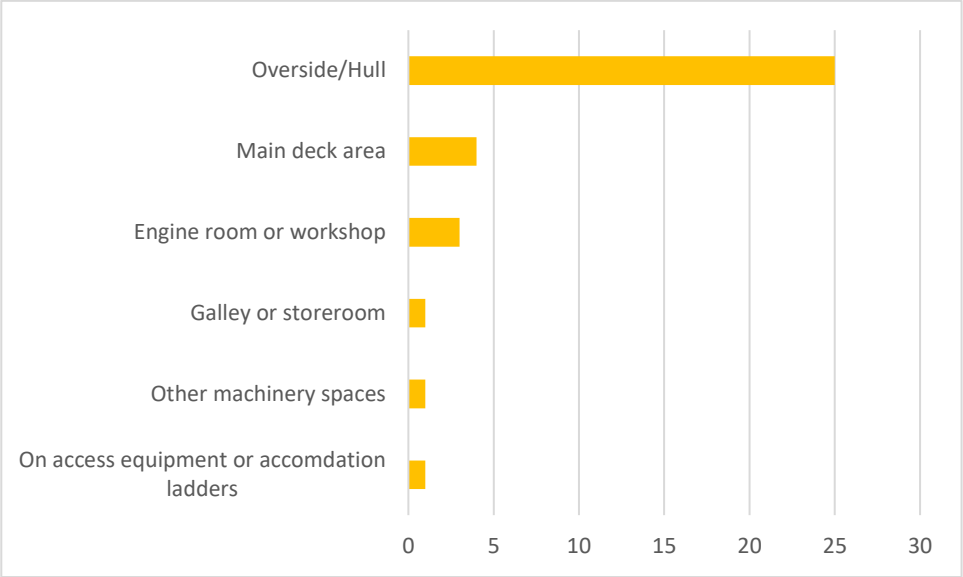
Oil tanker

Whilst on passage the main engine's oil mist alarm sounded, followed by low pressure of the main engine lube oil. White metal was then found in the backwash filter. The vessel was stopped and safely drifted while an investigation was carried out.

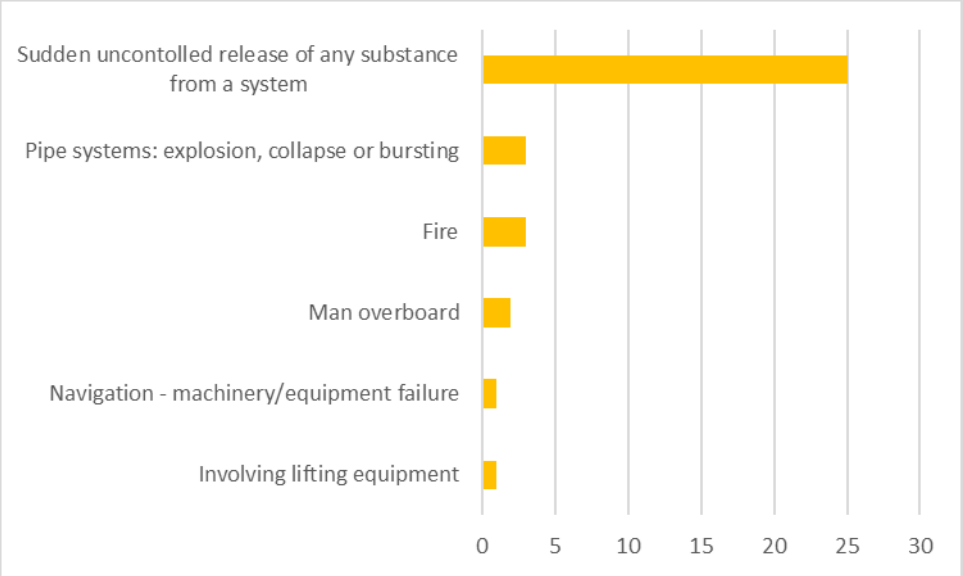
The investigation on board determined that the crosshead and crosshead bearing on a cylinder had been damaged and needed to be replaced.

8.2 Accident Chart Representations

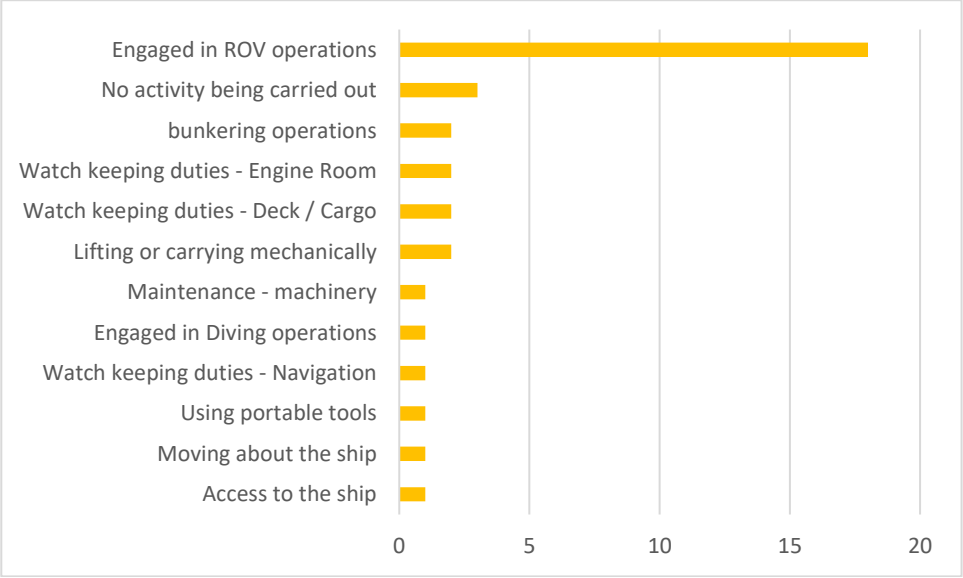
2020 Accident Places



2020 Accident Types



2020 Accident Activities



Chapter 9 – Incidents in 2020

A total of 29 incident cases were reported in 2020 and are outlined below.

Incident cases	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting/ DP	Total
Passenger ship	0	0	0	0	0	0	0
Oil tanker	0	2	0	1	0	0	3
Chemical tanker	0	0	0	0	0	0	0
Gas carrier	0	1	0	0	0	0	1
Bulk carrier	0	1	0	1	4	0	6
Offshore/Standby	2	0	0	0	1	2	5
Other cargo ship	2	2	1	2	1	0	8
Comm. Yacht	3	2	0	0	0	0	5
Pleasure vessel	0	0	0	0	0	0	0
Fishing vessel	0	0	0	1	0	0	1
Total	**7**	**8**	**1**	**5**	**6**	**2**	**29**

9.1 Brief Summary of Selected Incident Cases in 2020

Offshore vessel – Minor injury

The motorman was conducting his daily morning routines in the steering gear compartment. When replacing an oil absorbent pad, he put his arm underneath the safety guard for the thruster gearbox. The safety guard covered a rotating shaft and brake assembly. It is believed the back of his hand came in slight contact with the break disk towards the outboard brake calliper.

The rotation of the brake disk caused a deep laceration to the base of his thumb and two smaller grazes along the palm of the right hand.

Following the incident an immediate review of all "routine" cleaning duties and machinery guards was carried out including an immediate "Hazard Hunt" with particular focus on rotating machinery hazards, heat hazards and electrical hazards.

An-board investigation concluded;
The task being carried out by the motorman was part of morning routines, given that these were being carried out daily, over time complacency can set in to the most routine and what may appear as simple tasks.

The motorman was unable to see the rotating machinery (which caused the injury) from his working position. The Engine department agreed to shadow each other during routines to bring a fresh pair of eyes to the tasks being carried out during such routines.

The replacement of the oil absorbent pad, located under the azimuth thruster shafts, is only to take place when the shaft is not rotating.

Offshore vessel – Minor injury

While the vessel was at sea dynamically positioned, a tool-box-talk was held in preparation for a tank inspection. As a seafarer entered the tank, he stretched his back and felt a sharp muscular pain. The on-board medic treated the seafarer and the muscle pain was relived. The seafarer returned to work the same day but avoided lifting heavy objects under advice from the medic.

Offshore Vessel – Minor injury
Seafarers were working aloft cleaning a mast ready for painting. On completion of the cleaning, they reported they had some irritation on their arms. They were checked and it was noticed they had chemical burns on their skin. The seafarers were told to immediately go and shower.

The bosun had put Aquatuff (caustic alkali liquid) into an empty MetalBrite (Phosphoric Acid solution) and brought this to the cleaning site. This was then used as a pure 100% solution for cleaning the mast. The Aquatuff is supposed to be mixed with water for a 1% - 25% solution.

Risk assessment, PTW and toolbox talk was done prior to the cleaning. They were also wearing PPE in form of rubber gloves, goggles and rubber boots.

An on-board investigation noted;

- The chemicals for cleaning were not used according to the label on the can. In this case, the Aquatuff can only be used from 1% to 25% solution and not neat.
- For cleaning, the bosun has to be in charge of the mixing to make sure the solution is correct in order to prevent any injuries for the future.
- Only empty and clean buckets are to be used for mixing the solution during washing. Empty containers of any kind have to be delivered ashore as garbage according to the segregation plan.

Every crew member must have a mind-set that every chemical on board is hazardous and dangerous and use appropriate PPE.

Commercial yacht – Minor injury
A crew member was clearing out a wine cupboard when a bottle slipped, shattered and fell. As the shattered bottle fell the crew member tried to stop the bottle falling to the deck with her leg. The broken bottle cut her leg which later required stitches.

Commercial Yacht – Minor injury
While the vessel lay at anchor the weather conditions were reported as good with wind F5 and sea 0.6m.

The tender was towing a crew member and a guest (a 12-year-old boy) on a 4-person inflatable JOBE sofa. The inflatable got caught by a wave and a wind gust launching both persons into the water. The tender driver turned around, recovered both and called in a medical emergency to the bridge. The medical response team was mustered and trauma kit and neck braces were mustered on scene while waiting for the tender to come alongside. Once the tender was alongside, the captain boarded the tender for an initial assessment with the main concern being neck/spinal injury. Both crew members were conscious at the times and had no signs or symptoms of any neck/spinal injuries. They were helped out of the tender by crew members.

The guest seemed to be requiring the least attention and was installed sitting up with his head resting on a towel roll and a towel wrapped around him to keep him warm.

The seafarer appeared very quiet and disorientated after suffering a blow above his right ear. He had a headache and could not hear from that side. A visual inspection showed no lacerations, but what was possibly a deformation of the bone structure right above the ear. The captain instructed to keep him warm with more towels and apply ice to his head, and instructed his condition to be monitored.

After a visual inspection the guest seemed to have no lacerations and only to have suffered a blow to the head close to his left eye. During examination, he started to be less responsive and struggled to stay awake. The Chief Stewardess contacted shore medical advice. The Captain then called the local agent to have an ambulance waiting on the dock.

Both casualties were transferred back into the tender and transferred to the local hospital for medical assessment.

An on-board investigation concluded procedures were followed correctly, but the risk assessment and SOP for water sport activities will be reviewed.

Commercial Yacht – Minor injury

While conducting evening safety rounds a seafarer opened a fire door and trapped her left hand in the fire door recess, (where the fire door slides into the bulkhead). On reporting the incident ice packs were placed on the injured hand and she was taken to hospital for an assessment. An X-ray found that the crew member had fractured her metacarpal in one of her fingers.

Following the incident all crew members were re-familiarised with the operation of fire doors and watertight doors.

Bulk Carrier – Minor injury

While carrying out hold cleaning a seafarer slipped on the cargo hold tank top when he was pulling a charged fire hose for washing. After the fall, the seafarer felt mild pain on his waist and was rested. After resting, the seafarer reported that he has recovered. Days later when arriving at port the seafarer was lifting the pilot ladder and felt similar pain in the waist area.

An on-board investigation found the risk assessment for the task including Tool Box Talk and Take 5 was not adequately done as per the Company's Safety Management System. The heavy fire hose was being handled by the seafarer alone, during which he was suspected to pull his muscle. Additional assistance from another crew member was not deemed necessary and was not taken.

Subsequently the ship staff reinforced, during Daily Work Planning meetings and Monthly Safety Meeting, the importance of planning each task in detail, identifying the risks and implementing safety measures. All crew were given enhanced training on working safely and company SMS work procedures including proper procedures for handling heavy weights and use of on-board equipment.

Bulk Carrier – Minor injury

A seafarer was carrying out a monthly inspection of the eyewash and first aid boxes on deck and in the engine room. On entering the engine room through the crew changing room he slipped and fell over on the stairway's last 4 steps. He managed to continue his routine checks in engine room with slight pain on his right pelvis area.

After reporting this on-board and receiving shore medical advice the seafarer was able to carry out his daily shipboard duties while experiencing a little discomfort and pain. When the ship arrived in the next port he was sent ashore to the doctor and was diagnosed with ligament pain and a scan confirmed that he has no fractures or dislocation.

An on-board investigation concluded the seafarer's lack of situational awareness meant he failed to assess the exact location of the stairway and slipped.

Additionally;

- Warning signs were posted in the engine room entrance.
- An on-board safety meeting was carried out emphasizing importance proper identification of hazards in the work place.
- A fleet wide Safety Campaign on preventing injuries on board was initiated by the company.

Other cargo ship
While the ship lay at anchor the OOW observed the ship was slowly dragging anchor. The local VTS also noticed this and called the ship to check status of vessel's anchor position. The OOW then observed the ECDIS anchor position alarm indicating the designated anchor position exceeded allowable limits. The OOW informed the Master, the duty engineer to make ready the main engine and thrusters. The Bosun and crew to standby the forward mooring station.

When the engine and thrusters were ready the Master manoeuvred the vessel to re-position the vessel in a new anchorage position. Once complete the master ordered the engines be kept ready in case the vessel dragged anchor again.

Other cargo ship
Shortly after unmooring from the dock to depart the vessel experienced a steering gear malfunction. The vessel was then safely moored to a nearby layby berth to investigate the malfunction.

A repair technician quickly identified the malfunction occurred as a result of a failure of the feedback box for the indicators. The feedback box was repaired and the vessel was able to depart shortly thereafter.

Other cargo ship
Shortly after departing port the starboard engine was stopped following a request from the engineers. The vessel continued on passage using the port engine. Later, also on instruction from the engineers, the port engine was stopped and the vessel drifted safely 'not under command'. The weather, traffic, tides and location were all favourable and it was decided to allow some time to carry out the necessary repairs while drifting to restore propulsion.

It became apparent that repairs were not possible and a tug was despatched to assist the vessel back to a safe anchorage. Following towage the vessel anchored safely. After assessment of the engine the vessel departed the anchorage assisted by two tugs and berthed alongside to investigate the cause and conduct the necessary repairs.

Other Cargo ship
Whilst manoeuvring within port limits at slow speed among many pleasure vessels the vessel touched the sea bottom (soft mud). An underwater inspection later confirmed there was no damage incurred.

Other Cargo ship
Whilst making way through the lake during a Panama Canal transit the crew were engaged in preparing a pilot combination ladder to be arranged 1 meter above the water.

The crew were wearing life vests. While removing stanchion and pin on the ladder lower platform just above the water a seafarer became unbalanced, slipped and fell into the water.

The engine was stopped, a life buoy with line and a MOB buoy were released immediately. The seafarer was quickly recovered by a nearby tug boat. The seafarer did not suffer any injuries.

Other Cargo Ship
The vessel arrived to a harbour area and anchored where cargo barges soon made fast alongside in preparation for cargo discharging cargo to the barges while at anchor.

Shortly after the barges made fast, the vessel started dragging anchor and moved astern making slight contact with another vessel. Subsequently another barge dragged anchor and made contact with the vessel also.

There was no pollution or injury reported from any of the 3 vessels.

A damage assessment confirmed minor damage to light fittings, rescue boat, gangway and railings.

Other Cargo ship
Whilst alongside in port another vessel was swinging in the vicinity and made contact with the vessel on the forecastle head during the swing.

The other vessel was unable to hold position due to a sudden gust of wind (squall) up to 60kts.

The ship sustained minor damage to the hull above the waterline.

Other Cargo ship
Whilst berthing alongside the vessel made light contact with another moored vessel causing minor indentation damage to both vessels.

The vessel commenced a swing inside the port using the ship's bow thruster and main engine where the wind speed suddenly increased significantly. The vessel did not swing as expected and was set towards the other vessel resulting in minor contact.

No injury or pollution occurred as a result.

Other cargo vessel
While alongside in port a portable 'tween deck inside a cargo hold was being repositioned using the ship's hatch crane. The 'tween deck was being moved too fast and at not the correct angle. The 'tween deck made contact with the cargo hold bulkhead and ballast tank causing minor damage.

An on-board investigation concluded the 'tween deck was being moved too quickly by the crane operator. Subsequently the ship's crew received refresher training on board to improve their skills.

Offshore Vessel
Whilst berthed alongside in port another vessel during her manoeuvres in the harbour collided with the starboard quarter of the vessel.

An inspection of the ship's side indicated the other vessel touched a diagonal fender on the ship's hull and caused only made minor contact damage.

Gas carrier
While the vessel lay at anchor the OOW observed another anchored vessel apparently swinging too close. The OOW informed the Master and contacted the other vessel who reported main engine failure.

The Master arrived on bridge and gave instructions for the main engine to be placed on standby. The anchor was then paid out to the bitter end to gain distance while engines were being prepared. The main engine was set to half astern.

The other vessel swung in wind and her stern closed in resulting in minor contact damage above the water line. No injuries or pollution occurred as a result.

Bulk carrier
Whilst the vessel was making way at sea a shutdown alarm of an auxiliary generator activated and the generator stopped automatically. An inspection found a cylinder was destroyed. The connection rod bolts were cut and a piston stuck at the top position.

Bulk carrier
During lowering of the ship's rescue boat to the water the lifting wires parted Fortunately, the boat fell only a short distance from the hook to the water. No one was injured and there was no damage to the rescue boat.

An on board investigation found significant deterioration and corrosion of wires under the plastic coating.

Bulk carrier

While the vessel lay at anchor the master was called to the bridge due to squally weather, wind NW f7 and heavy rain. As a precaution the Master instructed the duty engineer to prepare main engine and the forward mooring party sent to anchor station.

At this time another vessel in the anchorage was observed to be dragging anchor with the distance reducing rapidly. Duty officer called the other vessel and informed her of the developing situation and told them to keep clear – no response. The other vessel was called again informed they are dragging anchor and close quarter situation is developing. The other vessel replied that they are preparing her main engines.

The other vessel was called again to advise that they are still coming very close and about to make contact – other vessel was advised to take urgent action to keep clear of own ship. Again, the other vessel informed that they are preparing their main engine. The master instructed the chief officer at forward station to standby to pay out anchor cable enable distance from.

The other vessel was called again to advise that they coming very close and may make contact. Again, the other vessel advised they are preparing their main engine. Noting this the master used astern propulsion to go astern and informed the local VTIS about the developing situation.

The other vessel continued to drag anchor and made minor contact with the bow. Due to risk of injury to crew at the forward anchor station, all crew were advised to clear the forward deck as containers may fall from the other vessel due to impact.

The master used the main engine to fall back astern and keep clear of the other vessel. While making contact, the other vessel used her main engines, however her stern swung to port causing another minor contact against the bow of own vessel. The other vessel eventually manoeuvred clear and anchored safely away from the vessel.

Initial damage assessment was carried out. No personal injury or pollution resulted from this incident.

Oil tanker

Whilst the vessel lay at anchor, cargo hoses were connected to discharge oil to barges moored port and starboard alongside. The weather was reported as good and the sea condition slight. During cargo discharge the weather abruptly changed from slight to rough sea as the wind increased to 20-30 knots. At that time the port side barge had completed cargo transfer and cast off. The starboard barge was rolling heavily against the starboard side shell plating of the vessel. The master informed the starboard barge captain to stop the discharging and disconnect the cargo hose and cast off but he insisted to continue discharging until completion.

When cargo operations were complete, the hose disconnected and the barge cast off an inspection was made of the starboard side shell plating which noted numerous minor damage in the form of scratches, dents to the bulwark and railing.

Future operations will be conducted using Yokohama fenders of a suitable size for the vessel.

Oil Tanker
Following departure from port through a lock system the engines were brought up to full ahead, fixed RPM was set and the autopilot was engaged. The pilot reported the vessel sheering off to starboard. Hand steering was engaged immediately and full port rudder applied. The vessel still continued to starboard and heading towards a moored vessel. Full astern was set on the main engine. The thruster was also started and used too. The transverse thrust assisted the starboard turn.

The vessel made minor contact with the other vessel on the port bow just as the vessel started to make stern way. A tug was made fast forward to assist to safe anchorage as at this time the crew were unsure of the rudder operation in dense traffic.
While at anchor a full assessment was made of the damage to the bow, damage recorded to the forward port bulwark and very minimal to the frames below, not enough to break and paint or welds.

No injury to personnel or pollution occurred as a result. Contact was made with the other vessel's Master who confirmed only minor paint damage from the contact.

Tests were made of the steering gear, C/E relayed helm movements from the steering flat as they were performed from the bridge. The rudder was also checked over the stern when moving the rudder with minimal engine ahead. All checks indicated the rudder was working normally.

It is believed the incident was caused by an autopilot failure. Hand steering was used in the river following departure and until the autopilot was confirmed operating satisfactorily.

Commercial yacht
While the yacht lay at anchor a catamaran was navigating too close and collided with the yacht. The collision occurred on the hull midships, at a speed of approximately 6 knots. The catamaran had its sails up but was also under power. The Catamaran then proceeded to scrape the hull before backing up and proceeding clear.

A damage assessment confirmed only minor exterior paint damage.

Commercial Yacht
Whilst the vessel was in a shipyard (yacht in the water with crew, paint contractors and hardware contractors aboard) undergoing a paint refit under a tent and scaffolding, a storm passed through the local area lasting half an hour followed by a second storm of equal intensity which lasted approximately 10 minutes. The storm consisted of high wind speeds in the region of 88mph or 76 Knots and heavy rain showers.

The storm caused a shift of the scaffold structure which in turn pushed against the vessels starboard side resulting in minor damage to the vessel (some painted/ accepted top coat areas), and vessel movement felt on all decks. The Captain ordered all contractors off the scaffold and off the vessel.

It was reported that the starboard strong hold had broken the bollard off the dock on starboard side and the port side strong hold has buckled.

All interior crew were told to muster in the tender garage and standby for potential evacuation. The Captain requested engines / thrusters due to failure of strong holds, double up on mooring arrangements on the starboard side and to take up the slack to tension point only.

The second squall was sighted heading towards the vessel approximately 10 minutes before it arrived. The captain ordered holes cut in the tent port and starboard to allow the wind to pass straight through. The moorings were thought satisfactory in light of the second squall and the engines were turned off at this time based on the newly secured mooring and the potential fire and fume risk for generators running inside a mainly enclosed tent.

Continuous monitoring of the scaffold structure and mooring lines was carried out throughout. The Second squall passed by but no further damage was sustained. Extra mooring lines were put in place to prevent any further movement of the vessel.

No injuries or pollution occurred. Minor damage was sustained to the yacht's paint work. No damage occurred to the yacht's equipment.

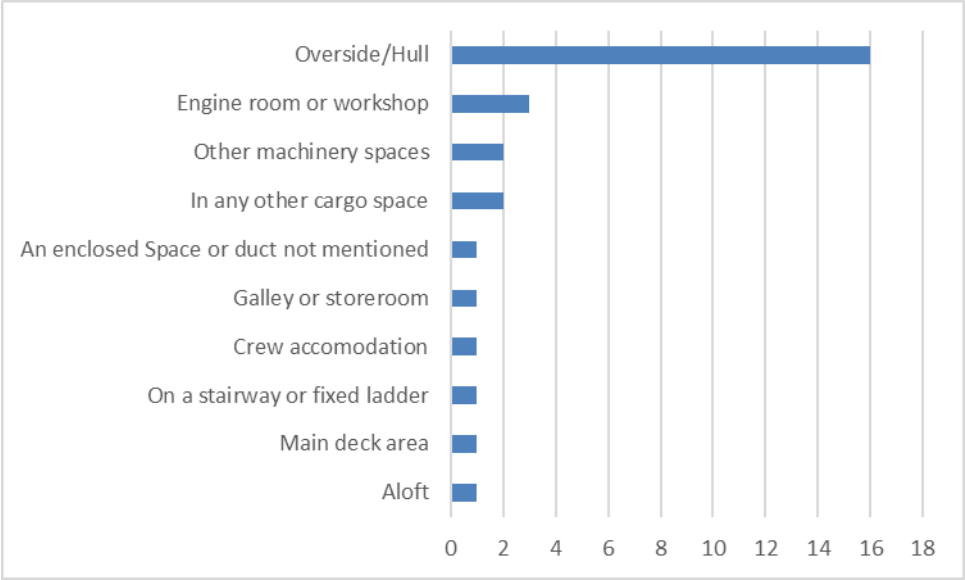
Fishing Vessel

The vessel was departing port following a layup period during windy conditions on a flood tide. Following unmooring from the berth the vessel was manoeuvred in the harbour area by a member of the crew. As the vessel passed a bridge and commenced a turn the vessel made contact with the bridge structure causing minor damage to the vessel.

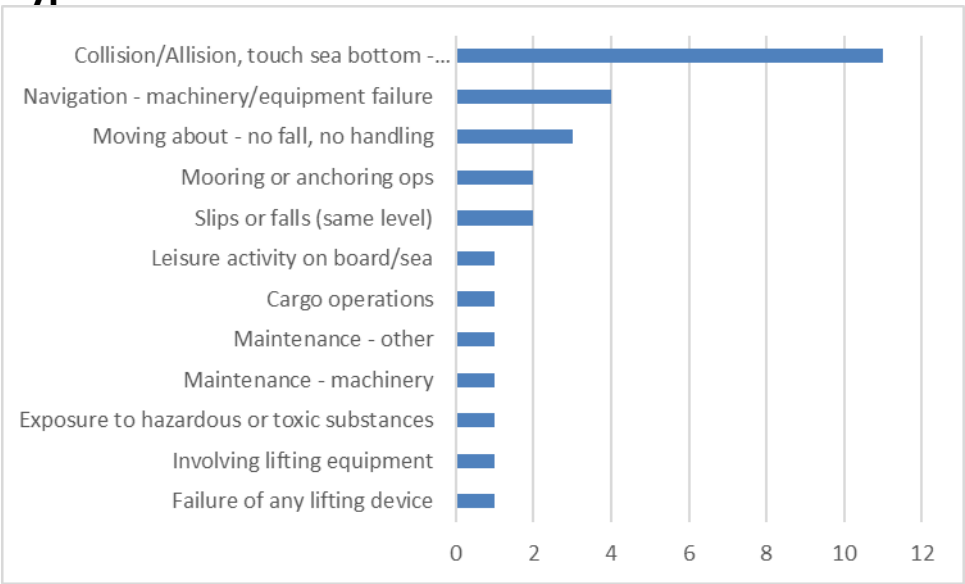
No injury to personnel or pollution occurred as a result.

9.2 Incident Chart Representations

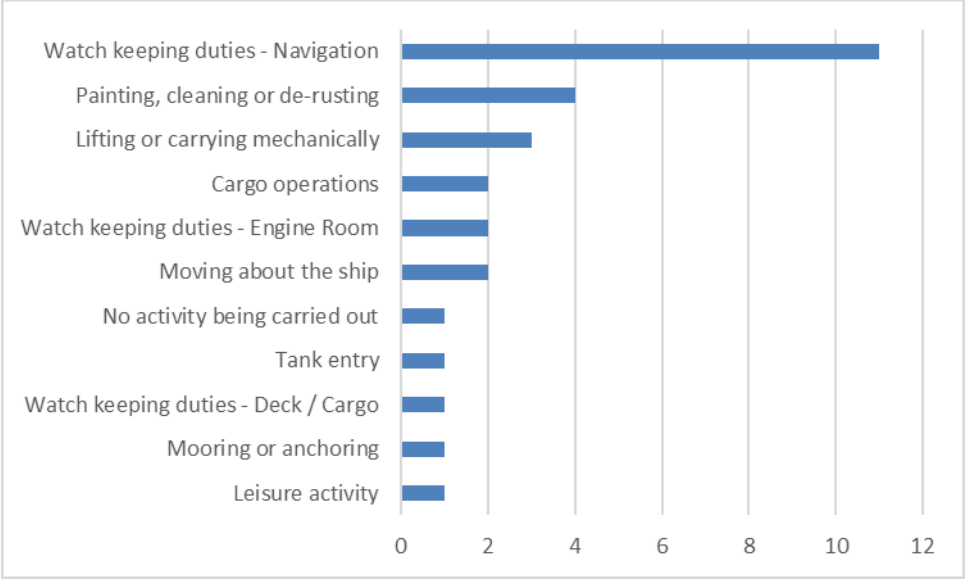
2020 Incident Places



2020 Incident Types



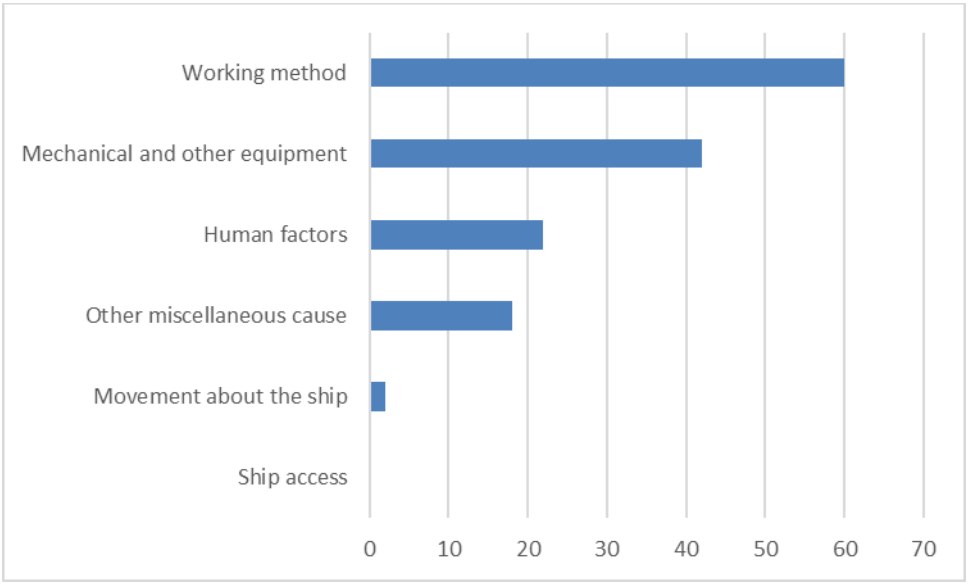
2020 Incident Activities



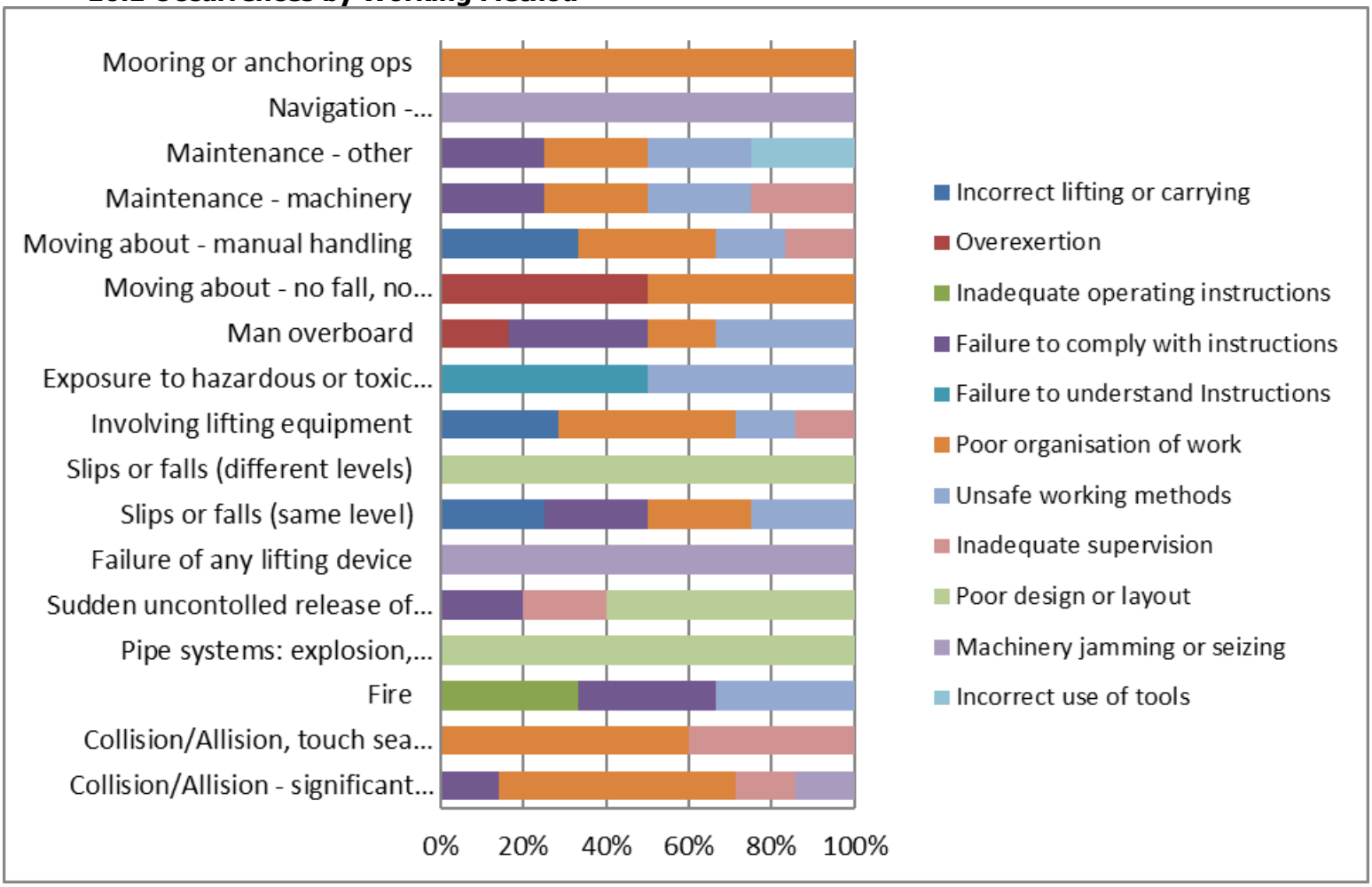
Chapter 10 – Breakdown of Occurrences in 2020 by Cause

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 follows 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 cause of a casualty, accident or incident can be broken down into various causal factors when reporting. The chart below indicates the causal factor categories and the number of times reported;



10.1 Occurrences by Working Method



In 2020 the predominant working method cause was reported to be "poor organisation of work".

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.

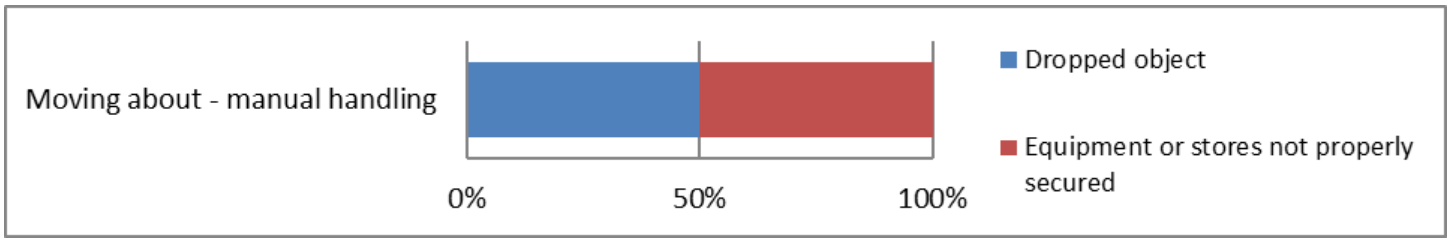
10.2 Occurrences by Ship Access

No causal factor was attributed to ship access in 2020.

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



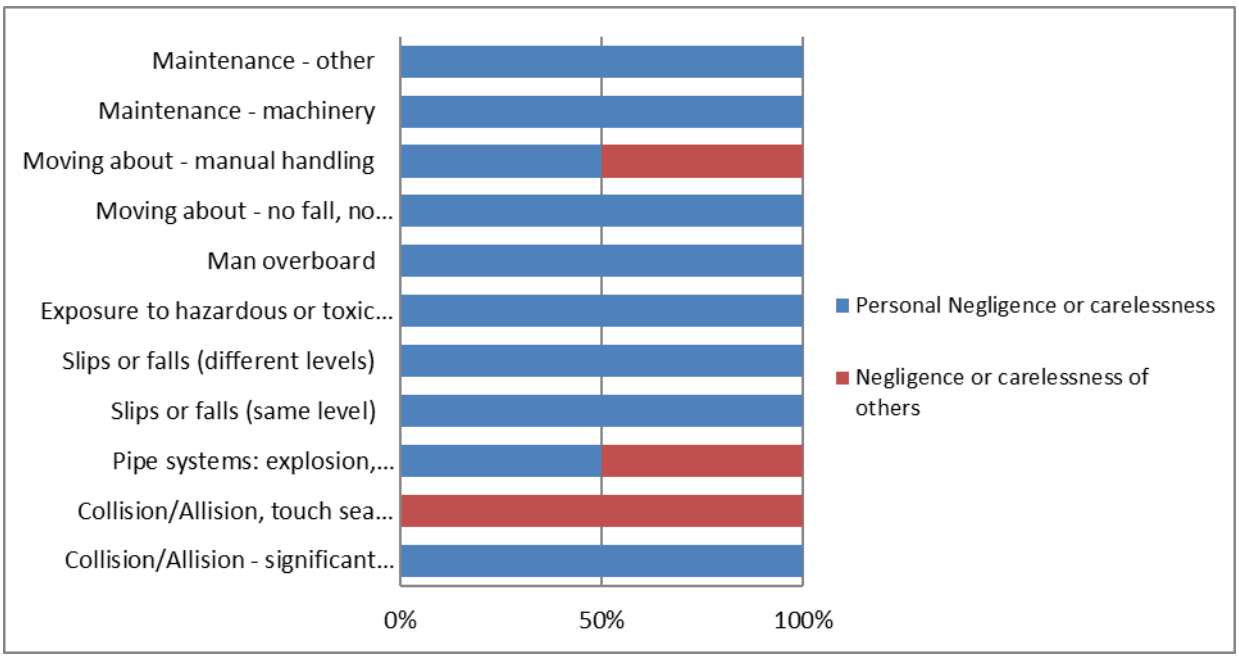
Seafarers should always take care when moving about the vessel, particularly when carrying items.

Crew members should also take note of warning signs highlighting risks and dangers. 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 sustained through unprotected openings can be avoided by effective barriers, signs and communication.

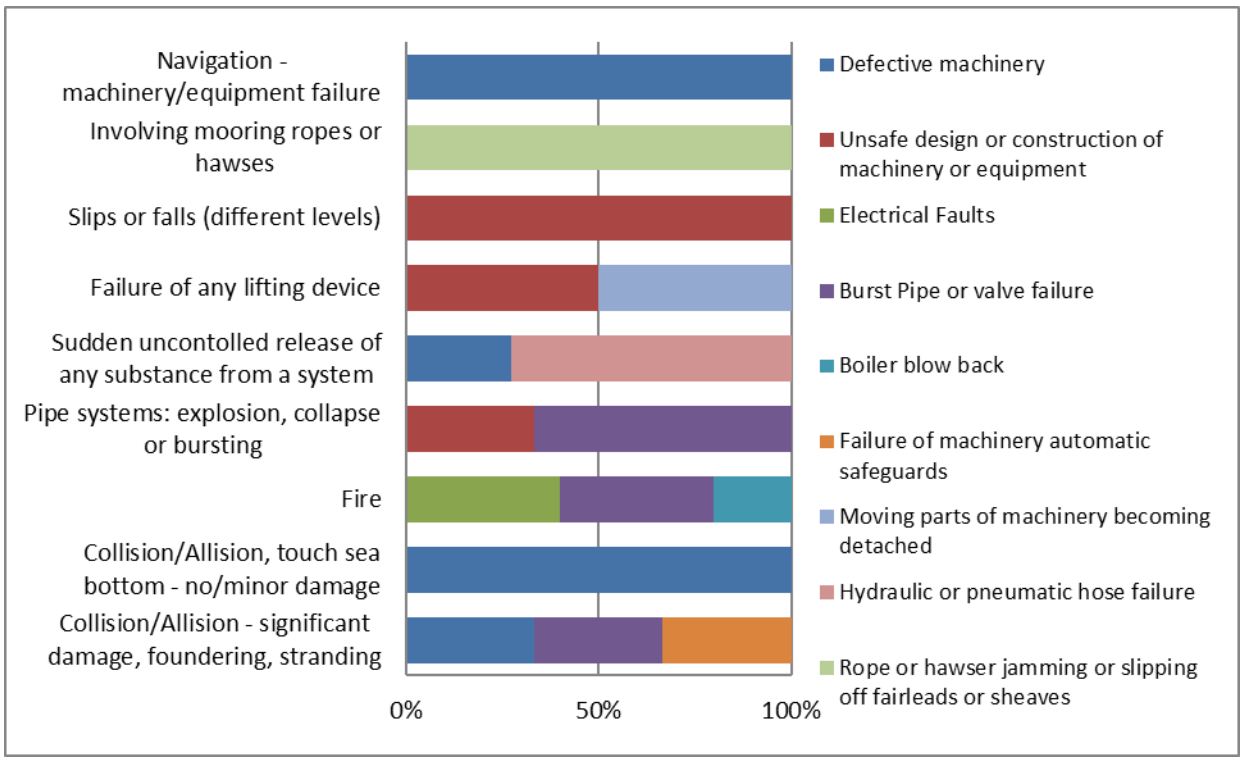
10.4 Occurrences by Human Factor



In 2020 the predominant human factor cause was reported to be "personal negligence or carelessness".

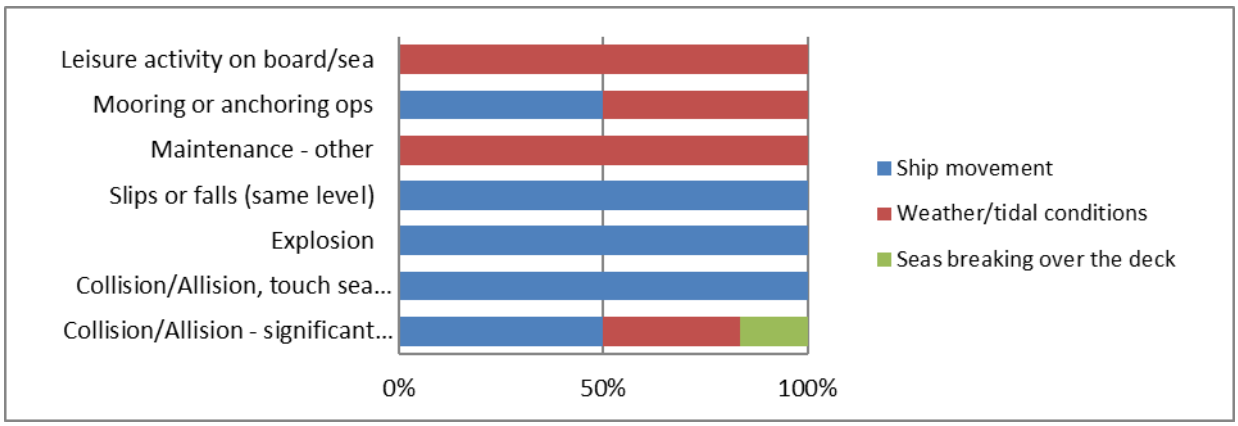
By "human factor" we mean the act or omission of a person to do something that leads to the occurrence happening. This stresses the need for adequate knowledge and training associated with the particular work activity, for the crew member to be made aware of any associated risks and for crew members to pay attention to what they are doing.

10.5 Occurrences by Mechanical & Other Equipment



In 2020 the predominant mechanical & other equipment was reported to be "hydraulic or pneumatic hose failure" (primarily related with minor oil leaks) followed closely by "defective machinery". 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 2020 the predominant 'other miscellaneous cause' was reported to be "ship movement". Crew members should take into consideration the movement of the vessel in the prevailing sea and weather conditions when planning and carrying out work activities. 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

2020 saw less ARF reports submitted compared to previous years. Less casualty and incident cases were reported but 2020 saw a rise in the number of accident cases reported. (Chapter 3.1)

The most prevalent occurrences reported in 2020 involved a 'sudden uncontrolled release of any substance from a system' (minor hydraulic oil leaks to the sea) when conducting ROV operations over the side of the ship (offshore vessels). (Chapter 4)

There was 1 fatality 10 serious injuries and 10 minor injuries to MLC seafarers reported in 2020 along with 2 serious injuries and 1 minor injury to non-MLC seafarers. (Chapter 5.2)

The most common serious injury was fractures to major bones and loss of fingers. The most common minor injury involved cuts, chemical burns and 'other fractures.' (Chapter 5.2)

The most common injury to seafarers in 2020 involved hands and arms.

On MLC-ships the place where most serious injury occurred was in the engine room. Moving about (manual handling), involving lifting equipment and lifting and carrying by hand caused the most serious injuries. (Chapter 5.3, 5.4, 5.5)

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
- Mechanical and other equipment – hydraulic or pneumatic hose failure and defective machinery
- **Human factor – personal negligence and carelessness**
- Other miscellaneous causes – ship movement
- Movement about the ship – dropped object and equipment or stores not properly secured
- Ship access – none identified

Personal negligence and carelessness remains 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.

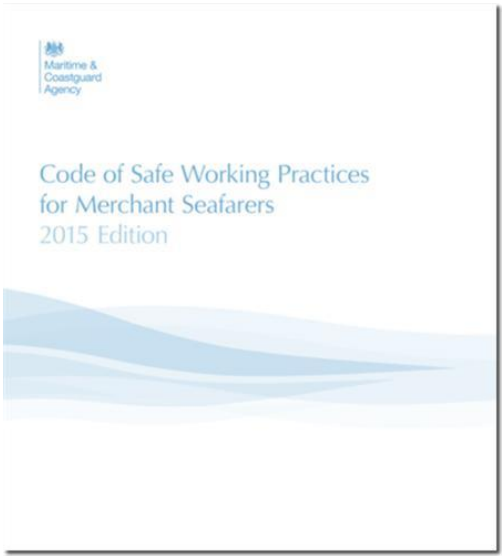
Where a vessel has established safety procedures, it is important that these are observed correctly. Appropriate personal protective equipment (PPE) should always be worn and used correctly. Any dedicated safety equipment should be regularly maintained and inspected before use.

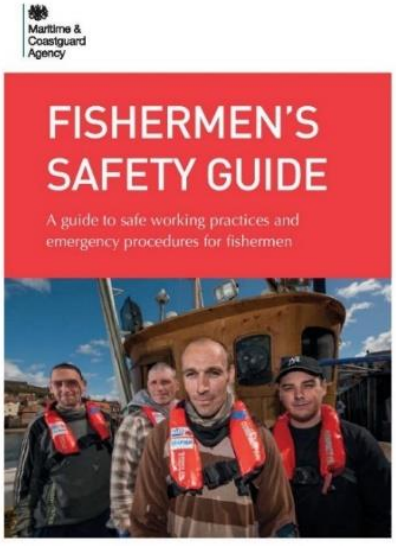
The Code of Safe Working Practices for Merchant Seafarers or Fishermen's Safety Guide (below) are valuable references depending on the ship type for most work activities conducted on board and should be consulted frequently. Risk assessments, Permits to Work and plain old common sense are all important tools 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 published by the UK Maritime and Coastguard Agency
- 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 comments or suggestions for future reports please contact the Isle of Man Ship Registry at the email address above.

The information in this report can be provided in large print or on audio tape, on request.

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