Isle of Man Ship Registry

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

2016

Isle of Man Government
Department of Economic Development

Isle of Man Government
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INVESTORS IN PEOPLE | Gold

Published March 2017

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 to submit a report on what has occurred.

Also, for ships to which the Maritime Labour Convention applies Standard A4.3.5 of the Maritime Labour Convention 2006 (MLC) requires that:

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

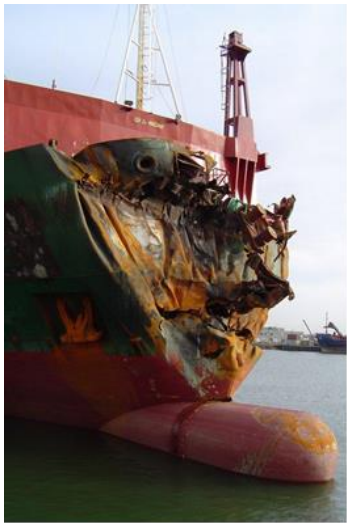
This report aims to provide statistics based on the reporting scheme's findings. Where any trends are identified the Isle of Man Ship Registry aims to work closely with shipping companies and other organisations in an effort to reduce these occurrences on board Isle of Man ships.

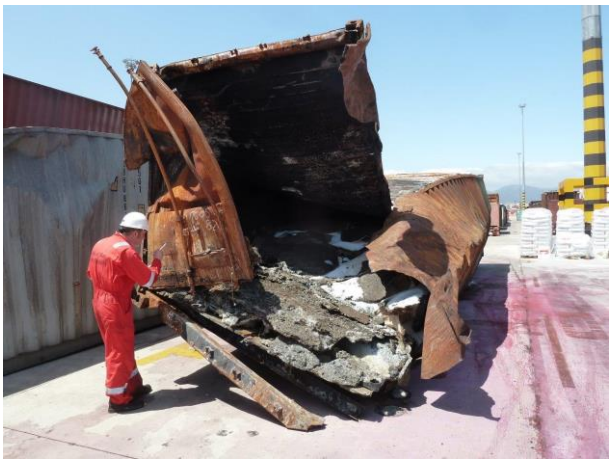
This report does not include statistics relating to deaths from natural causes.

To submit a report or if you have any questions please contact:

Isle of Man Ship Registry, Department of Economic Development,
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





Contents

Chapter 1 – What is an occurrence?

An 'occurrence' is classed as 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. **If there is any doubt then report to IOMSR.**

IMO Classification

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

Chapter2 – Reporting occurrences

2.1 Who has to Report

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

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

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

2.2 When to report

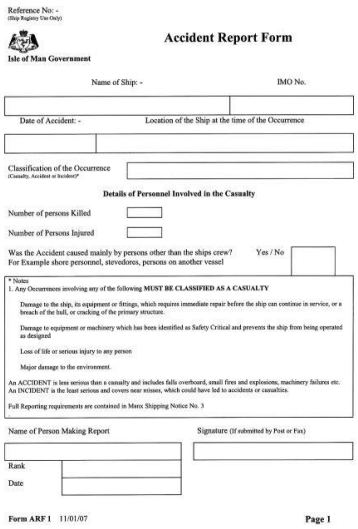
When a **CASUALTY** occurs the master, skipper or technical manager must inform the IOMSR as soon as possible after becoming aware of the casualty. The Master or Skipper must send a report to the IOMSR as soon as is practicable by the quickest means available.

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

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

2.3 How to report

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



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

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

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

All reports received that are "Very Serious Marine Casualties" as defined by the IMO Casualty Code (refer to Chapter 6) are investigated. For all other reports received a decision is made whether or not an investigation is warranted. Not all occurrences are investigated by IOMSR, this may be because:-

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

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

The initial part of an investigation seeks to establish the causes and circumstances of what has happened, with a view to deciding whether or not any further investigation is warranted. Whenever an occurrence is investigated a report is made. A provision is made for any person likely to be affected by a report to see the draft and comment on the facts and analysis therein before it is finalised. Sometimes due to the circumstances surrounding the investigation it is not always possible to publish the reports.

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 determines otherwise. Any reports published are available on the IOMSR website.

2.4 ISM Code Vessels

Where vessels comply with the International Safety Management (ISM) Code the Safety Management Manual should include procedures for ensuring accidents and hazardous situations are reported (ISM9.1). The IOMSR will accept the vessel's 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 investigation on board.

2.5 Investigations by IOMSR in 2016 *(See chapter 7.1 for more information)*

Type of Ship	Nature of Casualty
Oil tanker	Cargo tank failure during cargo operations causing vessel to list.
Passenger ship	Heavy impact with harbour quay when approaching harbour entrance.
Pleasure vessel	Involved in a collision with a fishing vessel when drifting whilst leisure fishing.
Commercial yacht	Sailed from port with its lazurette (stern door) open which caused partial flooding.
Fishing vessel	Grounding whilst engaged in fishing.
Commercial yacht	A crewmember drowned whilst leisure swimming in the sea.

2.6 Reports Published in 2016

None.

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

2.7 Investigations by external investigation body on Isle of Man vessels in 2016

Type of Ship	Nature of Casualty
Bulk carrier	Investigation by TAIC New Zealand. Vessel grounded in a narrow channel whilst under pilotage.

Chapter 3 – ARF Reports Received in 2016

3.1 Reports from Isle of Man Registered Ships

In 2016 IOMSR received a total of 71 ARF reports from Isle of Man registered ships. The table below shows the number of reported occurrences by type in 2016 and the preceding 4 years including a breakdown per ship type for 2016.

Description of Occurrence by Type per Year	2012	2013	2014	2015	2016	2016									
Year	2012	2013	2014	2015	2016	Passenger	Oil Tanker	Chemical Tanker	Gas Carrier	Bulk Carrier	Offshore / Standby	Other cargo Vessel	Commercial Yacht	Pleasure Vessel	Fishing Vessel
Casualties	21	19	23	36	31										
Accidents	61	39	32	27	12										
Incidents	27	26	21	22	28										
	109	**84**	**76**	**85**	**71**	**4**	**15**	**0**	**9**	**6**	**5**	**14**	**15**	**1**	**2**
Collision/Allision - significant damage, foundering, stranding	4	4	6	9	9	2	1		1		1	2	1	1	
Collision/Allision, touch sea bottom - no/minor damage	15	13	19	8	10		2			2	1	2	2		1
Fire	6	6	7	11	6				1	1		1	2		1
Explosion	1	1			1		1				1				
Pressure vessel: explosion, collapse or bursting	2	1	1	1											
Pipe systems: explosion collapse or bursting	7	3	7	6	5		1			1	1	1	1		
Sudden uncontrolled release of any substance from a system or pressure vessel				1											
Accidental ignition of flammable material		1	2	1											
Electrical short circuit or overload	1	4	1	1											
Failure of any lifting device	2		1		1					1					
Involving access to or from the ship	2				1		1								
Slips or falls (same level)	12	5	7	9	8	1	2		2		1	2			
Slips or falls (different levels)	11	3	5	5	4		1					2	1		
Involving mooring ropes or hawses	5	8	6	1	2		1						1		
Involving lifting equipment	5	1	1	4	3		2		1						
Exposure to hazardous or toxic substances	1	1													
Man overboard		1		1	1		1								
Electric shock			1	1	2								2		
Violence to the person	2	1			1	1									
Other			1												
Closing doors or hatches					2				1				1		
Moving about - no fall, no handling	8	3		2	3					1			2		
Moving about - manual handling	1	4		2	2		1						1		
Involving rescue boat/lifeboat/liferaft	2	3	2	2											
Drill - other than survival craft		2	1		1										
Cargo securing failure		5	1	10	2		1		1			1			
Maintenance - machinery	2	1	3	4	1				1						
Maintenance - other	5			1											
Cargo hold cleaning		1	1												
Navigation - COLREG infringement	9	5	1	4	2							2			
Navigation - machinery/equipment failure				1											
Navigation - other	4	2													
Illness	1	2													
Bunker operations		1			1				1						
Cargo operations		2													
Galley operations			1		1							1			
Mooring/anchoring operations															
Unauthorised boarding															
Leisure activity on board	1		1		1								1		
Total	**109**	**84**	**76**	**85**	**71**	**4**	**15**	**0**	**9**	**6**	**5**	**14**	**15**	**1**	**2**

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.

Injuries to passengers, guests or visitors are not counted in this report's statistics but will be stated in the report's narrative in Chapters 7, 8 or 9 where relevant.

The table below represents **cases** reported to IOMSR in 2016 on different types of vessels.

Type of Vessel	Total	Cas.	Acc.	Inc.	Deaths	Serious Inj	Minor Inj
Passenger	4	3	0	1	0	1	1
Oil	15	7	4	4	0	4	3
Chemical	0	0	0	0	0	0	0
Gas	9	5	1	3	0	4	3
Bulk	6	2	1	3	0	2	1
Offshore/Standby	5	2	1	2	0	0	1
Other cargo Vessel	14	6	2	6	0	3	2
Commercial Yacht	15	4	2	9	1	0	7
Pleasure Vessel	1	1	0	0	0	0	1
Fishing Vessel	2	1	1	0	0	0	0
Cases:	**71**	**31**	**12**	**28**	**1**	**14**	**19**

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

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

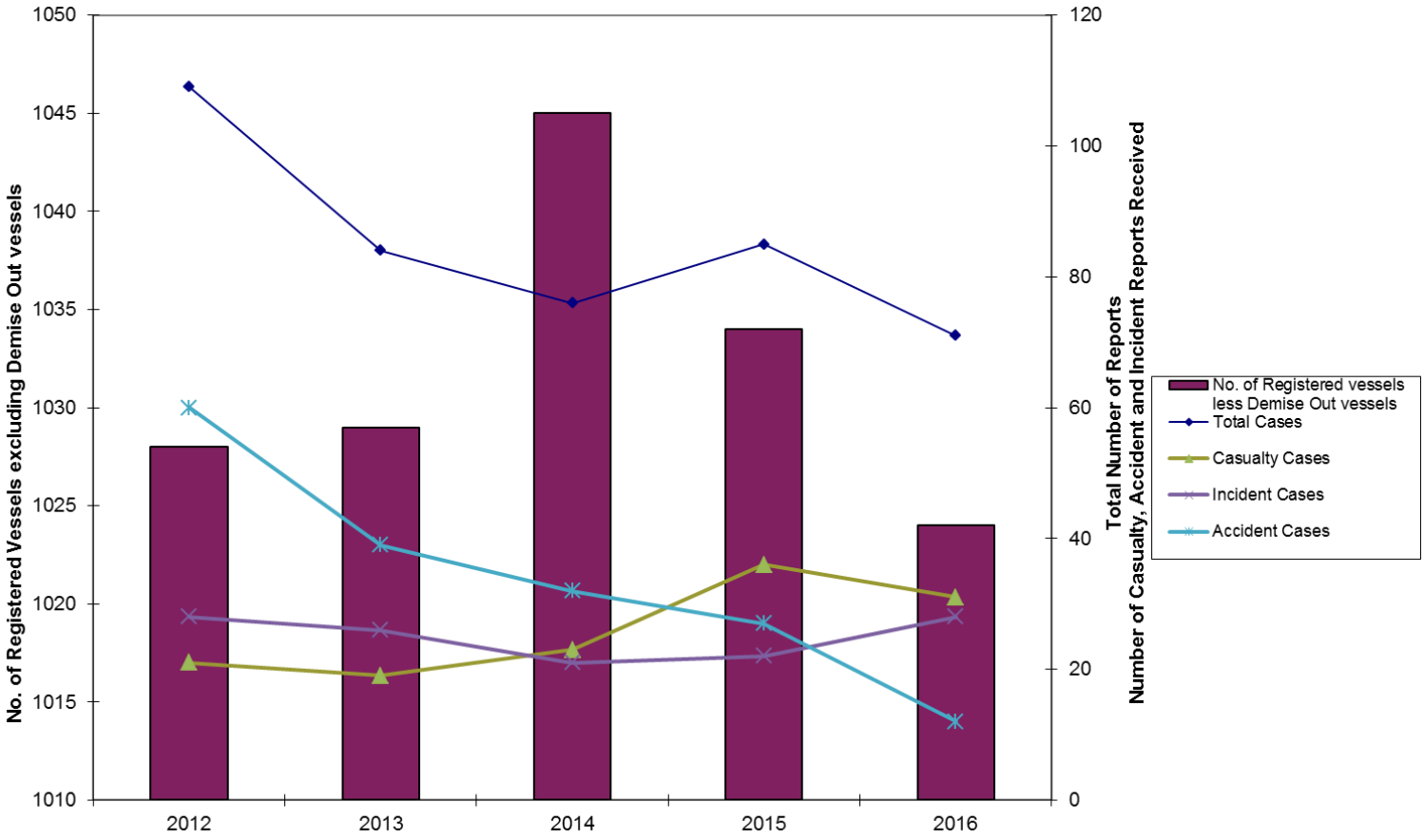
- none

3.3 ARF Annual Fleet Comparison – Total Fleet (excluding DO)

The table below shows occurrences and injury cases on all Isle of Man registered vessels (excluding 'Demise Out' vessels) as a percentage of reports received over 5 years. Isle of Man registered vessels includes merchant ships, small ships, commercial yachts, pleasure vessels, fishing vessels, and 'Demise In' registered ships.

Year	Cases as % of reports received					
	Cas	Acc	Inc	Death	Ser Inj	Min Inj
2012	19%	55%	26%	2%	15%	40%
2013	23%	46%	31%	2%	13%	30%
2014	30%	42%	28%	1%	14%	21%
2015	42%	32%	26%	1%	26%	25%
2016	44%	17%	39%	1%	20%	25%

The graph below shows a comparison between the number of reports received and the number of all Isle of Man registered vessels over the last 5 years. The total number of vessels on the Register each year is calculated as an average from the total number of vessels each month.

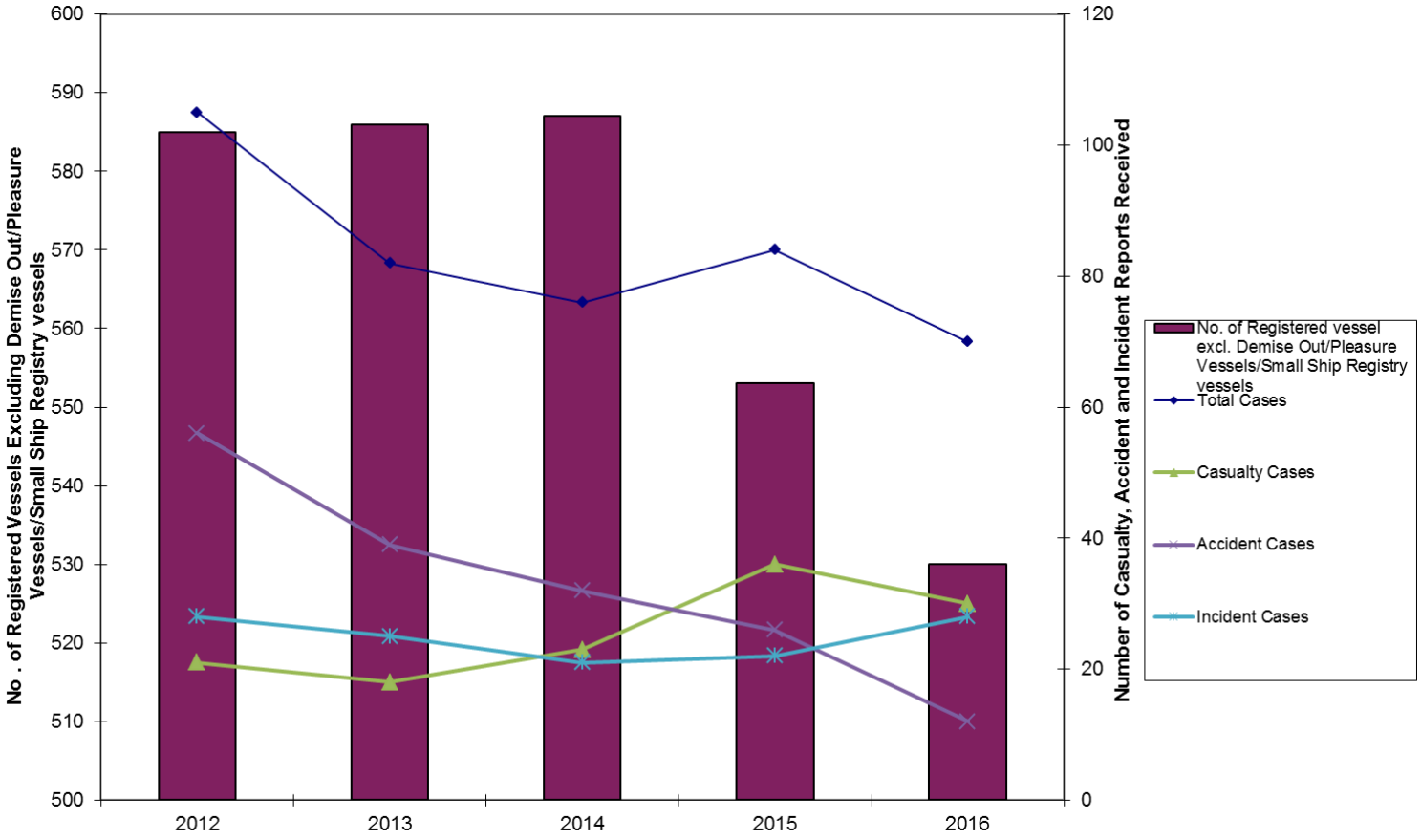


3.4 ARF Fleet Comparison – Total Fleet (Excluding DO/PV/SSR)

The table below shows occurrences and injury cases on Isle of Man registered vessels (excluding 'Demise Out', Pleasure Vessels, and Small Ships Register vessels) as a percentage of reports received over 5 years.

Year	Cases as % of reports received					
	Cas	Acc	Inc	Death	Ser Inj	Min Inj
2012	20%	53%	27%	2%	13%	42%
2013	22%	48%	30%	2%	13%	30%
2014	30%	42%	28%	1%	14%	21%
2015	43%	31%	26%	1%	26%	24%
2016	43%	17%	40%	1%	20%	26%

The graph below compares the number of ARF Reports received with the number of registered vessels (excluding pleasure vessels) over a period of 5 years.



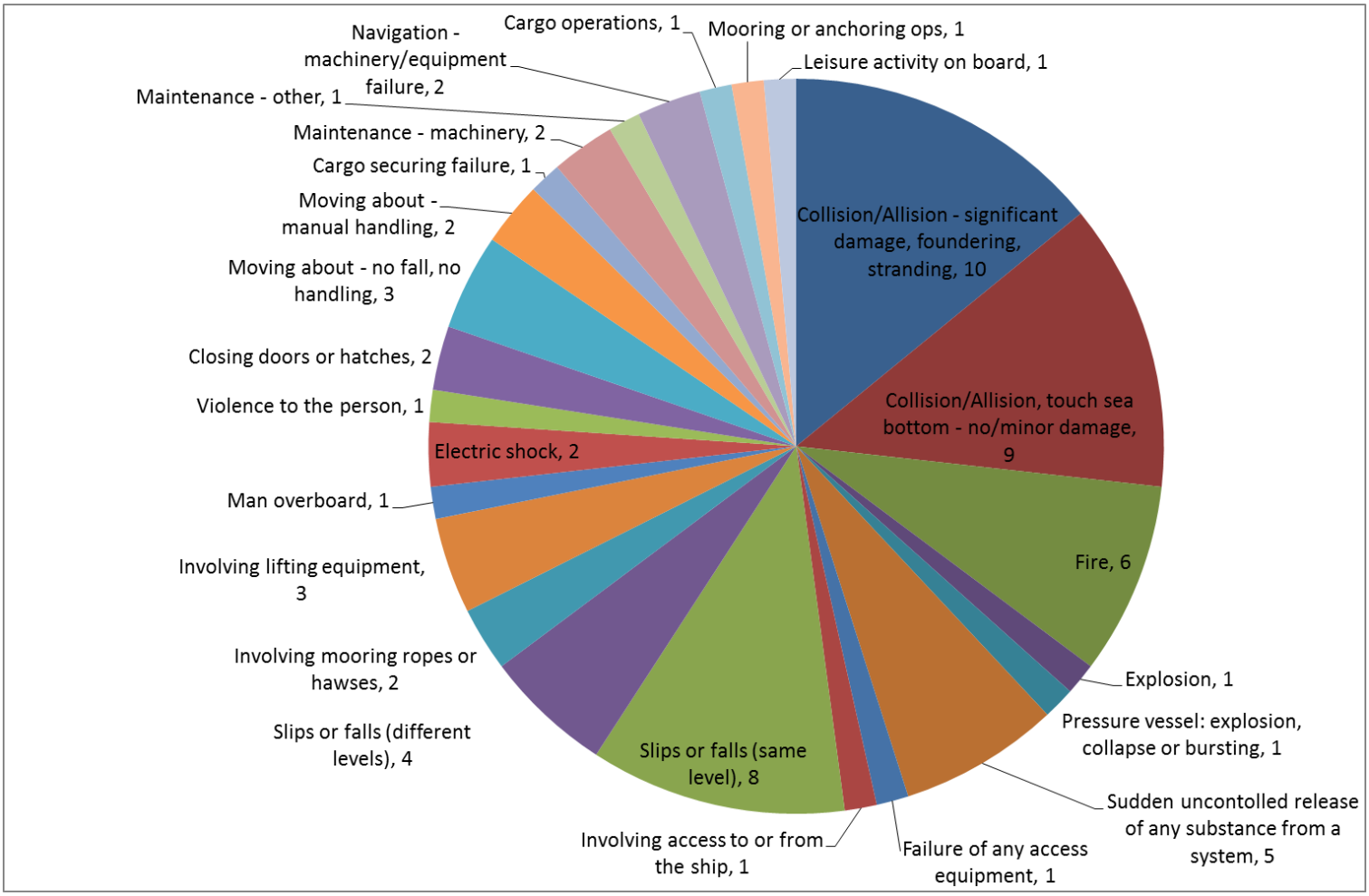
Chapter 4 – Analysis of ARF Reports Received in 2016

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

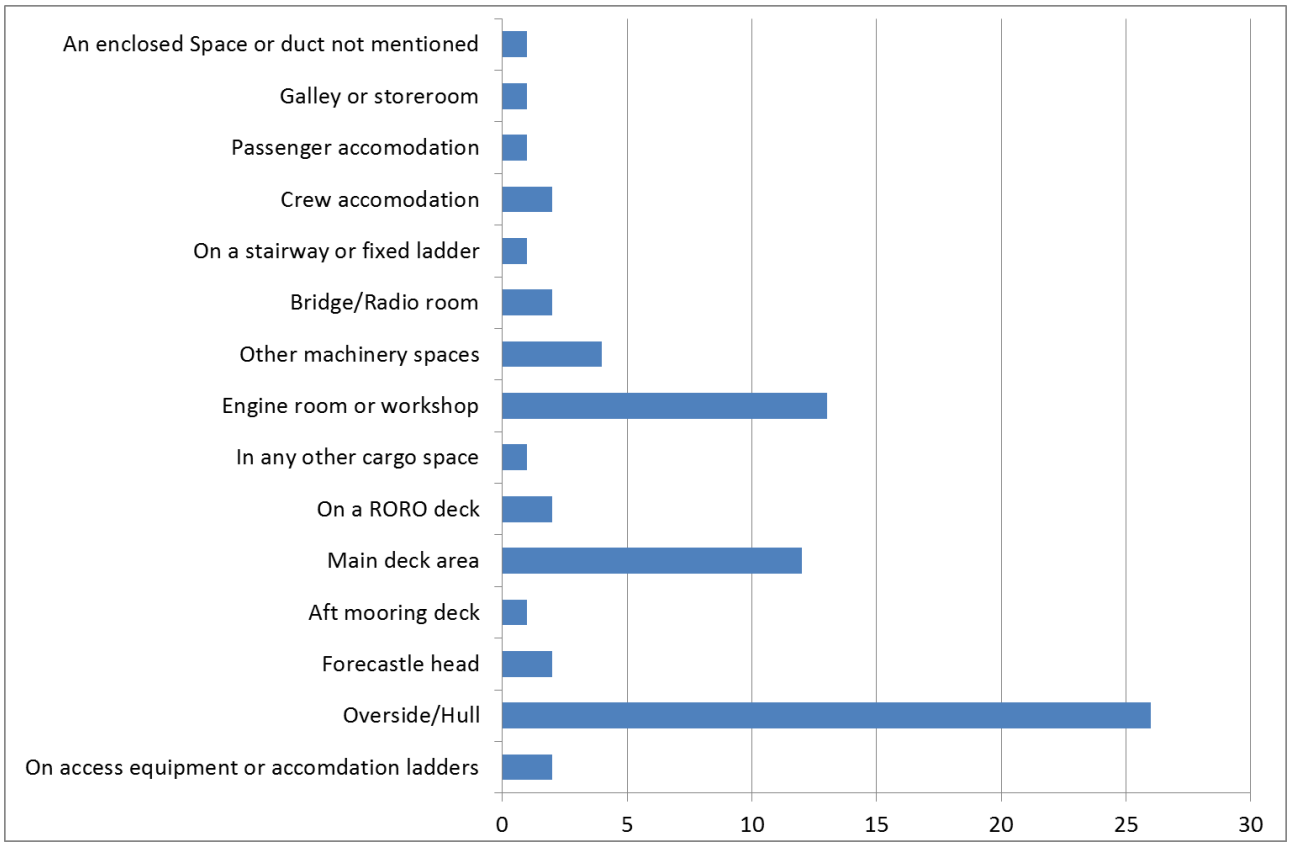
	Total Occurrences			Occurrences involving		
	Inc	Acc.	Cas.	Death	Serious Injury	Minor Injury
Berthed/Docked	8	4	8	0	5	9
At Anchor/Anchoring/ Weighing Anchor	4	3	5	1	2	2
Mooring/Unmooring	1	0	1	0	0	0
Making Way in Port/ Confined Waters	6	0	6	0	1	1
Making Way Open Sea	6	4	9	0	6	5
Stopped - Drifting/DP	3	1	2	0	0	2
Total	**28**	**12**	**31**	**1**	**14**	**19**

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

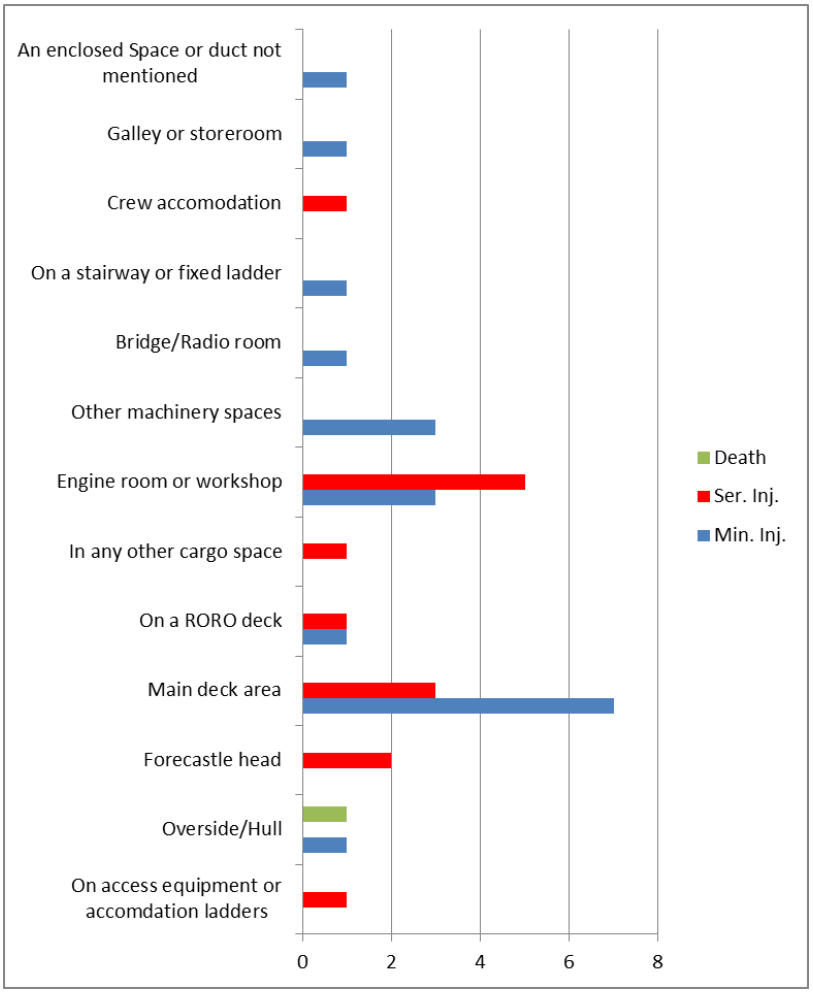
4.1 Type of Occurrences



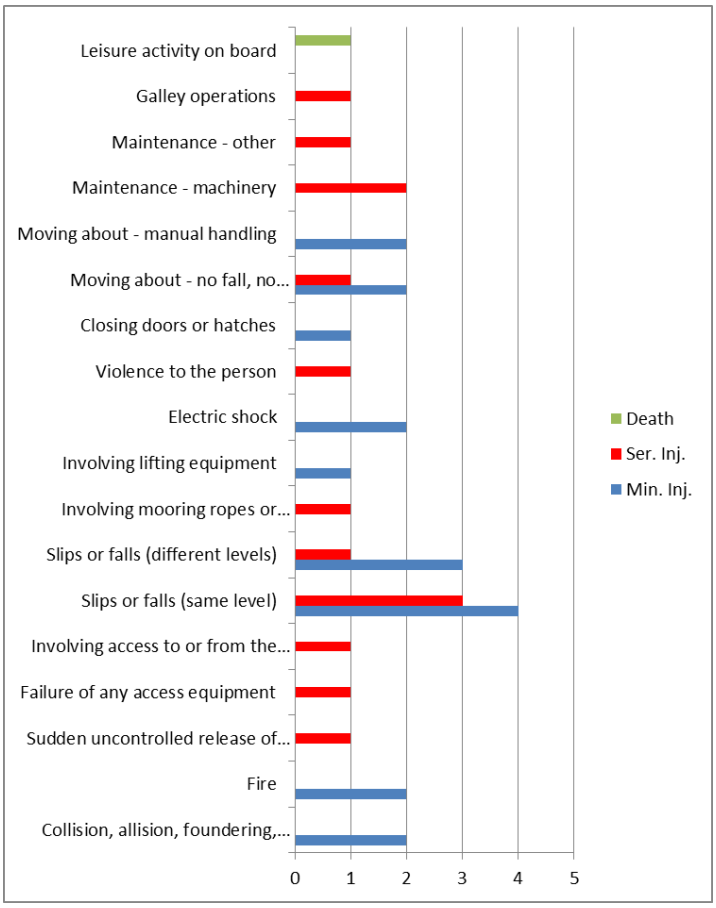
4.2 Place of Occurrences



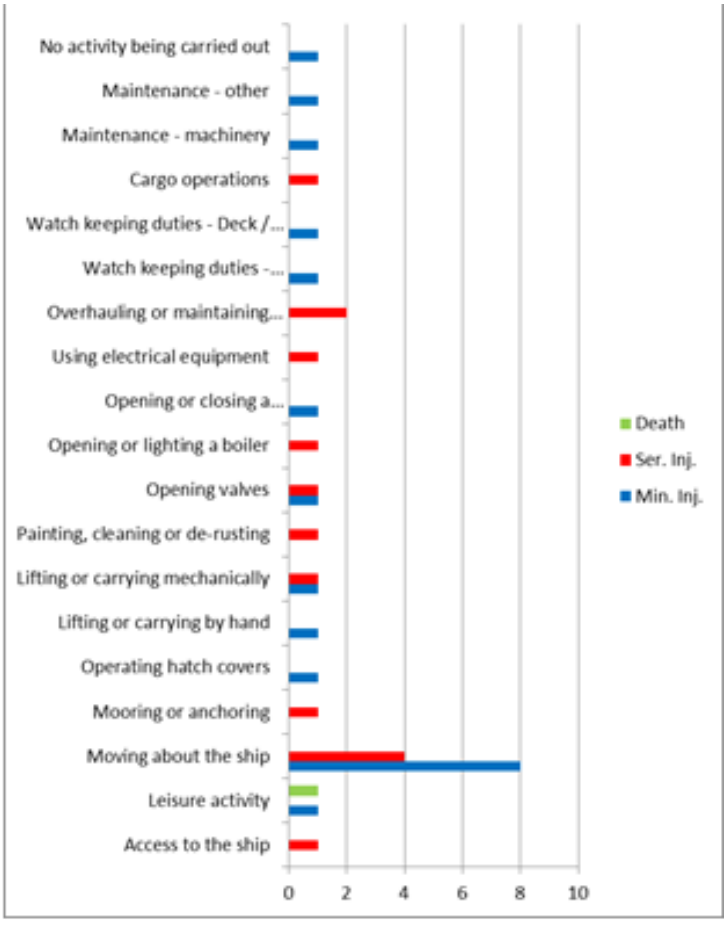
4.3 Places Where Injury or Death Cases Occurred



4.4 Type of Occurrence Leading to an Injury or Death Case



4.5 Type of Activity Leading to an Injury or Death Case



Chapter 5 – Reported Seafarer Injuries

5.1 Seafarer Injury Summary

	All Ships		MLC Ships		Non-MLC Ships	
No. of Seafarers	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**
Fleet estimate	13289		10066		3223	
Deaths	1	8	1	10	0	0
Serious injuries	14	105	14	139	0	0
Minor injuries	21	158	20	199	1	31

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. Seafarer does not include passengers, yacht guests or visitors to the ship.

The table below shows what condition the ship was in when an injury occurred;

Cases	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting	Total
Minor Injury	9	2	0	1	5	2	**19**
Serious Injury	5	2	0	1	6	0	**14**
Death	0	1	0	0	0	0	**1**

5.2 Number of Injuries and Deaths Reported per person

The table below represents the total injuries or death to individual people.

MLC Seafarer:	Total	Min. Inj.	Ser. Inj.	Death
Master/Skipper	2	2	0	0
Ch. Off	2	2	0	0
OOW Nav	2	2	0	0
Ch. Engineer	3	2	1	0
2nd Engineer	3	2	1	0
OOW Engineer	3	1	2	0
ETO / Electrician	0	0	0	0
Deck / Dual Rating	12	4	7	1
Engine Rating	5	2	3	0
Deck / Eng Cadet	1	1	0	0
Cook / Steward / Purser	2	2	0	0
Other Seafarer	1	1	0	0
Total	**36**	**21**	**14**	**1**

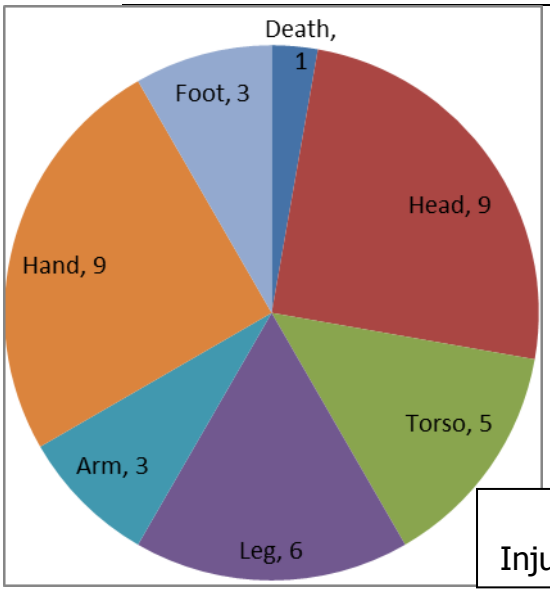
Nb In some cases more than one injury may have occurred in the same case. Cases involving illness, suicide, missing or death due to natural causes are not included.

The following table is provided for information only. The number of non-seafarers injured is not included in the statistics elsewhere in this report.

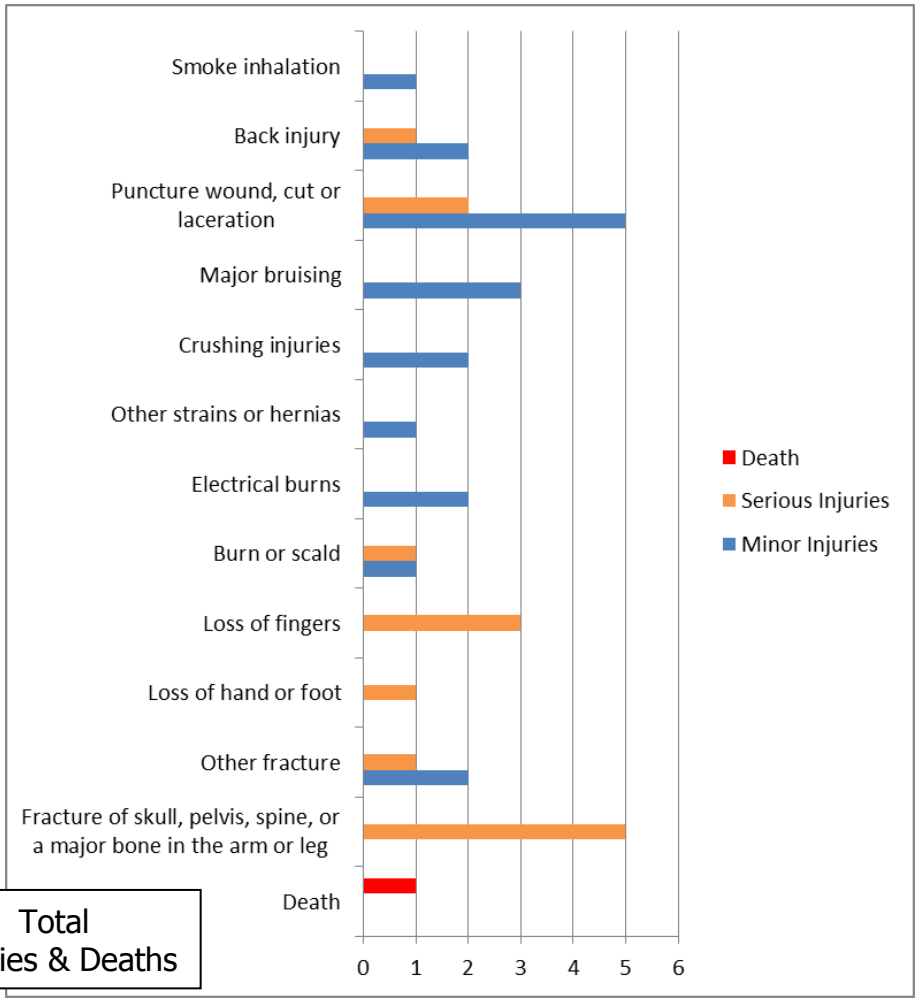
Non-seafarers on board:	Total	Injured	Death
Passenger / Guest	5	5	0
Visitor	0	0	0
Total	**5**	**5**	**0**

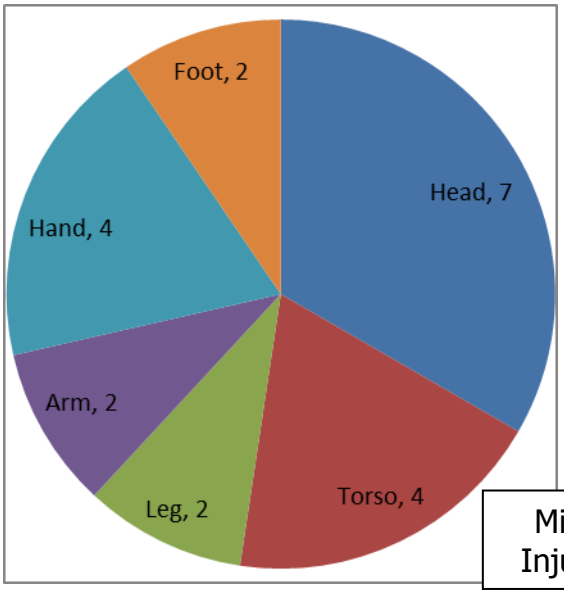
5.3 Number of Reported Injuries and Deaths by Age and Area of the Body Injured

Age Range	Total	Min. Inj.	Ser. Inj.	Death
16-19	1	1		
20-29	12	5	6	1
30-39	11	7	4	
40-49	6	4	2	
50-59	5	4	1	
60+	1		1	
Total	**36**	**21**	**14**	**1**

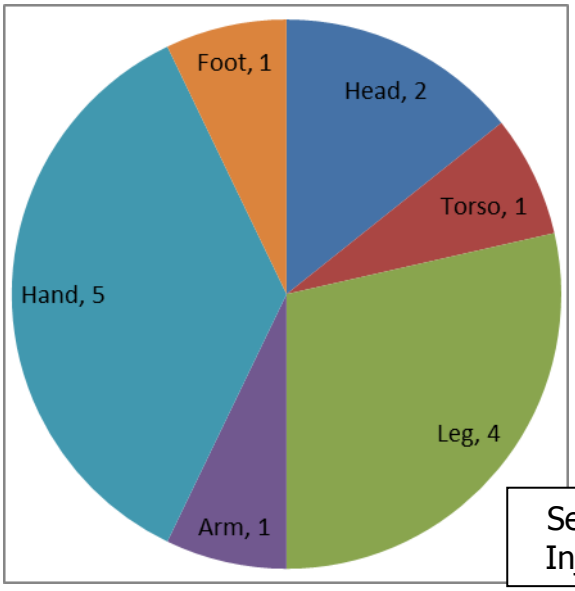


Total Injuries & Deaths





Minor Injuries



Serious Injuries

Chapter 6 - IMO Casualty Investigation Code

Reports received by IOMSR in 2016 have been classified in this chapter according to the International Maritime Organisation (IMO) Casualty Investigation Code.

6.1 IMO Casualty Investigation Code Definitions

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

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

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

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

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

Material damage in relation to a marine casualty means:

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

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

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

6.2 Reported Cases Classified as per IMO Casualty Investigation Code

The tables below represent the cases reported to IOMSR in 2016 classified as per the IMO Casualty Investigation Code for different vessel types.

	Total	Passenger	Oil Tanker	Chemical Tanker	Gas Carrier	Bulk Carrier	Offshore/ Standby	Other Cargo	Comm. Yacht	Pleasure Vessel	Fishing Vessel
Very Serious Marine Casualty:	**0**										
Death	-										
Severe Damage to Environment	-										
Loss of Ship	-										
Marine Casualty:	**31**	**3**	**6**	**-**	**6**	**2**	**2**	**6**	**4**	**1**	**1**
Death	1								1		
Serious Injury	14	1	4		4	2		3			
Material Damage to Ship	6		1				1	2	2		
Stranding, Disabled, Collision	10	2	1		2		1	1	1	1	1
Marine Incident:	**40**	**1**	**8**	**-**	**4**	**4**	**3**	**7**	**12**	**-**	**1**

Year	**2016**	**2016 Cases**
Number of Reports Received	**71**	

Very Serious Marine Casualty	Death	-	
	Severe Damage to Environment	-	
	Loss of Ship	-	
	Total Cases	**0**	

Marine Casualty	Death	1	See Chapter 5.2 – deaths by rank See Chapter 7.1 case 1
	Serious Injury	14	See Chapter 5.2 – injuries by rank See Chapter 7.1 cases 2-15
	Material Damage to the ship	6	See Chapter 7.1 cases 16-21
	Stranding, Disabled, Collision	10	See Chapter 7.1 cases 22-31
	Total Cases	**31**	

Marine Incident	**Total Cases**	**40**	See selected cases in Chapters 8 and 9

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

Chapter 7 – Casualties in 2016

A total of 31 casualty cases were reported in 2016 and are outlined below.

Casualties	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting	Total
Passenger	1	0	0	2	0	0	**3**
Oil	2	3	0	0	2	0	**7**
Chemical	0	0	0	0	0	0	**0**
Gas	3	0	0	0	2	0	**5**
Bulk	0	0	0	1	1	0	**2**
Offshore/Standby	0	1	0	0	1	0	**2**
Other Cargo Vessel	1	0	1	1	3	0	**6**
Comm. Yacht	1	1	0	2	0	0	**4**
Pleasure Vessel	0	0	0	0	0	1	**1**
Fishing Vessel	0	0	0	0	0	1	**1**
Total	**8**	**5**	**1**	**6**	**9**	**2**	**31**

7.1 Brief Summary of All 31 Casualty Cases in 2016

1 Commercial yacht – death case

A crewmember drowned whilst engaged in leisure swimming in the sea as the yacht lay at anchor. The crew member, an experienced swimmer, was swimming by himself after informing fellow crewmembers he was going to swim.

- This case was the subject of an Isle of Man Ship Registry investigation.

2 Other cargo ship – serious injury case

Whilst engaged in welding activities when stood on a portable ladder a crewmember fell 2m from the ladder landing heavily on the deck causing fractures to his arm and leg. The ladder was being held at the bottom by a fellow crewmember who lost control of the ladder.

Guidance for the safe use of portable ladders can be found in COSWP[1] chapter 11.8.

3 Gas carrier – serious injury case

A crew member was moving about on the foc's'le deck when a large wave broke on the deck, striking the crew member causing him to fall. The fall fractured his leg and caused lacerations to his head and neck. The crew member was airlifted to hospital by helicopter.

Ships should have procedures for crew members moving about on exposed deck areas in heavy weather. Risk assessments and permits to work should be conducted under the established safety procedures on board. Refer to COSWP chapter 11.12 for further guidance.

4 Oil tanker – serious injury case

During personnel transfer from a launch boat to the ship a crewmember fell from the ladder into the water breaking his ankle in the process. The crewmember was fortunate to be wearing an inflatable lifejacket which inflated on immersion. The crewmember was recovered using a heaving line.

Refer to COSWP chapter 31.10 for further guidance.

[1] COSWP - Code of Safe Working Practices for Merchant Seafarers 2015 edition as amended published by the UK MCA.

5 **Gas carrier – serious injury case**
Whilst alongside conducting cargo operations the emergency release clamps were activated due to miscommunication between 2 crewmembers communicating on UHF radio on a very busy UHF frequency. During the release a crewmember's finger was severed when it became trapped in a clamp securing point.

This case highlights the need for effective communication when organising work.

6 **Other cargo ship – serious injury case**
A crewmember inadvertently slipped and fell over in his private shower/toilet room due to wrong footing and broke his leg.

7 **Oil tanker – serious injury case**
Whilst walking along the main deck when the ship was in a ship yard a crewmember slipped over on some fire hoses that were blocking his walkway. The crewmember fell over and broke his ankle.

8 **Bulk carrier – serious injury case**
Whilst preparing for a water-wash of the economiser a crewmember was tasked to open the manhole for access. The crewmember hit his head on a metal bar above his work platform causing significant lacerations to his ahead. At the time the crewmember was not wearing his helmet due to the hot ambient temperatures in the engine room.

9 **Passenger ship – serious injury case**
Whilst the ship was in port disembarking passengers and vehicles a crewmember was attacked by a passenger's dog on the car deck when attempting to 'pet' the dog. The crewmember suffered significant wounds to his head and arms and was rushed to hospital.

10 **Other cargo ship – serious injury case**
Whilst dismantling a steam relief valve for maintenance the steam main was isolated and indicated 0bar pressure. After water was drained from the line the cover was opened where steam a hot water splashed onto a crewmember's hands causing significant scalding. The crew member was wearing cotton gloves only.

This case highlights the need for effective risk assessment to be carried out and PPE to be worn.

11 **Bulk carrier – serious injury case**
Whilst departing port the crew experienced problems with stowing the accommodation ladder due to the hoisting wire slipping off the sheave. A crewmember decided to put a sling on the ladder so it could be hoisted using the provision crane. During this operation the accommodation ladder suddenly fell causing the crewmember to fall to the deck landing heavily on his knee causing significant injury.

12 **Gas carrier – serious injury case**
Whilst carrying out engine room tank top cleaning a crewmember injured his back when his back struck a metal bar behind him which he failed to notice.

13 **Gas carrier – serious injury case**
During maintenance a crewmember was inspecting the internals of a main engine cylinder liner from the scavenge air receiver. The engine's turning gear was engaged and the crewmember himself was controlling the turning of the engine to get the pistons into the correct position for inspection and measurement. During the inspection the crewmember got his hand caught inside one of the scavenge air ports when the piston unintentionally moved. The crewmember's hand was severed at the wrist.

14 Oil tanker – serious injury case

During an inspection of the ship whilst in port the inspector requested additional securing to the anchor cable to be made. A crewmember attempted to secure the anchor using a chain-stopper. During this process the crewmember lost control of the chain-stopper. As the weight came back on the anchor cable the crewmember crushed his fingers in the chain-stopper.

15 Oil tanker – serious injury case

As part of the planned maintenance system 2 crewmembers were assigned to grease the air conditioning units. One unit's power was isolated while the other continued to operate. The down draft from the operational unit caused the isolated unit to rotate slightly. One of the crewmembers noticed the slight rotation and attempted to stop the rotation by holding on to the upper and lower parts of the belt. The belt did not stop and the crewmember finger was jammed between the belt and pulley, dismembering the crewmember's finger.

16 Other cargo ship – material damage to the ship case

Whilst the ship was making way in Force 7 winds the engine stopped unexpectedly. The ship then drifted not-under-command (NUC) while an investigation was carried out. During inspection it was noted that water was leaking from a liner skirt, a cylinder's valve heads were broken and the piston was badly damaged. After making minor repairs and attempting to restart the engine it was decided that the engine should not be operated without causing further damage and effective repairs could not easily be made in the current weather conditions. With the weather conditions likely to worsen further a tug was arranged to tow the ship to a nearby port for repairs.

17 Oil tanker – material damage to the ship case

Whilst the ship was alongside conducting cargo operations the terminal requested line blowing to take place. Line blowing commenced then was suspended some time later. Line blowing was later resumed at the request of the terminal. During this operation the cargo tank exploded and the ship listed.

- This case was the subject of an Isle of Man Ship Registry investigation.

18 Commercial yacht – material damage to the ship case

Whilst the yacht was in port undergoing a radio inspection a light was switched on in a small electrical locker to inspect the electrical equipment and batteries. When the inspection was complete the crew and the radio surveyor exited the locker but the light was accidentally left switched on. After the electrical compartment was closed an electrical fire broke out unnoticed. A strong burning smell was later noticed by a crew member. The emergency alarm was sounded and the yacht's crew attempted to stop the fire using a CO2 extinguished to no avail. The yacht's fire team mustered an attempted to fight the fire.

After the fire was eventually extinguished an inspection showed significant damage to the locker and equipment inside. Some crewmembers suffered the effects of smoke inhalation from the initial attempted to fight the fire. The likely cause of the fire was faulty electrical lighting.

19 Commercial yacht – material damage to the ship case

As the yacht was departing port the high bilge alarms sounded in the aft garage compartment. An inspection showed the aft garage compartment was partially flooded, the engine room and guest accommodation bilges contained water and the lazurette (garage) door was open. The water was pumped out and the lazurette door closed. The yacht was towed back to port for repairs.

- This case was the subject of an Isle of Man Ship Registry investigation.

For any ship type this case highlights the importance of effective pre-departure checks.

20 Offshore vessel – material damage to the ship case

During dynamic positioning testing full load was applied to the shaft generator when 100% thrusters was set. Part way through the trial the oil-mist alarm sounded. Engine control was passed to the engine room where the shaft generator and engine were shut down. When the "main engine stop" button was pressed a 'bang' was heard and flames were observed from the engine. The engine had suffered a crank case explosion.

21 Other cargo ship – material damage to the ship case

As the ship entered port on a flood tide in high winds the vessel commenced a swing in order to berth the ship. During the swing the bridge conning position was changed to another control station. It was then noticed that the bow was setting towards the quay. The master attempted to arrest the ships movement using the engines and thrusters when a strong gust of wind caused the bow to make heavy contact with the quay causing significant structural damage to the shell plating.

A company investigation showed that the bridge controls were not correctly transferred to other conning position during the swing, thus affecting control of the thrusters.

This case highlights the importance of confirming the bridge controls have been effectively transferred when switching engine and thruster controls to an alternative conning positioning.

22 Passenger ship – stranding, disabled or collision case

Whilst on passage a vibrational change was noticed indicating a problem with the vessels control system. As the vessel approached the port the manoeuvring control system failed and attempts to use emergency override systems proved unsuccessful. The vessel subsequently made heavy impact with the quay causing significant structural damage and injury to passengers and crew.

- This case was the subject of an Isle of Man Ship Registry investigation.

23 Passenger ship – stranding, disabled or collision case

As the ship was approaching port on a flood tide the ship grounded briefly. The vessel was refloated shortly afterwards using the ship's engines and rising tide. No damage to the ship or any injuries were reported.

This case highlights the importance of the ship's draught and the tidal height when executing the passage plan.

24 Pleasure vessel – stranding, disabled or collision case

Whilst the boat was drifting the occupants were engaged in leisure fishing (angling). One of the occupants noticed a fishing boat leaving the port and steering a course towards them. A short time later the fishing boat collided with the pleasure boat causing the pleasure boat to overturn and boat occupants thrown into the water. The pleasure boat sustained significant structural damage and one of the occupants sustained minor injuries. Both occupants were wearing lifejackets and were retrieved from the water soon after by the fishing boat.

- This case was the subject of an Isle of Man Ship Registry investigation.

This case highlights the importance under the Collision Regulations of maintaining an effective lookout and the ability to take effective action to avoid collision in good time.

This case also highlights the importance of wearing lifejackets when in open boats. The occupants were wearing denim jeans and woollen jumpers when they entered the water. Without lifejackets it's possible they would have drowned.

25 Oil tanker – stranding, disabled or collision case

While departing port under pilotage the vessel was navigating a buoyed channel. When completing a turn the vessel was set towards the edge of the channel in the prevailing cross-currents. The vessel grounded on a sediment trap area on the edge of the buoyed channel and stopped. The vessel was later refloated with the assistance of two tugs and proceeded to a safe anchorage for further investigation and inspection. No injuries and no pollution were reported.

This case highlights the importance of anticipating the effects of the prevailing tidal streams when a large ship commences a large turn in a narrow channel.

26 Commercial yacht – stranding, disabled or collision case

Whilst departing port the yacht grounded on a mud bank at slow speed. After the yacht was refloated using the engines the yacht proceeded on passage where heavy vibration was noticed. An underwater inspection indicated significant damage to the propeller. The hull was undamaged and tank soundings indicated no water ingress.

This case highlights the importance of effective monitoring and execution of the passage plan.

27 Offshore vessel – stranding, disabled or collision case

Whilst at anchor in high winds the vessel began to drag her anchor. As the vessel was dragging anchor it collided with another vessel at anchor causing structural damage. Engine control was established and the vessel manoeuvred away and re-anchored.

This case highlights the importance of an effective anchor watch to monitor and check the ship's position in the prevailing tide and wind conditions.

28 Other cargo ship – stranding, disabled or collision case

Whilst approaching the berth in a narrow channel the wind direction suddenly changed and increased wind speed. As a result of the changing weather the vessel grounded opposite the intended berth. The vessel was eventually refloated by discharging water ballast and using tug boat assistance. Minor damage to the vessel hull and propeller were reported.

29 Gas carrier – stranding, disabled or collision case

Whilst the vessel was moored alongside conducting bunkering operations a vessel on an adjacent collided with the ship when unmooring. Prior to the collision the ship's crew noticed the vessel approaching and ceased bunkering immediately. Structural damage was sustained to both vessels and both vessels remain connected until a damage assessment could be made.

30 Fishing vessel – stranding, disabled or collision case

A small fishing boat was fishing singled handed whilst drifting. While drifting the fishing boat grounded on coastal rocks which penetrated the hull. The fishing boat was towed back to port by a lifeboat.

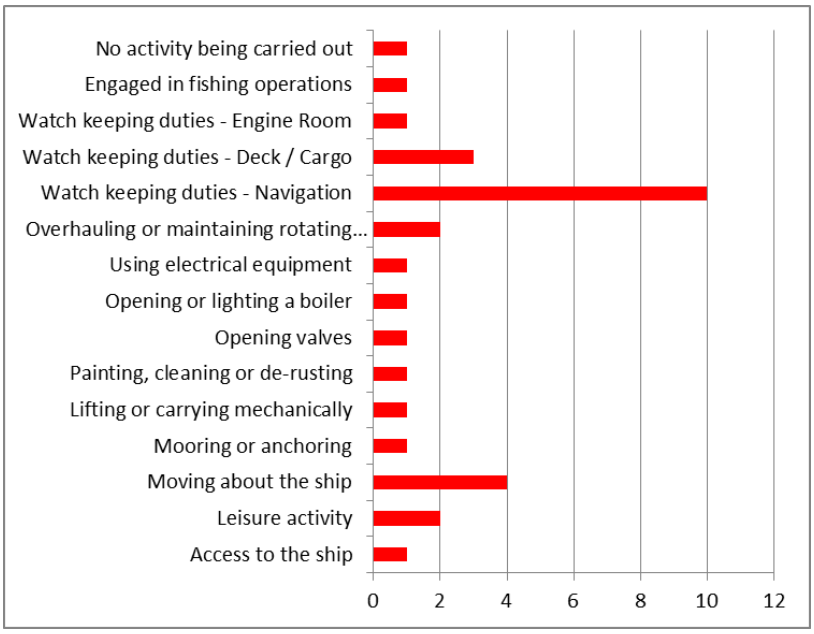
- This case was the subject of an Isle of Man Ship Registry investigation.

This case highlights the importance of monitoring the vessel's position while drifting in the vicinity of the coastline.

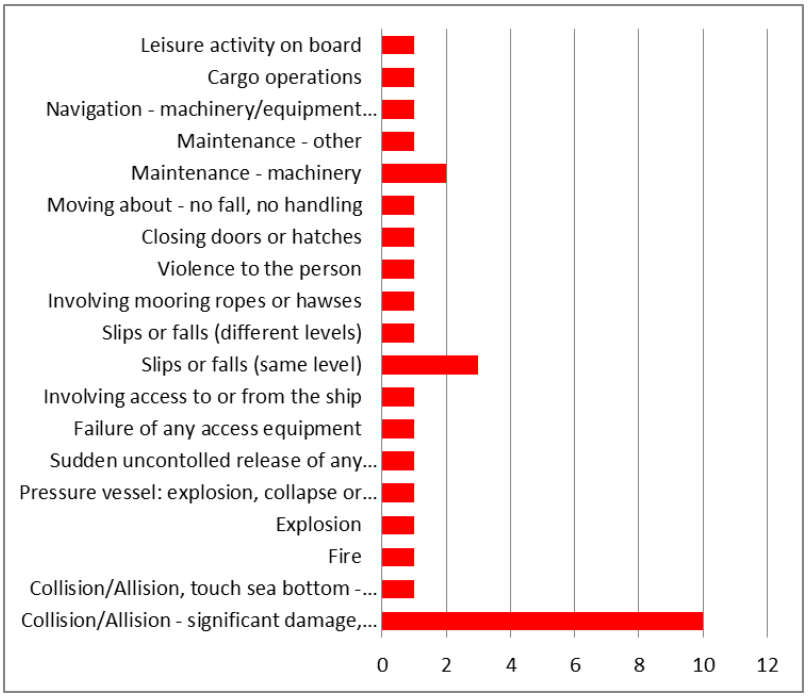
31 Oil tanker – stranding, disabled or collision case

The ship was lying anchor when another vessel approaching the anchorage failed to take appropriate action and collided with the ship causing structural damage. Attempts to communicate with the approaching ship failed.

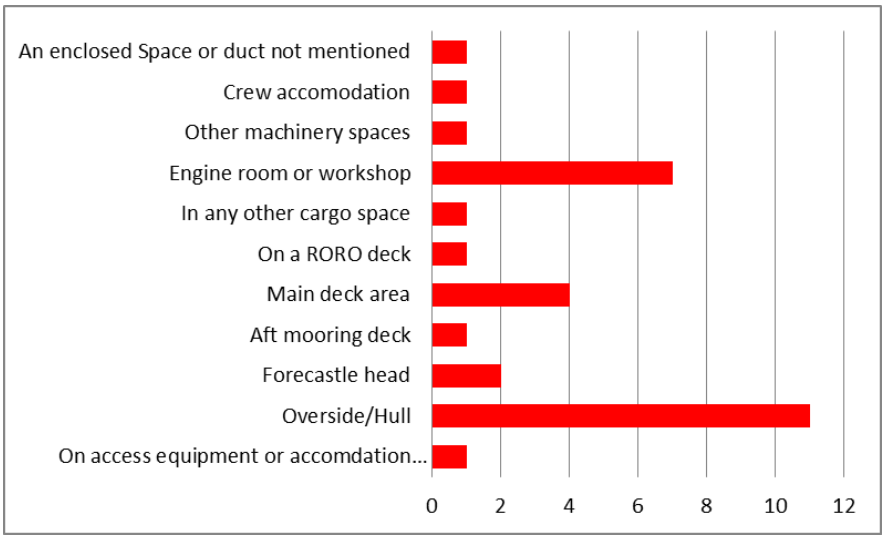
7.2 Casualty Chart Representations



2016 Casualty Activities



2016 Casualty Types



2016 Casualty Places

Chapter 8 – Accidents in 2016

A total of 12 accident cases were reported in 2016 and are outlined below.

Accidents	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting	Total
Passenger	0	0	0	0	0	0	**0**
Oil	1	3	0	0	0	0	**4**
Chemical	0	0	0	0	0	0	**0**
Gas	0	0	0	0	1	0	**1**
Bulk	1	0	0	0	0	0	**1**
Offshore/Standby	0	0	0	0	0	1	**1**
Other Cargo Vessel	0	0	0	0	2	0	**2**
Comm. Yacht	2	0	0	0	0	0	**2**
Pleasure Vessel	0	0	0	0	0	0	**0**
Fishing Vessel	0	0	0	0	1	0	**1**
Total	**4**	**3**	**0**	**0**	**4**	**1**	**12**

8.1 Brief Summary of all Accident Cases in 2016

1 Oil Tanker – Lifting gear failure

Whilst in port a planned load test of the hose handling crane was due to take place with a shore contractor. During the dynamic test the hydraulic motor failed when the load came on causing the motor housing to give way. The runner wire and weight subsequently fell into the water.

2 Oil Tanker – Lifting gear failure

Whilst the ship was at anchor it was planned to receive provisions on board using the provision crane. After a pallet of stores was landed safely to the deck the crane was being manoeuvred to receive more stores from the launch boat. During manoeuvring of the crane the runner winch suddenly stopped. On closer inspection it was observed that control wires and the runner wire were badly damaged.

3 Other Cargo Ship

Whilst on passage in adverse weather the ship was rolling moderately. On a routine inspection of the cargo it was noticed that a cargo trailer had tipped over and was leaning against other vehicles. On later examination it was observed that part of the trailer's contents had shifted and the trailer lashings, which had not been correctly applied, had subsequently failed during the ships rolling.

This case highlights the importance of effective cargo securing in accordance with the cargo securing manual and that the lashing equipment is maintained in good condition.

4 Oil Tanker – minor pollution to the environment

Whilst the ship was alongside conducting cargo operations heavy smoke and soot particles were observed in the vicinity of the ship within the floating boom. Cargo operations were suspended and an investigation found a faulty fuel flow meter on an auxiliary boiler lead to a scrubber unit flushing soot overboard.

5 Gas Carrier – Fire

Whilst conducting routine maintenance to a condenser unit in the engine room hydraulic oil leaked onto a hot steam pipe and caught fire. The emergency fire parties mustered and the fire was quickly extinguished using portable fire extinguishers.

6 Fishing Vessel – Fire

Whilst on passage a small electrical fire developed when an electrical box in a locker adjacent to the accommodation area overheated. An investigation determined that part of the engine's exhaust lagging was missing near the electrical box which caused the box to overheat.

This case highlights the importance of effective lagging around engine exhausts.

7 Bulk Carrier– minor pollution to the environment

Whilst receiving bunkers alongside in port the ship asked the bunker barge to stop pumping when the final bunker soundings were reached. The bunker barge took an excessively long time to stop pumping bunkers and as a result a small quantity of bunkers spilled onto the deck from an air pipe and over the side into the water.

This case highlights the importance of the pre-bunker planning which includes effective communication with the bunker barge.

8 Other Cargo Ship – Fire

Whilst on passage the ship's fire detection system activated the fire alarm. It was observed that flames were emerging from the ship's funnel. The emergency party mustered and extinguished the fire after the fuel was shut off. It was later determined that accumulated leaked fuel in the boiler had caught fire.

9 Commercial Yacht – Fire

Whilst moored alongside in port a guest approached a crewmember saying they could smell smoke. On initial investigation smoke was observed coming from electrical equipment in an air-conditioning locker. Initial attempts to extinguish the fire with a portable extinguisher failed and the fire alarm was raised. After shutting off all electrical power the fire was eventually extinguished by the emergency party with the assistance of an adjacent yacht.

10 Commercial Yacht– minor pollution to the environment

Whilst in port preparing for departure it was noted that the stern thruster had failed by separating from the housing under hydraulic pressure. After shutting down the engine and thrusters hydraulic oil was observed in the water. The floating oil was contained and cleaned from the water using absorbent material.

11 Offshore Vessel– minor pollution to the environment

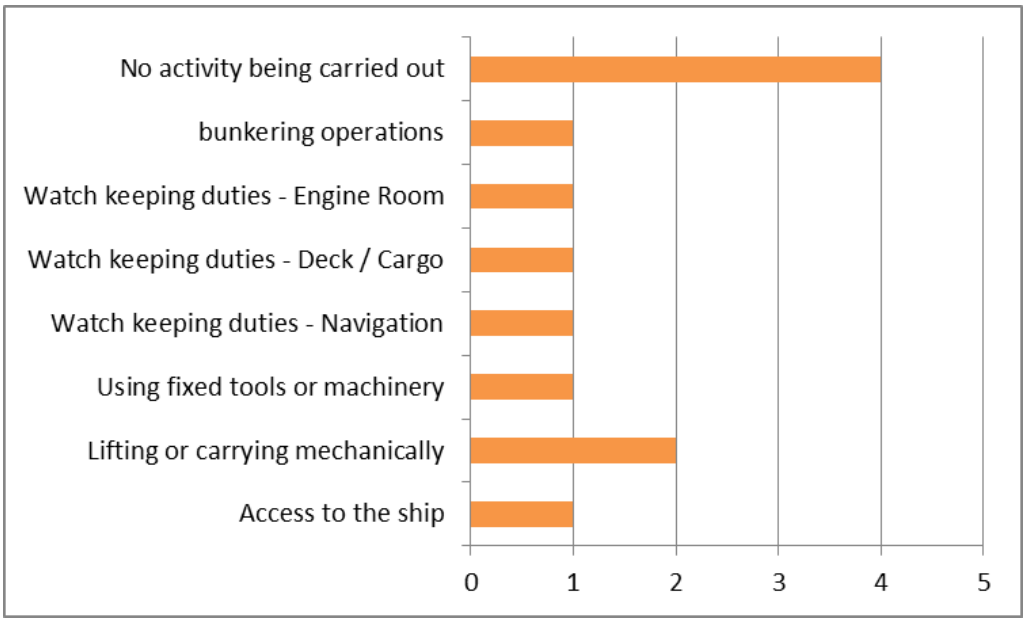
Whilst at sea conducting ROV operations the ROV's hydraulic oil reservoir was observed to reduce more than expected at the ROV's operating depth. After recovering the ROV to the ship an investigation found that the hydraulic plug had a missing O-ring which caused the oil to leak to the sea.

12 Oil Tanker

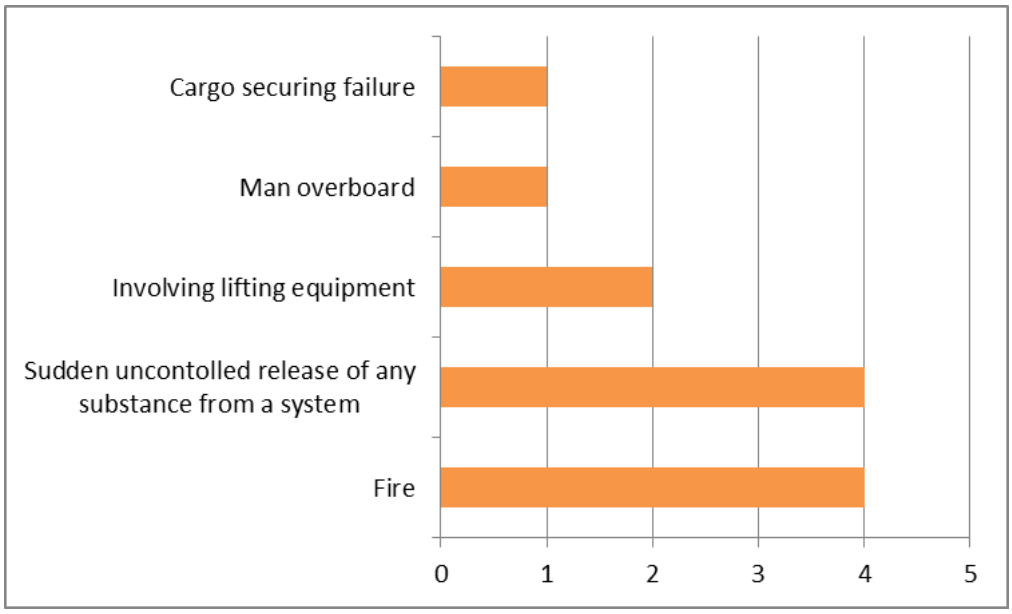
Whilst the ship was at anchor a crew transfer was taking place from the ship to a launch boat. As a crewmember stepped off the bottom step of the accommodation ladder he missed his footing and fell into the water. The crewmember was fortunate to be wearing an inflatable lifejacket which inflated on immersion. The crewmember was not injured.

Refer to COSWP chapter 31.10 for further guidance.

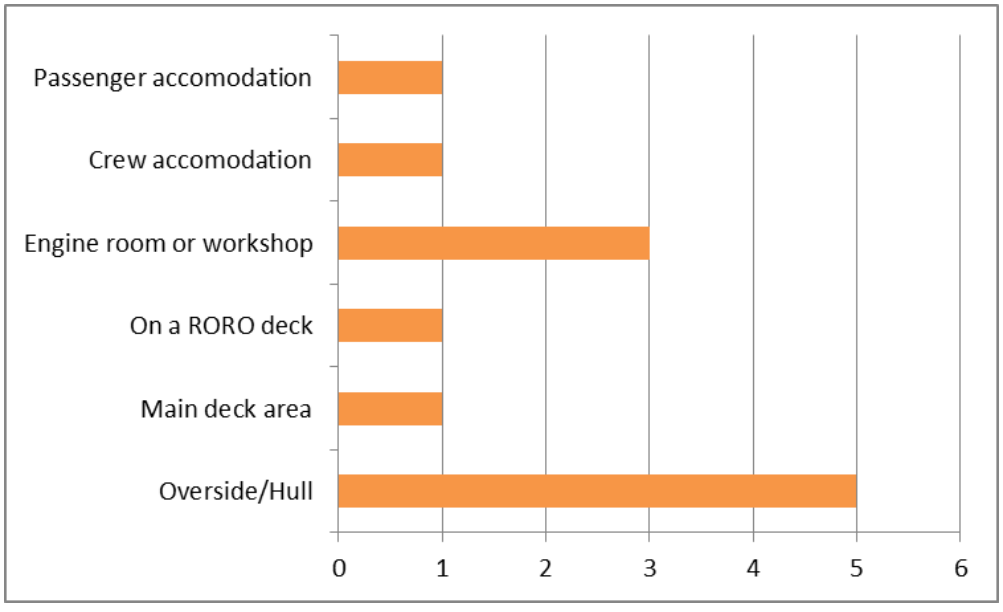
8.2 Accident Chart Representations



2016 Accident Activities



2016 Accident Types



2016 Accident Places

Chapter 9 – Incidents in 2016

A total of 28 incident cases were reported in 2016 and are outlined below.

Incidents	Berthed/ Docked	At Anchor/ Anchoring/ Weighing Anchor	Mooring/ Unmooring	Making Way in Port/ Confined Waters	Making Way Open Sea	Drifting	Total
Passenger	0	0	0	1	0	0	**1**
Oil	1	1	0	1	1	0	**4**
Chemical	0	0	0	0	0	0	**0**
Gas	0	0	0	0	3	0	**3**
Bulk	0	0	0	2	1	0	**3**
Offshore/Standby	0	0	0	0	0	2	**2**
Other Cargo Vessel	2	1	0	2	1	0	**6**
Comm. Yacht	5	2	1	0	0	1	**9**
Pleasure Vessel	0	0	0	0	0	0	**0**
Fishing Vessel	0	0	0	0	0	0	**0**
Total	**8**	**4**	**1**	**6**	**6**	**3**	**28**

9.1 Brief Summary of Selected Incident Cases in 2016

1 Commercial Yacht – minor injury case

Whilst walking quickly through a watertight door section a crewmember removed his bump cap to get a better view of the low door frame and hit the top of his head against the door frame causing him to fall to the deck. Hospital scans later confirmed no serious injury.

2 Gas Carrier – minor injury case

Whilst on navigation watch on the bridge in heavy weather a crewmember was thrown against a rail and hurt his arm as the ship was rolling heavily. A doctor's examination later confirmed bruising but no fractures.

3 Offshore Vessel – minor injury case

Whilst walking on a platform towards an ROV the ROV operator stepped into the gap between the frame and grating and fell over straining his ankle.

4 Commercial Yacht

The yacht was on passage at slow speed disembarking a security team to another ship. Whilst the fenders were being arranged and a small course alteration carried out provide a lee, the other ship approached the yacht and made contact with the yachts hull causing minor denting.

5 Commercial Yacht – minor injury case

Whilst walking from the lazurette to the swim platform a crewmember misjudged the headspace available, hit his head and fell to the deck. The crewmember cut the top of his head and strained his neck.

6 Oil Tanker – minor injury case

Whilst in the engine room walking down stairs and reading a report at the same time a crewmember misjudged the bottom steps and slipped. As he slipped he tried to grab the rail but missed and fell to the bottom plates spraining his ankle.

7 Other Cargo Ship
Whilst at sea making way in heavy weather the ship was rolling moderately when it was noticed that the gyro repeaters and rudder angle indicators had lost power and stopped working. The emergency steering was engaged and the ship stopped with NUC signals displayed. During an investigation on board the gyro compass also lost power. The investigation later found that a battery charger for the navigation equipment batteries had been switched off previously for planned maintenance and was neglected to be switched back on. The power was restored and all the equipment functioned normally.

8 Commercial Yacht – minor injury case
Whilst assisting the guests with their luggage to a tender boat a crewmember strained his back while lifting a guest's suitcase.

9 Gas Carrier – minor injury case
Whilst closing a provision store door a crewmember trapped his finger in the door causing injury.

10 Bulk Carrier
The vessel was departing port when one of the bridge team escorted the pilot down to the awaiting pilot boat. During this time a fishing vessel was observed to cross the bow and stop while the ship passed close to a buoy. As the vessel altered course slightly to clear the buoy the fishing vessel proceeded to cross the bow again. A large alteration of course was ordered to clear the fishing boat however during the turn the ship made contact with the buoy.

11 Commercial Yacht – minor injury case
A crewmember was replacing an LED inside a pump switch. He assumed the wrong voltage of 24V dc for the switch so didn't feel it necessary to isolate the power supply. The crewmember was electrocuted by 230V ac but luckily managed to free himself with only minor injury.

12 Gas Carrier – minor injury case
Whilst positioning a flange into position on top of another flange using a chain block a crewmember injured his finger. As the weight came off the chain block the flange dropped into place catching the crewmember's finger.

13 Passenger Ship
Whilst the pilot was climbing on board the ship using the pilot boarding ladder he reached for the upper part of the ladder, missed and fell back whilst holding onto the ladder with his other hand. A crewmember in attendance saw what happened and aided the pilot back to the ladder and onto the ship.

14 Oil Tanker
After the ship had completed bunkering another vessel it was decided to proceed back to port. The port was experiencing thick fog patches. The ship was making way in a buoyed channel and entered a fog patch. A call was received from the local port control advising they were on the edge of the channel. As the master ascertained the ships position he realised the ship was just outside the buoyed channel and navigating in in the vicinity of a shallow bank. The ship proceeded at slow speed until safely re-joining the channel.

15 Bulk Carrier

Whilst the ship was approaching port navigating a buoyed channel with a local pilot on board, the ship almost ran aground when the pilot misjudged a manoeuvre. The engine was stopped and astern propulsion applied to narrowly avoid an island. The ship berthed shortly afterwards and an inspection later showed no damage to the ship.

16 Commercial Yacht

After the yacht anchored in slight seas the weather was observed to deteriorate. The master noticed the yacht was dragging anchor. With the tender moored to the yacht and the garage door open the master ordered the tender away and the garage closed. As the anchor cable was brought up it was observed the anchor was missing when the cable emerged from the water. The other anchor was dropped and the yacht was successfully anchored.

17 Oil Tanker – minor injury case

Some crewmembers were moving a heavy box of tools in the engine room by dragging it across the deck. During this process it was necessary to lift the box over an obstacle. One crewmember attempted to lift the box while the other observed and strained his back.

18 Commercial Yacht – minor injury case

Whilst making repairs to a leaking water pipe it was necessary to remove part of the deck-head. When the deck-head panel was removed and a crew member entered the space and noticed a live unterminated cable arcing and sparking. No one knew what this cable was for and it was suspected to have been there since the yacht was built. As the crewmember manoeuvred to exit the space he accidentally touched the cable which gave him an electric shock strong enough to knock him to the door.

19 Other Cargo Ship

As the ship was entering the harbour area in channel between two breakwaters the ship encountered strong tide and wind on the ship's beam which set the ship towards one of the breakwaters. As attempts were made to manoeuvre the ship away from the breakwater the ship glanced the breakwater. The ship subsequently headed for the other breakwater. As attempts were made to alter course again using the rudder and astern propulsion the ship blacked out and drifted into the breakwater causing minor damage.

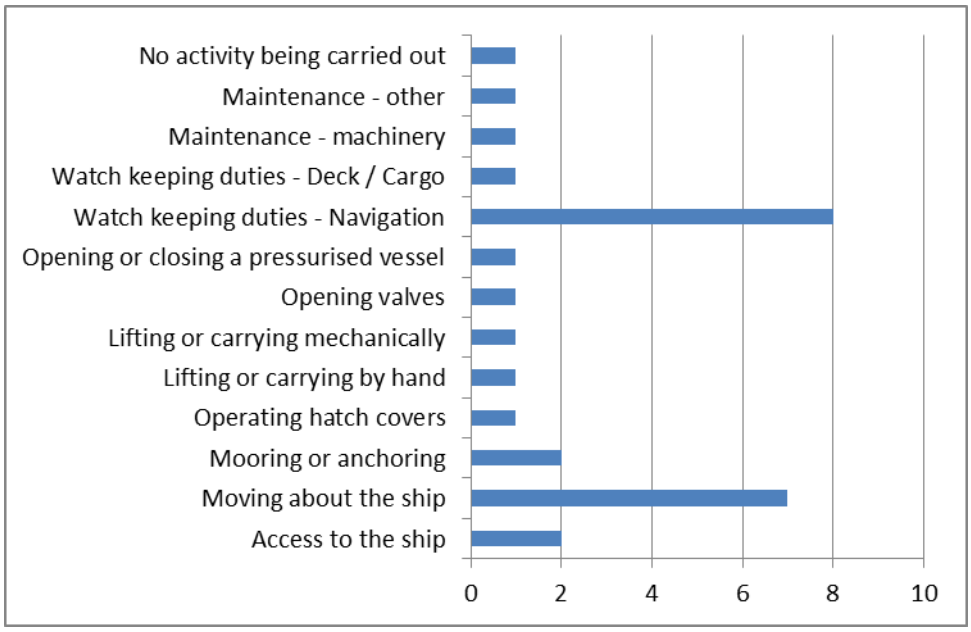
20 Other Cargo Ship – minor injury case

Whilst the ship was in port conducting cargo operations in adverse wet weather a crewmember was climbing the side of the hatch coaming. As he was climbing the crewmember slipped and fell 2m to the deck hitting the ship's railing in the process causing him minor injuries.

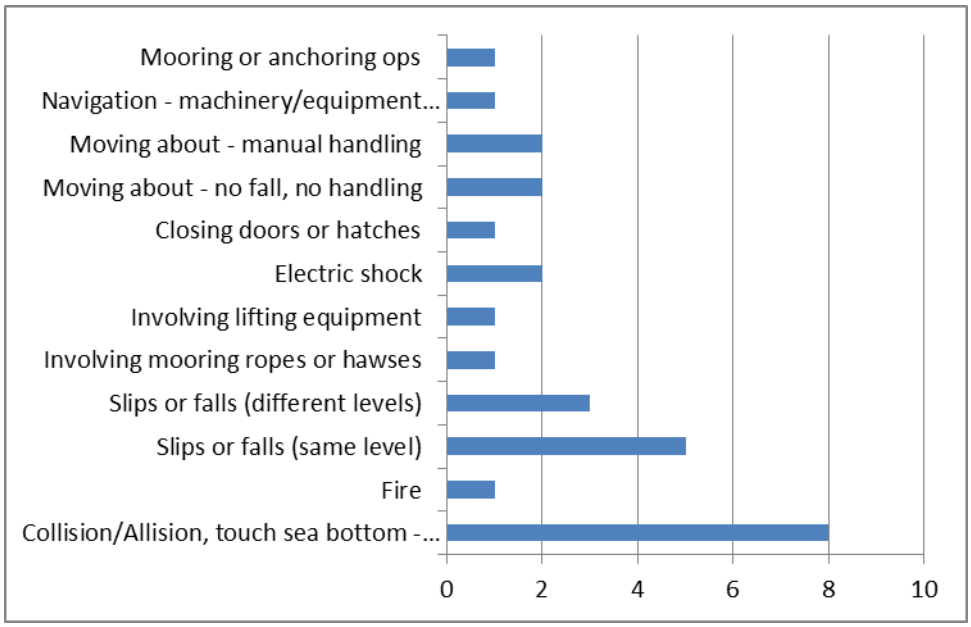
21 Offshore Vessel

During cargo operations alongside a rig the ship suffered a loss of all position reference systems to the dynamic positioning system. The officer of the watch (OOW) was multitasking and did not pay attention to the warnings presented, and thus failed to take appropriate timely action. As the ship started moving to compensate for the position error the OOW reacted to this by switching from 'auto-position' to 'joystick' mode. Unfortunately the switch to joystick mode and the OOW's joystick commands resulted in the ship to yaw rapidly, which led the ship's stern coming very close to the rig.

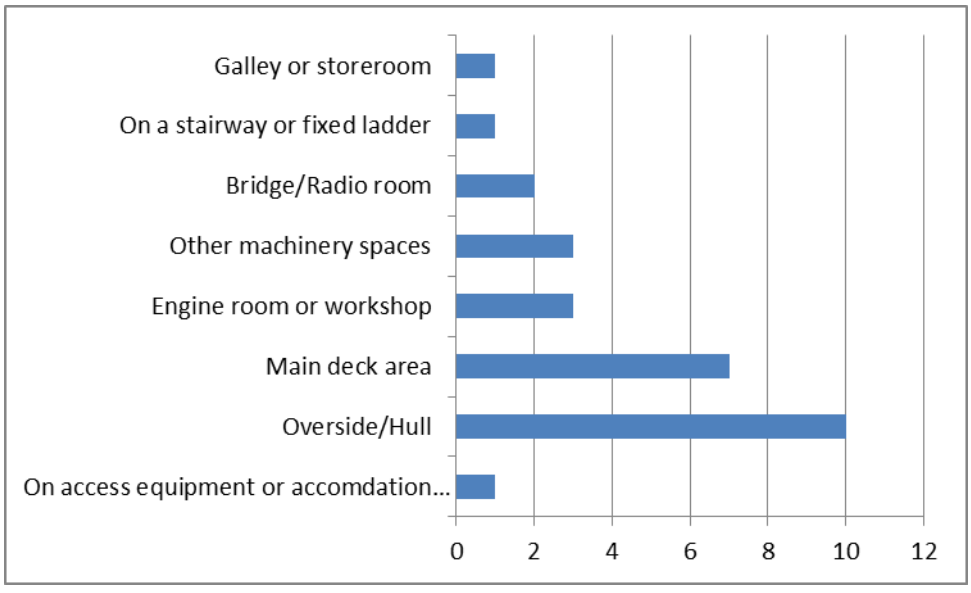
9.2 Incident Chart Representations



2016 Incident Activities



2016 Incident Types

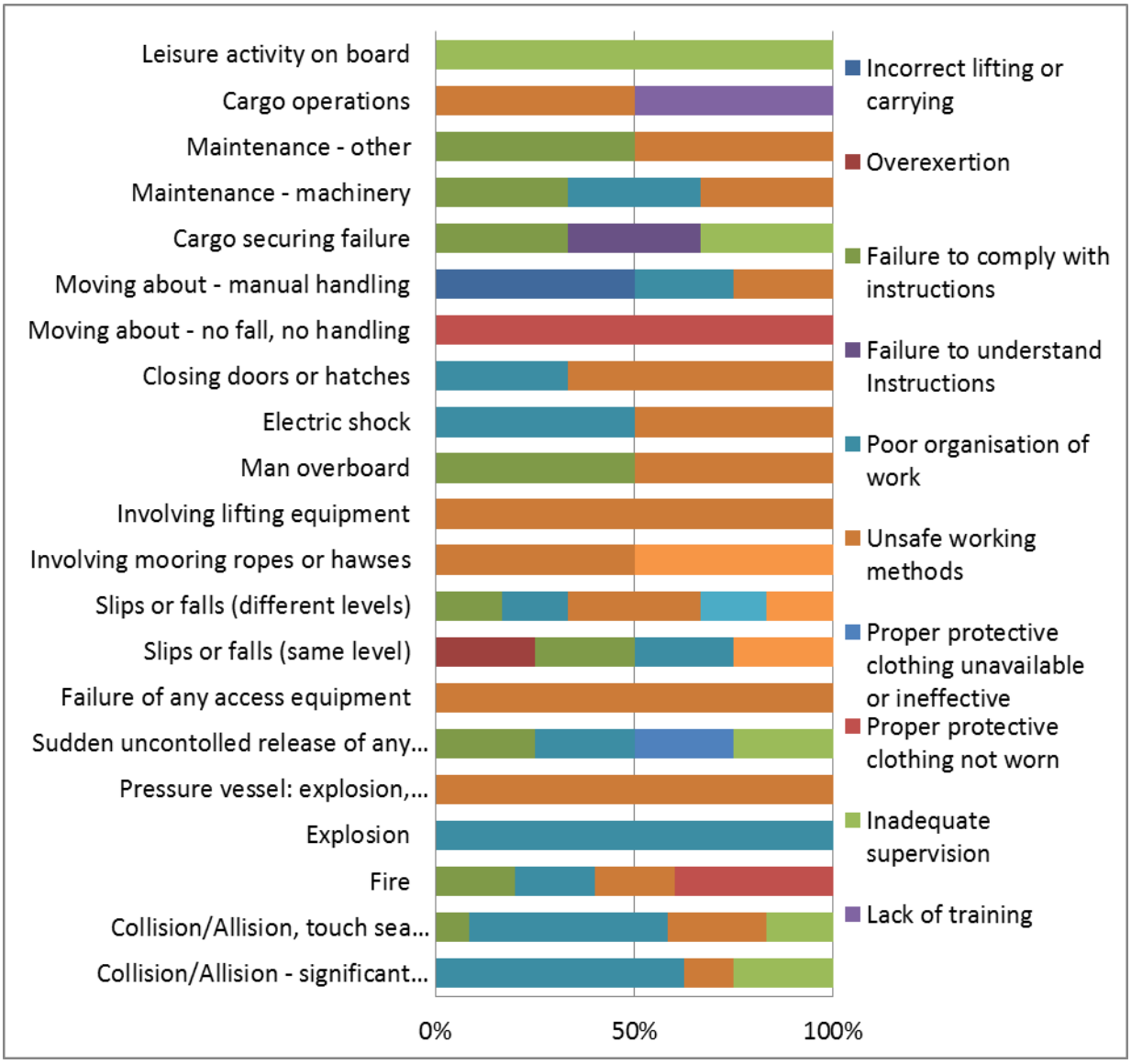


2016 Incident Places

Chapter 10 – Breakdown of Occurrences in 2016 by Cause

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

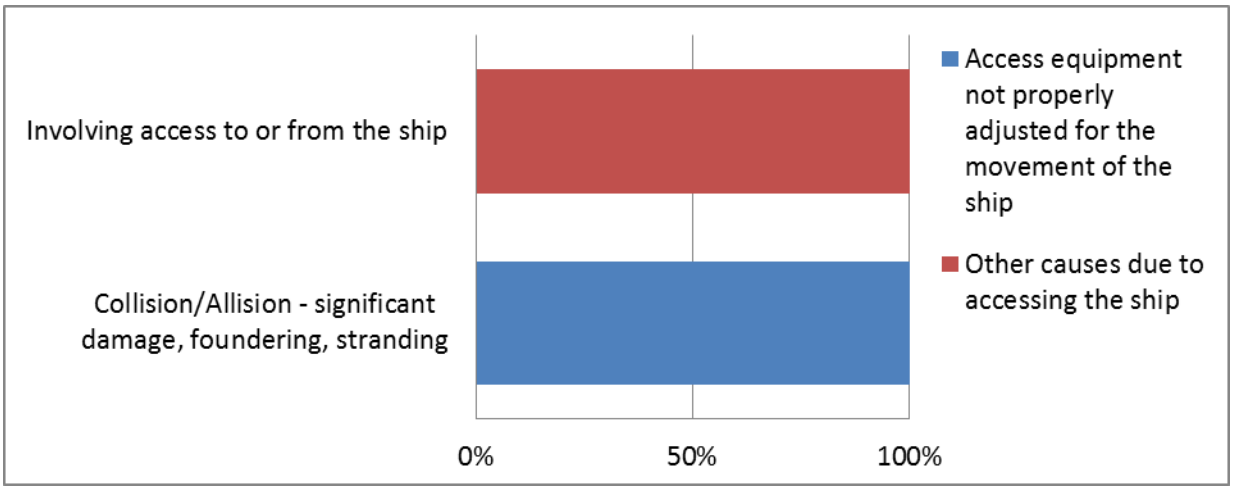
10.1 Occurrences by Working Method



The chart above shows that the predominant working method cause has been attributed to "poor organisation of work" followed closely by "unsafe working methods". "Failure to comply with instructions" and "inadequate supervision" were also prevalent. Seafarers should plan their work and safety precautions adequately and avoid taking shortcuts in order to get the job done more quickly. This highlights the importance of effective risk assessment. A seafarer should not feel they must put themselves in a dangerous situation to complete the job or to save a few minutes of time.

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

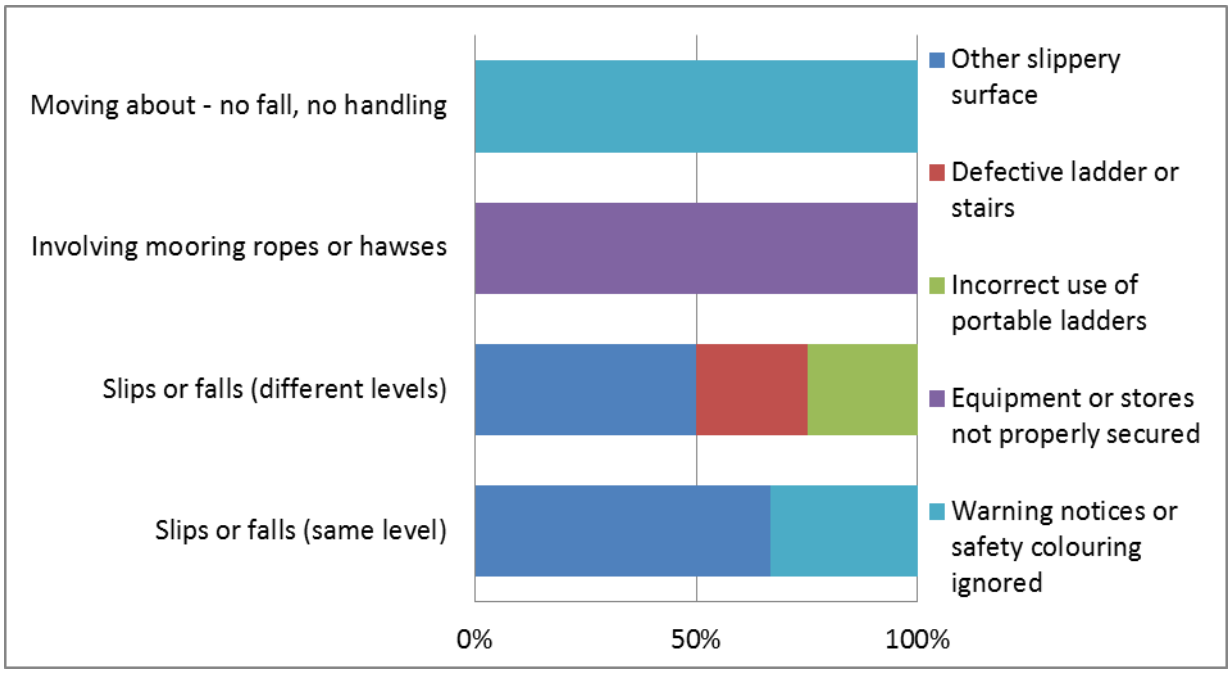
10.2 Occurrences by Ship Access



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

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

10.3 Occurrences by Movement about the Ship

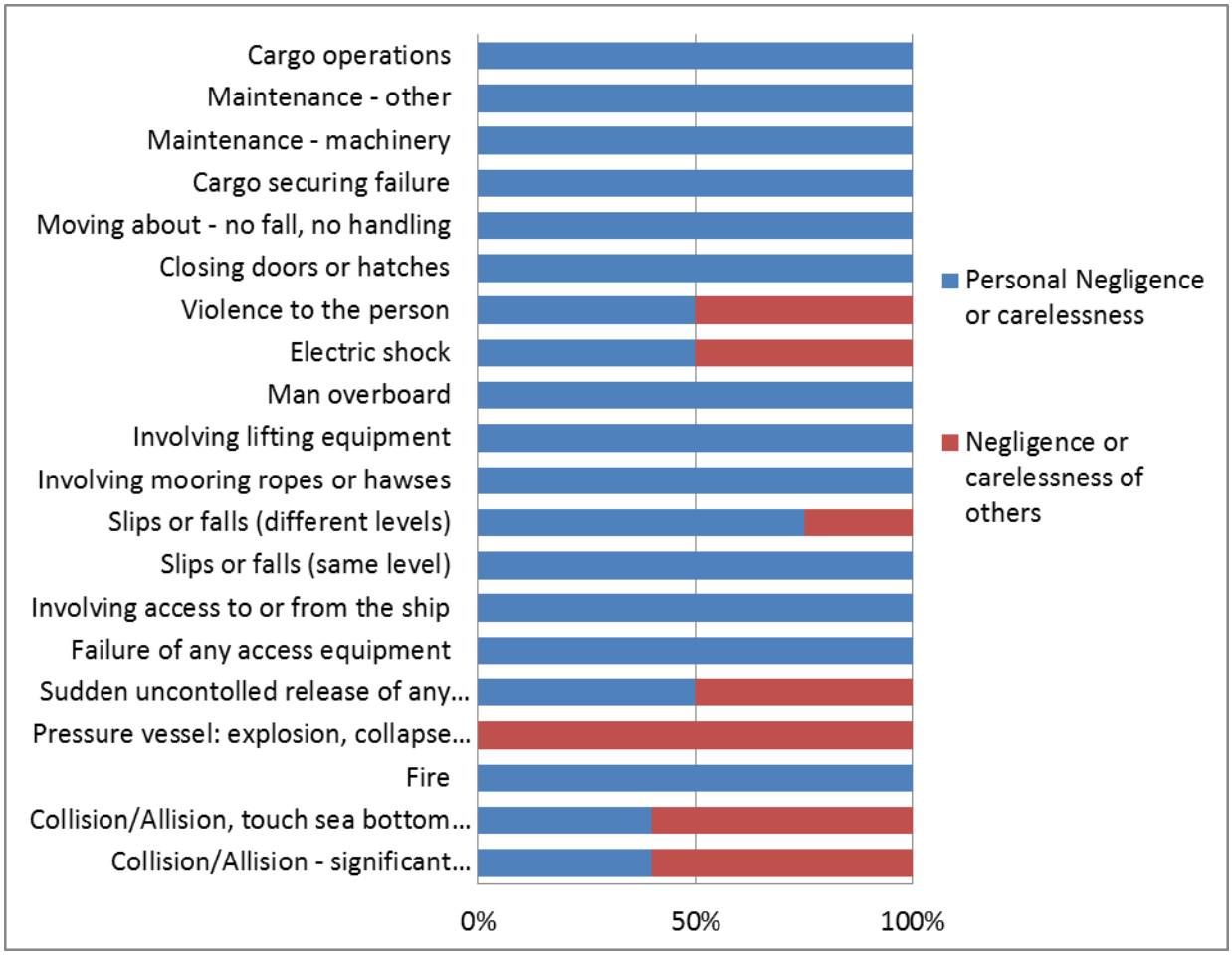


The chart above shows a variety of causes associated with moving about the vessel. "Other slippery surface" is the prevalent cause, mainly slipping on a wet surface. Crewmembers should also take note of warning signs highlighting risks and dangers. Slips and falls on slippery surfaces was the predominant cause in 2016. 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.

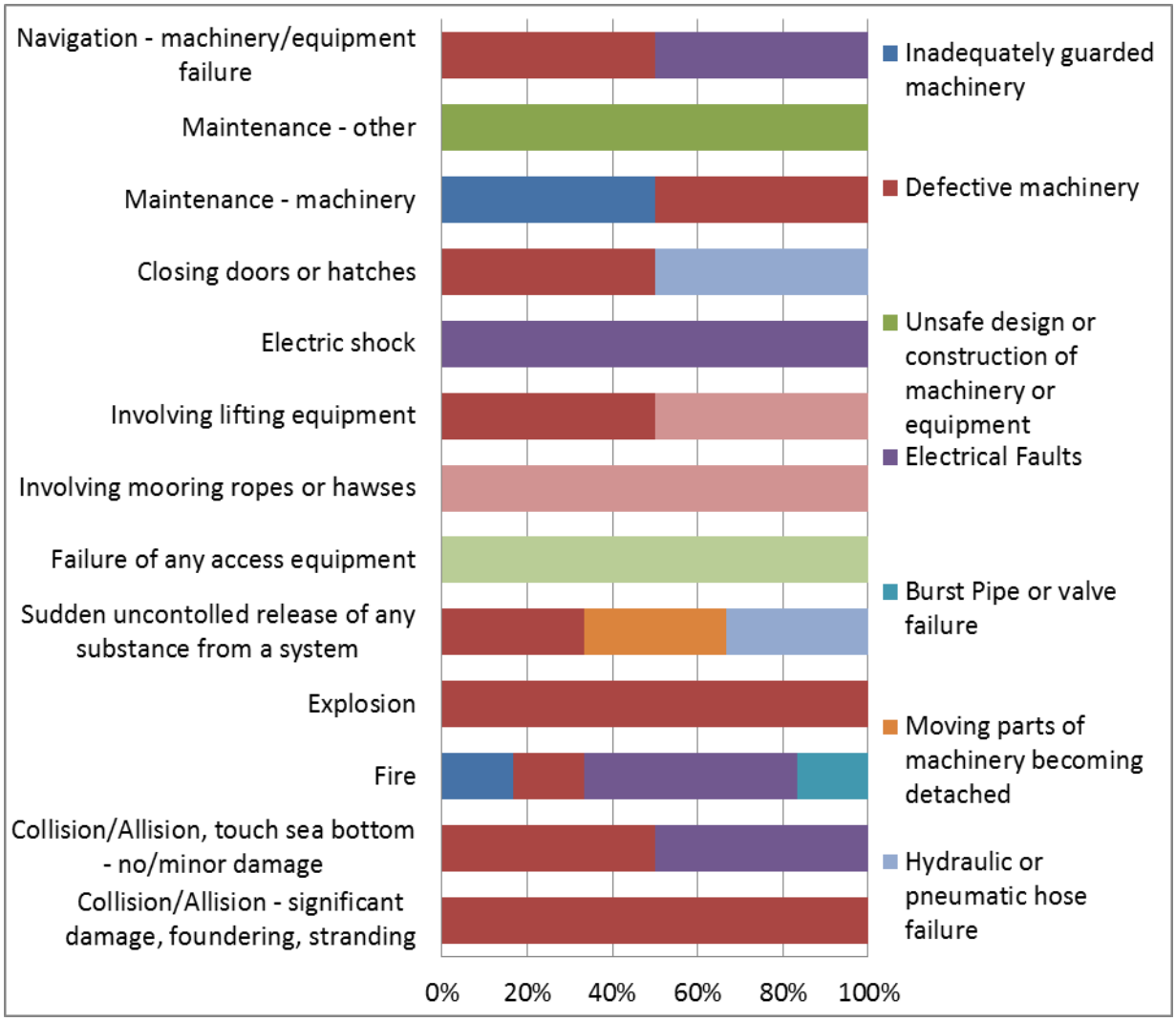
Injuries sustained through unprotected openings can be avoided by effective barriers, signs and communication.

10.4 Occurrences by Human Factor



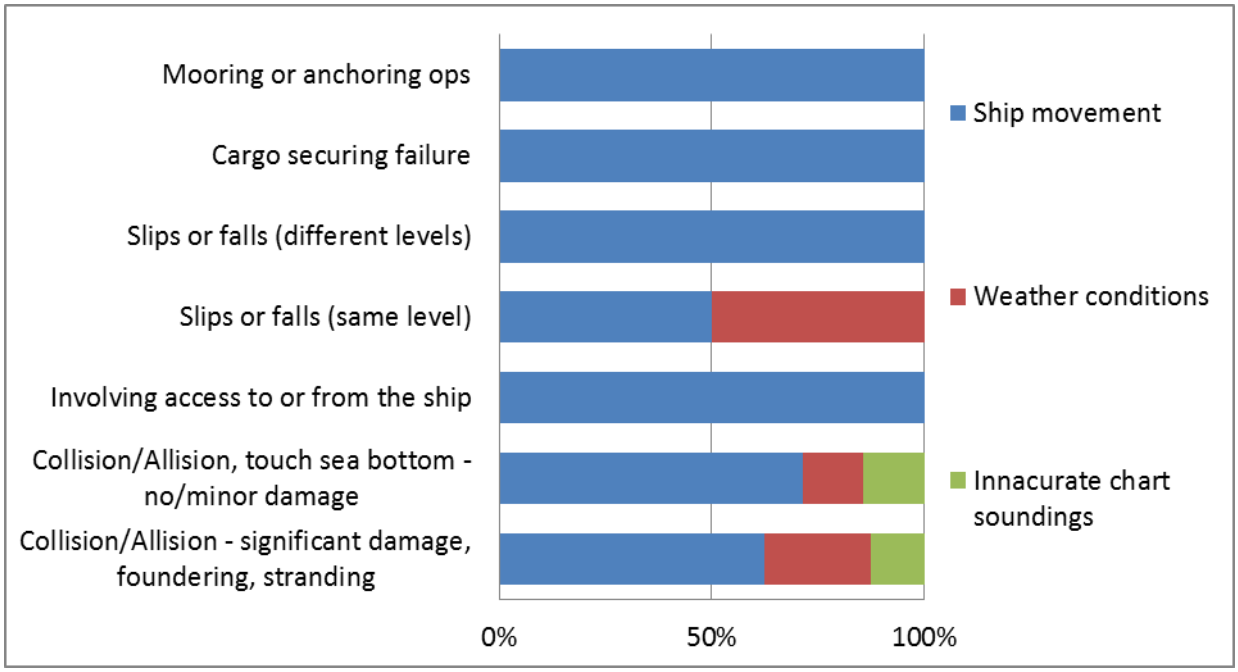
The chart above shows the predominant human factor cause has been attributed to "personal negligence or carelessness". By "human factor" we mean the act or omission of a person to do something that leads to the occurrence happening. This stresses the need for adequate knowledge and training associated 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



The chart above shows a variety of causes associated with mechanical and other equipment. "Defective machinery" followed by "electrical faults" was the predominant cause in 2016. 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



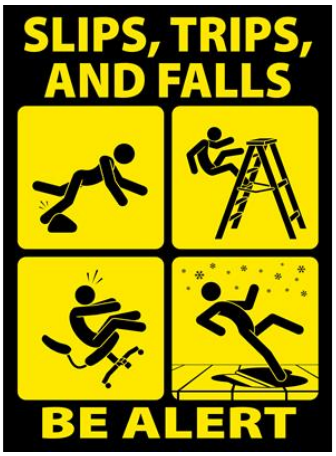
The chart above shows the predominant 'other miscellaneous cause' has been attributed to "ship movement". Crew members should take into consideration the movement of the vessel in the prevailing sea and weather conditions when planning and carrying out work activities. If the movement of the vessel is 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

2016 saw less ARF reports submitted and less casualty cases compared to the previous year but also saw a comparative rise in casualty cases and fall in accident cases. (Chapter 3.3)

The most prevalent cases in 2016 were cases involving collision/grounding (damage), collision/grounding (no/minor damage), slips/falls and fire on board. (Chapter 4.1)

The place where most occurrences happened was over-side/hull. The place where most minor injuries occurred was on the main deck. The place where most serious injuries occurred was in the engine room/workshop. (Chapter 4.2 and 4.3)



Slips or falls on the same/different levels caused the most minor and serious injuries. Moving about the ship lead to the most minor and serious injuries being incurred. (Chapter 4.4 and 4.5)

Most injuries occurred whilst the ship was in port. Injury to the head and hands were the most common. The most common minor injury involved cuts and the most common serious injury were fractures to major bones. (Chapter 5)

Many of the ARFs received show that a large proportion of occurrences attributed to the human factor whereby **personal negligence and carelessness remains prevalent** and therefore highlights the importance of effective care and attention. Other significant factors that lead to occurrences were poor organisation of work, unsafe working practices, wet decks, defective machinery and the ship's movement.

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.

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.

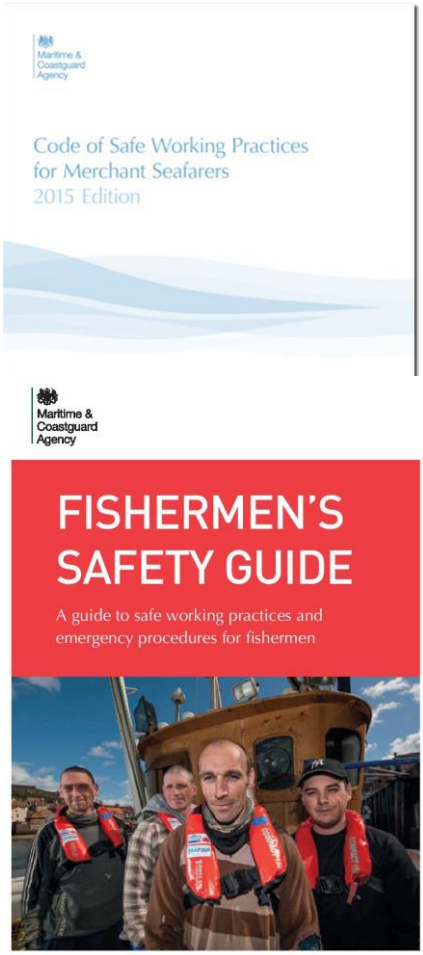
Where a vessel has established safety procedures, it is important that these are observed correctly. Appropriate personal protective equipment (PPE) should always be worn and used correctly. Any dedicated safety equipment should be regularly maintained and inspected before use.

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

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

Additional Information

- Manx Shipping Notice 003 – Accident Reporting
- Maritime Labour Notice 4.3E
- Code of Safe Working Practices for Merchant Seafarers and Fishermen's Safety Guide 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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