



Ref. T1/2.02
T5/1.11(e)

REPORTS ON MARINE CASUALTIES AND INCIDENTS

Revised harmonized reporting procedures - Reports required under SOLAS regulation I/21 and MARPOL 73/78 articles 8 and 12

1 The Maritime Safety Committee, at its sixty-eighth session (28 May to 6 June 1997) and the Marine Environment Protection Committee, at its fortieth session (18 to 25 September 1997) approved an MSC/MEPC circular (MSC/Circ.827 - MEPC/Circ.333) on Reports on marine casualties and incidents - Harmonized reporting procedures, amalgamating and harmonizing the procedures for reporting casualties to the Organization contained in existing MSC and MEPC circulars.

2 The Maritime Safety Committee, at its seventy-second session (17 May to 26 May 2000) and the Marine Environment Protection Committee, at its forty-fourth and forty-fifth sessions (6 to 8, 10 and 13 March 2000 and 2 to 6 October 2000 respectively) approved amendments to MSC/Circ.827 - MEPC/Circ.333.

3 Under SOLAS regulation I/21 and MARPOL 73/78 articles 8 and 12, each Administration undertakes to conduct an investigation into any casualty occurring to ships under its flag subject to those conventions and to supply the Organization with pertinent information concerning the findings of such investigations.

4 The reporting formats contained in the annexes to this circular replace the reporting forms contained in MSC 59/33, Annex 3 regarding Damage cards, MSC/Circ.224 regarding Intact stability casualty records, MSC/Circ.388 on Fire casualty records, MSC/Circ.433 on Reports on investigations into serious casualties, MSC/Circ.559 on Incidents involving dangerous goods or marine pollutants in packaged form, MSC/Circ.621 on Guidelines for the investigation of accidents where fatigue may have been a contributing factor and COM/Circ.70/Rev.1 Questionnaire on the maritime distress system. The reporting format on Incidental spillages of harmful substances of 50 tonnes or more has been added, as such reports are considered necessary when investigating a casualty or an incident (MARPOL 73/78, articles 8 and 12); however, this does not replace the one-line entry report required by the annual mandatory report under MARPOL 73/78, article 11 (MEPC/Circ.318, Part 1).

5 For the purpose of reporting information to the Organization, ship casualties are classified as "very serious casualties", "serious casualties", "less serious casualties" and "marine incidents". Administrations are requested to submit data for all "very serious casualties" and "serious casualties"*.

Where there are important lessons to be learned from "serious casualties", "less serious casualties" and "marine incidents", full investigation reports should be submitted along with the additional information indicated in annex 3.

* "Very serious casualties" are casualties to ships which involve total loss of the ship, loss of life, or severe pollution, the definition of which, as agreed by the Marine Environment Protection Committee at its thirty-seventh session (MEPC 37/22, paragraph 5.8), is as follows:

"Severe pollution" is a case of pollution which, as evaluated by the coastal State(s) affected or the flag State, as appropriate, produces a major deleterious effect upon the environment, or which would have produced such an effect without preventive action.

"Serious casualties" are casualties to ships which do not qualify as "very serious casualties" and which involve a fire, explosion, collision, grounding, contact, heavy weather damage, ice damage, hull cracking, or suspected hull defect, etc., resulting in:

- immobilization of main engines, extensive accommodation damage, severe structural damage, such as penetration of the hull under water, etc., rendering the ship unfit to proceed*, or
- pollution (regardless of quantity); and/or
- a breakdown necessitating towage or shore assistance.

"Less serious casualties" are casualties to ships which do not qualify as "very serious casualties" or "serious casualties" and for the purpose of recording useful information also include "marine incidents" which themselves include "hazardous incidents" and "near misses".

* The ship is in a condition, which does not correspond substantially with the applicable conventions, presenting a danger to the ship and the persons on board or an unreasonable threat of harm to the marine environment.

6 Administrations are urged to submit data as indicated below.

Information to be submitted per casualty class

<i>Information to be sent in accordance with the type of casualty</i>	<i>Very serious casualties</i>	<i>Serious casualties</i>	<i>Less serious casualties</i>	<i>Marine incidents</i>
<i>Annex 1 of the attached reporting format</i>	<i>To be provided within 6 months after the casualty in all cases</i>	<i>To be provided within 6 months after the casualty in all cases</i>	<i>May be provided if there are important lessons to be learned</i>	<i>May be provided if there are important lessons to be learned</i>
<i>Annexes 2 and 3 of the attached reported format, as well as other relevant annexes</i>	<i>To be provided at the end of the investigation in all cases</i>	<i>To be provided at the end of the investigation in all cases</i>	<i>May be provided if there are important lessons to be learned</i>	<i>May be provided if there are important lessons to be learned</i>
<i>Full investigation report</i>	<i>To be provided at the end of the investigation in all cases</i>	<i>May be provided if there are important lessons to be learned</i>	<i>May be provided if there are important lessons to be learned</i>	<i>May be provided if there are important lessons to be learned</i>

Very serious casualty

preliminary information as indicated in **Annex 1***

information as indicated in **Annexes 2 and 3, as well as other relevant annexes**

a full investigation report in all cases

Serious casualty

preliminary information as indicated in **Annex 1***

information as indicated in **Annexes 2 and 3, as well as other relevant annexes**

a full investigation report only in cases of important lessons to be learnt regarding IMO regulations

Less serious casualty and marine incident

information as indicated in **Annexes 1, 2 and 3, as well as other relevant annexes**, only in cases of important lessons to be learnt regarding IMO regulations

a full investigation report only in cases of important lessons to be learnt regarding IMO regulations

* To be submitted within six months of the casualty date unless complete information is submitted within this time limit.

Information to be submitted for casualties/incidents as indicated below.

Information from casualties involving dangerous goods on marine pollutants in packaged form on board ships and in port areas.	→ Annex 4
Damage cards and intact stability records	→ Annex 5
Fire casualty record	→ Annex 6
Global Maritime Distress and Safety System (GMDSS)	→ Annex 7
Fatigue as a contributory cause to maritime accidents - Fatigue factors data compilation sheet	→ Annex 8
Incidental spillage of liquids of 50 tonnes or more	→ Annex 9

7 Member Governments are invited to give effect to the Code for the Investigation of Marine Casualties and Incidents, as amended, (resolutions A.849(20) and A.884(21)) when conducting investigations into marine casualties and incidents.

8 Member Governments are requested to use the present circular when reporting on marine casualties and incidents.

9 The present circular supersedes MSC/Circ.827 - MEPC/Circ.333.

List of Annexes

- ANNEX 1: SHIP IDENTIFICATION AND PARTICULARS
Indicates the information to be submitted in all casualty reports.
- ANNEX 2: DATA FOR VERY SERIOUS AND SERIOUS CASUALTIES
Indicates information to be supplied on “very serious” and “serious” casualties.
- ANNEX 3: SUPPLEMENTARY INFORMATION ON VERY SERIOUS CASUALTIES AND SERIOUS CASUALTIES
Additional information required for “very serious casualties” and “serious” casualties.
- ANNEX 4: INFORMATION FROM CASUALTIES INVOLVING DANGEROUS GOODS OR MARINE POLLUTANTS IN PACKAGED FORM ON BOARD SHIPS AND IN PORT AREAS
This form may be applicable for marine casualties as defined as well as marine incidents.
- ANNEX 5: DAMAGE CARDS AND INTACT STABILITY CASUALTY RECORDS
This form may apply to “very serious” and “serious” casualties.
- ANNEX 6: FIRE CASUALTY RECORD
This form may apply to “very serious” and “serious” casualties.
- ANNEX 7: QUESTIONNAIRE RELATED TO THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM
This form may apply to “very serious” and “serious” casualties.
- ANNEX 8: FATIGUE AS A CONTRIBUTORY CAUSE TO MARITIME ACCIDENTS - FATIGUE FACTORS DATA COMPILATION SHEET
This form will apply where fatigue is deemed to be a contributory factor in the casualty.
- ANNEX 9: INCIDENTAL SPILLAGE OF HARMFUL SUBSTANCES OF 50 TONNES OR MORE
This form relates to incidents involving harmful substances. The report is considered necessary when investigating a casualty or an incident (MARPOL 73/78, articles 8 and 12), however this does not replace the one-line entry report required by the annual mandatory report under MARPOL 73/78, article 11 (MEPC/Circ.318, Part 1).

ANNEX 1

IMO MARINE CASUALTY AND INCIDENT REPORT

SHIP IDENTIFICATION AND PARTICULARS

Administrations are urged to supply the ship identification information listed in this annex for all marine casualty reports submitted to the Organization.

SHIP PARTICULARS

1. IMO Number:

2. Name of Ship:

3. Flag State:

4. Type of Ship

- | | |
|---|--------------------------|
| .1 Liquefied Gas Tanker | <input type="checkbox"/> |
| .2 Chemical Tanker | <input type="checkbox"/> |
| .3 Oil Tanker | <input type="checkbox"/> |
| .4 Other Liquids (non-flammable) Tanker | <input type="checkbox"/> |
| .5 Bulk Dry (general, ore) Carrier | <input type="checkbox"/> |
| .6 Bulk Dry / Oil Carrier | <input type="checkbox"/> |
| .7 Self-Discharging Bulk Dry Carrier | <input type="checkbox"/> |
| .8 Other Bulk Dry (cement, woodchips, urea and other specialized) Carrier | <input type="checkbox"/> |
| .9 General Cargo Ship | <input type="checkbox"/> |
| .10 Passenger / General Cargo Ship | <input type="checkbox"/> |
| .11 Container Ship | <input type="checkbox"/> |
| .12 Refrigerated Cargo Ship | <input type="checkbox"/> |
| .13 Ro-Ro Cargo Ship | <input type="checkbox"/> |
| .14 Passenger / Ro-Ro Cargo Ship | <input type="checkbox"/> |
| .15 Passenger Ship | <input type="checkbox"/> |
| .16 High Speed Craft | <input type="checkbox"/> |
| .17 Other Dry Cargo (livestock, barge, heavy cargo, etc.) Carrier | <input type="checkbox"/> |

- .18 Fish Catching Vessel
- .19 Fish Factory Ship / Fish Carrier
- .20 Offshore Supply Ship
- .21 Other Offshore Ship
- .22 Research Ship
- .23 Towing / Pushing Tug
- .24 Dredger
- .25 Other Activities Ship
- .26 Non-Propelled Ships
- .27 Other Ships Structures

- 5. Gross Tonnage:**
- 6. Length overall:**
- 7. Classification Society:**
- 8. Registered Shipowner:**
- 9. Ship Manager/Operator:**
- 10. Previous names:**
- 11. Previous Flag:**
- 12. Previous Class Society:**
- 13. Date of contract/keel laid/delivery:**
- 14. Date of major conversion:**
- 15. Deadweight:**
- 16. Hull material**
 - .1 steel
 - .2 light alloy
 - .3 ferrocement
 - .4 wood
 - .5 GRP
 - .6 composite materials

17. Hull construction

- .1 single hull
- .2 double hull
- .3 double bottom
- .4 double sides
- .5 mid deck
- .6 other

18. Building yard:

19. Hull number:

20. Date of total loss/constructive total loss/scrapping:

21. Number of crew:

22. Number of passengers:

PRELIMINARY CASUALTY DATA

1. Date and time (local onboard):

2. Position/ location:

3. Initial event¹

- collision
- stranding/ grounding
- contact
- fire or explosion
- hull failure/ failure of watertight doors/ports, etc.
- machinery damage
- damages to ship or equipment
- capsizing/ listing
- missing: assumed lost
- other

¹ For an explanation of the terms below see annex 2

4. Consequences

- total loss of the ship
- ship rendered unfit to proceed*
- ship remains fit to proceed**
- pollution
- loss of life
- serious injuries

5. Summary of events

* The ship is in a condition, which does not correspond substantially with the applicable conventions, presenting a danger to the ship and the persons on board or an unreasonable threat of harm to the marine environment.

**The ship is in a condition, which corresponds substantially with the applicable conventions, presenting neither a danger to the ship and the persons on board nor an unreasonable threat of harm to the marine environment.

ANNEX 2

**IMO MARINE CASUALTY AND INCIDENT REPORT
DATA FOR VERY SERIOUS AND SERIOUS CASUALTIES**

CASUALTY DATA

1 Date and local time of casualty: (24 hr clock) (YYMMDD)

2 Position of casualty (Latitude, Longitude):

3 Location of casualty:

- | | | |
|------|----------------------------------|--------------------------|
| 3.1 | At berth | <input type="checkbox"/> |
| 3.2 | Anchorage | <input type="checkbox"/> |
| 3.3 | Port | <input type="checkbox"/> |
| 3.4 | Port approach | <input type="checkbox"/> |
| 3.5 | Inland waters | <input type="checkbox"/> |
| 3.6 | Canal | <input type="checkbox"/> |
| 3.7 | River | <input type="checkbox"/> |
| 3.8 | Archipelagos | <input type="checkbox"/> |
| 3.9 | Coastal waters (within 12 miles) | <input type="checkbox"/> |
| 3.10 | Open sea | <input type="checkbox"/> |

4 Pilot on board

5 Type of casualty (initial event):

- | | | |
|-------|--|--------------------------|
| 5.1 | Collision: striking or being struck by another ship (regardless of whether under way, anchored or moored). | <input type="checkbox"/> |
| 5.1.1 | IMO Number of other ship involved. (not coded) | |
| 5.1.2 | Name of other ship involved. (not coded) | |
| 5.2 | Stranding or grounding: being aground, or hitting/touching shore or sea bottom or underwater objects (wrecks, etc.). | <input type="checkbox"/> |

- 5.3 Contact: striking any fixed or floating object other than those included in Nos. 1 or 2.
- 5.4 Fire or explosion.
- 5.5 Hull failure or failure of watertight doors, ports, etc.: not caused by Nos. 1 to 4.
- 5.6 Machinery damage: not caused by Nos. 1 to 5, and which necessitated towage or shore assistance.
- 5.7 Damages to ship or equipment: not caused or covered by Nos. 1 to 6.
- 5.8 Capsizing or listing: not caused by Nos. 1 to 7.
- 5.9 Missing: assumed lost.
- 5.10 Other: all casualties which are not covered by Nos. 1 to 9.

6 Type of subsequent events

- 6.1 Collision: striking or being struck by another ship (regardless of whether under way, anchored or moored).
 - 6.1.1 IMO Number of other ship involved. (not coded)
 - 6.1.2 Name of other ship involved. (not coded)
- 6.2 Stranding or grounding: being aground, or hitting/touching shore or sea bottom or underwater objects (wrecks, etc.).
- 6.3 Contact: striking any fixed or floating object other than those included in Nos. 1 or 2.
- 6.4 Fire or explosion.
- 6.5 Hull failure or failure of watertight doors, ports, etc.

- 6.6 Machinery damage which necessitated towage or shore assistance.
- 6.7 Damages to ship or equipment.
- 6.8 Capsizing or listing.
- 6.9 Missing: assumed lost.
- 6.10 Other: all events which are not covered by Nos. 1 to 9.

7 Consequences of the casualty

7.1 Consequences to the ship involved in the casualty:

- 7.1.1 Total loss
- 7.1.2 Ship rendered unfit to proceed*
- 7.1.3 Ship remains fit to proceed**

7.2 Consequences related to human beings:

- 7.2.1 Number of dead or missing crew _____
- 7.2.2 Number of dead or missing passengers _____
- 7.2.3 Number of other dead or missing persons _____
- 7.2.4 Number of crew being seriously*** injured in the casualty _____
- 7.2.5 Number of passengers being seriously*** injured in the casualty _____
- 7.2.6 Number of other persons being seriously*** injured in the casualty _____

* The ship is in a condition, which does not correspond substantially with the applicable conventions, presenting a danger to the ship and the persons on board or an unreasonable threat of harm to the marine environment.

**The ship is in a condition, which corresponds substantially with the applicable conventions, presenting neither a danger to the ship and the persons on board nor an unreasonable threat of harm to the marine environment.

*** incapacitated for 72 hours or more

7.3 Consequences to the environment (pollution):

7.3.1 Oil in bunkers

7.3.1.1	Type of oil	Quantity spilled
	<input type="checkbox"/> Heavy fuel	_____
	<input type="checkbox"/> Diesel	_____
	<input type="checkbox"/> Lube oils	_____
	<input type="checkbox"/> Other	_____

7.3.2 Oil cargo

7.3.2.1	Type of oil (not coded)	Quantity spilled
	<input type="checkbox"/> Crude oil	_____
	<input type="checkbox"/> Persistent refined oil products	_____
	<input type="checkbox"/> Non-persistent refined oil products	_____
	<input type="checkbox"/> Others	_____

7.3.3 Chemicals in bulk

Category (Appendix I to Annex II of MARPOL 73/78)

	Quantity in tons spilled
<input type="checkbox"/> A	_____
<input type="checkbox"/> B	_____
<input type="checkbox"/> C	_____
<input type="checkbox"/> D	_____

7.3.4 Dangerous Goods in packaged form

Class (IMDG Code)	Names	UN numbers	Quantity lost overboard
1 <input type="checkbox"/>	_____	_____	_____
2 <input type="checkbox"/>	_____	_____	_____
3 <input type="checkbox"/>	_____	_____	_____
4.1 <input type="checkbox"/>	_____	_____	_____
4.2 <input type="checkbox"/>	_____	_____	_____
4.3 <input type="checkbox"/>	_____	_____	_____
5.1 <input type="checkbox"/>	_____	_____	_____
5.2 <input type="checkbox"/>	_____	_____	_____
6.1 <input type="checkbox"/>	_____	_____	_____
6.2 <input type="checkbox"/>	_____	_____	_____
7 <input type="checkbox"/>	_____	_____	_____
8 <input type="checkbox"/>	_____	_____	_____
9 <input type="checkbox"/>	_____	_____	_____

8 Primary causes of the initial event

Coding principle:

- a The human element is a complex multi-dimensional issue that affects maritime safety and marine environmental protection. It involves the entire spectrum of human activities performed by ships' crews, shore based management, regulatory bodies, classification societies, shipyards, legislators and other relevant parties.
- b Effective remedial action following maritime casualties requires a sound understanding of the human element involvement in accident causation. This comes by the thorough investigation and systematic analysis of casualties for contributory factors and the causal chain of events.

8.1 Internal causes (related to the ship where the casualty occurred)

8.1.1 Human violations or errors by the crew:

.1 Human violations

.2 Human error

- 8.1.2 Human violations or errors by the pilot
 - .1 Human violations
 - .2 Human error
- 8.1.3 Structural failures of the ship
- 8.1.4 Technical failure of machinery/equipment including design errors
 - .1 Failure of propulsion machinery
 - .2 Failure of essential auxiliary machinery
 - .3 Failure of steering gear
 - .4 Failure of closing arrangements or seals
 - .5 Failure or inadequacy of navigational equipment
 - .6 Failure of bilge pumping
 - .7 Failure of electrical installation
 - .8 Failure or inadequacy of communication equipment
 - .9 Failure or inadequacy of lifesaving appliances
 - .10 Ship design errors (i.e. insufficient stability)
 - .11 Other
- 8.1.5 The ship's cargo
 - .1 Cargo shifting
 - .2 Fire or explosion in cargo
 - .3 Improper stowage of cargo
 - .4 Spontaneous combustion
 - .5 Cargo liquefaction
 - .6 Other
- 8.2 External causes (outside the ship)**
 - 8.2.1 Another ship or ships (improper actions, etc.)
 - 8.2.2 The environment
 - .1 Heavy sea
 - .2 Wind
 - .3 Currents or tides
 - .4 Icing
 - .5 Ice conditions
 - .6 Restricted visibility

- 8.2.3 Navigational infrastructure
 - .1 Failures in aids to navigation
 - .2 Inaccurate charts or nautical publications
 - .3 Charts or nautical publications unavailable for the sea
 - .4 VTS
- 8.2.4 Criminal acts
- 8.2.5 Other "external" causes (i.e. not associated with the ship itself)
 - .1 Tug boat operations
 - .2 Failure or incorrect operation of shore equipment or installation
 - .3 Other than .1 and .2
- 8.3 Unknown causes**
- 9 Violations and error types**
- 9.1 Violation (deliberate decision to act against a rule or plan)**
 - 9.1.1 Routine (cutting corners, taking path of least effort, etc...)
 - 9.1.2 Necessary (due to inadequate tools or equipment, improper procedures or regulations)
 - 9.1.3 "For kicks" (thrill seeking, to alleviate boredom, macho behaviour)
 - 9.1.4 Exceptional (taking risks to help people in distress, lack of system knowledge)
- 9.2 Slip (unintentional action where failure involves attention)**
 - 9.2.1 Incorrect operation of controls or equipment
 - 9.2.2 Left/Right, reversal
 - 9.2.3 Failure to report due to distraction
 - 9.2.4 Other
- 9.3 Lapse (unintentional action where failure involves memory)**
 - 9.3.1 Forgetting to report information
 - 9.3.2 Failure to advise Officer on the Watch
 - 9.3.3 Other

9.4 Mistake (an intentional action where there is an error in the planning process; there is no deliberate decision to act against a rule or procedure)

9.4.1 Error in judgement

9.4.2 Inappropriate choice of route

9.4.3 Deciding not to pass on information

9.4.4 Failure to respond appropriately

9.4.5 Other

10 Underlying factors

10.1 Liveware

10.1.1 Physiological

.1 Fatigue

.2 Stress

.3 Alcohol/illegal drug

.4 Prescription medicine

10.1.2 Psychological

.1 Excessive workload

.2 Communication

.3 Standards of personal competence

.4 Lack of familiarity or training

.5 Panic and fear

.6 Boredom

.7 Mental and emotional disorders

10.1.3 Physical

.1 Hearing problem

.2 Visual problem

.3 Injuries and illness

.4 Less than adequate medical fitness

10.1.4 Others

10.2 Hardware

10.2.1 Equipment not available

10.2.2 Ergonomics

- 10.2.3 Design failures (other than ergonomics)
- 10.2.4 Maintenance and repair
- 10.2.5 Other
- 10.3 Software**
- 10.3.1 Company policy and standing orders
- 10.3.2 Less than adequate operating procedures and instruction
- 10.3.3 Management and supervision
- 10.3.4 Other
- 10.4 Environment**
- 10.4.1 Ship movement/Weather effects
- 10.4.2 Noise
- 10.4.3 Vibration
- 10.4.4 Temperature/Humidity
- 10.4.5 Less than adequate manning
- 10.4.6 Other

ANNEX 3

IMO MARINE CASUALTY AND INCIDENT REPORT

SUPPLEMENTARY INFORMATION ON VERY SERIOUS AND SERIOUS CASUALTIES

To assist completion of marine casualty analysis, in addition to the information in annexes 1 and 2, the following information is required:

1. **Principle findings and form of casualty investigation:**

2. **Action taken:**

3. **Findings affecting international regulations:**

4. **Assistance given (SAR operations):**

- 1.4 Quantity and condition of goods:

- 1.5 Stowage/Securing arrangements:

2. Pollution - goods lost overboard (yes/no):
If yes:
 - 2.1 Quantity of goods lost:

 - 2.2 Lost goods floated or sank:

 - 2.3 Lost goods released from packaging (yes/no):

3. Brief account of the sequence of events¹:

4. Extent of damage¹:

5. Emergency response measures taken:

6. Comments on compliance with applicable convention/recommendation requirements:

7. Comments on effectiveness of applicable convention/recommendation requirements:

8. Measures/recommendations to prevent recurrence:

9. Further investigation (yes/no)¹:

Note

¹ Data should be provided only if not supplied otherwise.

ANNEX 5

IMO MARINE CASUALTY AND INCIDENT REPORT

DAMAGE CARDS* AND INTACT STABILITY CASUALTY RECORDS

Statistics of damaged ships and of intact stability casualties are important to the work of the Organization in respect to improvement of subdivision and intact stability criteria in various conventions, codes, recommendations, and guidelines. Member Governments are invited to continue to submit to the Secretariat damage data and intact stability casualty data using the format in this annex.

Note

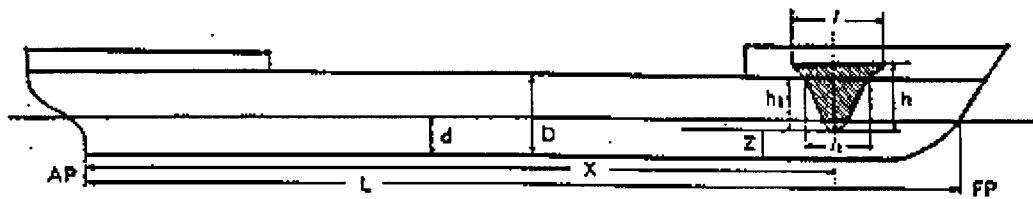
* The Secretariat, while incorporating amendments to the cover and to annexes 1 and 2 of the present circular, also included the amendments to MSC/Circ.224, which were approved by the Maritime Safety Committee at its fifty-ninth session (MSC 59/33, annex 3).

DAMAGE CARDS

Damaged Ship

Length between perpendiculars* **L** = _____
 Moulded breadth* **B** = _____ Moulded depth* **D** = _____
 Height of subdivision deck = _____
 Draught before damage: amidships **d** = _____ (or fore = _____ and aft = _____)
 Struck/stricking _____

Bulkhead (or freeboard) deck



Dimensions and location of damage (see sketch above)

Distance from AP to centre of damage* **X** = _____
 Distance from baseline to the lower point of damage **Z** = _____
 Length of damage* **l** = _____ **l₁** = _____
 Height of damage* **h** = _____ **h₁** = _____
 Area = _____
 Penetration of damage* **b** = _____ **b₁** = _____

(if damage extends above bulkhead (or freeboard) deck, additional dimensions should be given for the part located below this deck, these being marked with suffix "1")

Dimensions and location of bottom damage

Distance from AP to centre of damage* **X** = _____
 Distance from CL to centre of damage = _____ Port or starboard? _____
 Length of damage **l** = _____ Width of damage = _____ Area = _____
 Depth of damage **d** = _____

Second ship involved in collision (to be completed in case of collision between two ships).

Length between perpendiculars* **L** = _____
 Moulded breadth* **B** = _____ Moulded depth* **D** = _____
 Draught before damage: amidships **d** = _____ (or fore = _____ and aft = _____)
 Struck/stricking _____

NOTES FOR DAMAGE CARD

1. Damage cards should be completed for decked, steel sea-going ships 25 m. in length and over, for all breaches of the hull causing flooding of any compartments (collision, stranding, etc.)
2. The term "damaged ship" refers to the ship for which this card is being completed.
3. A sketch showing location of damage and of main transverse bulkheads would be desirable.
4. Depth **D** should be measured to the bulkhead deck in passenger ships and to the freeboard deck in non-passenger ships (or to uppermost completed deck, if bulkhead or freeboard deck are not specified).
5. In case of collision with another ship, it is desirable to fill in damage cards for both ships.
6. All measurements should be given in metres.
7. Data marked with an asterisk (*) are the most important.

Additional data to be supplied if available

1. Wind and sea (Beaufort scale) at time of casualty _____

2. Speed at time of impact, in knots:
 - Damaged ship v_1 _____
 - Second ship v_2 _____
3. Angle of encounter _____
4. Did the ship to which this card refers sink? _____
If not, give draught after damage _____
If so, indicate time taken to sink after collision _____ and manner of sinking _____

5. Appropriation of breached compartment(s) (e.g. machinery room, cargo hold, etc.) _____

6. Type and quantity of cargo in damaged compartment, if any _____

7. Were there any special circumstances which influenced the results of damage (e.g. open watertight doors, manholes, sidescuttles, or pipes, fractures, etc.)? _____

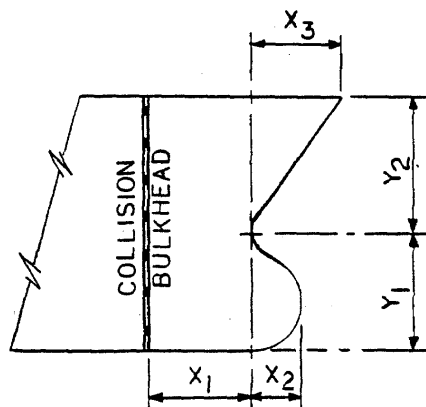
8. Position of watertight bulkheads in vicinity of damage (distance from **AP** to each of them) _____

9. Was a transverse subdivision bulkhead damaged? _____

10. Was the collision bulkhead damaged? _____
11. Number of compartments flooded _____
12. Was there a double bottom in the damaged area? _____
If so, indicate whether the inner bottom was breached _____
13. Was there a separate penetration from the bulbous bow? _____

14. Any additional information considered useful (details of construction, etc.) _____

17. Striking ship bow geometry $X_1 =$ _____ $X_2 =$ _____ $X_3 =$ _____
 $Y_1 =$ _____ $Y_2 =$ _____



INTACT STABILITY CASUALTY RECORD

Length between perpendiculars* L_{pp} = _____
Breadth moulded* B = _____ Depth moulded* D = _____
Draught amidships to assigned loadline or subdivision line d _____ (or forward _____ and aft _____)
Service conditions (light or loaded, with approximate percentage of cargo, stores, fuel and passengers)

Type of cargo, if any _____ Disposition _____ stowage factor _____
Deck cargo, if any _____ type _____ quantity _____
Quantity of ballast water, if any _____
Sea and wind conditions at time of casualty: sea* _____ wind* (Beaufort scale) _____
Wind velocity u _____ Wind pressure p_v _____
Wave length _____ Wave height h_w _____
Direction of wind relative to ships head _____ (degrees)
Direction of waves relative to ships head _____ (degrees)
Speed of ship at time of casualty V _____ knots
Name, length and height of enclosed superstructures and deck-houses above the deck to which D was measured _____

Bilge keels: Width^(o) _____ Longitudinal extent^(o) _____
Depth of bar keel, if any^(o) _____
Was water trapped on deck? _____ if so, indicate the extent _____
Were all vulnerable openings effectively closed at time of casualty? _____

Was icing a contributory factor to casualty? _____
Was the vessel under action of helm at time of casualty? _____
Were any special instructions relative to this ship in existence, concerning the maintenance of stability, e.g. filling tanks, etc.? _____

Were any voyage limits and/or weather restrictions imposed for the vessel? _____

Were any particular circumstances related to the casualty? _____

Give short description of casualty1 _____

Note

1 Data should be provided only if not provided otherwise.

General Particulars		For ship in fully loaded homogenous arrival condition (with 10% stores, fuel, etc.)	For ship in condition at time of loss
Draught (amidships)	d		
Displacement*	Δ		
Centre of gravity above moulded base line*	KG		
Metacentric height (uncorrected)*	GM		
Distance between the transverse metacentre and centre of buoyancy	BM		
Reduction in GM due to any free surface of liquids*			
Block coefficient of fineness of displacement*	δ		
Coefficient of fineness of midship section	β		
Coefficient of fineness of waterplane	α		
Height of centre of buoyancy above moulded base line	KB		
Lateral area of ships profile (including erections, etc.) exposed to wind	A_v		
Distance between centre of lateral area of ships profile exposed to wind and corresponding waterline			
Estimated rolling period (P-S-P) (in seconds) ^(o)	T_r		
Rated amplitude of roll (maximum)	θ_r		
Angle of heel for immersion of uppermost continuous deck			
Righting levers (GZ) based upon centre of gravity (G) corrected for any free surfaces, for the following angles of heel:*			
0°			
10°			
20°			
30°			
40°			
50°			
60°			
70°			
80°			
90°			
Maximum righting lever	GZ_m		
Angle of maximum stability	θ_m		
Angle of vanishing stability	θ_v		
Lightship Displacement $\Delta_0 =$	Centre of gravity above moulded base line KG₀ =		
NOTES FOR INTACT STABILITY CASUALTY RECORD			
1. Casualty records to be completed for all sea-going passenger ships, sea-going cargo ships of 25 meters in length and over, and sea-going fishing vessels of 15 meters in length and over, in respect of both losses of ships and cases in which dangerous heeling occurred due to unsatisfactory intact stability, including those cases where loss or heeling of the ship was due to shifting of cargo.	2. Depth D should be measured to the bulkhead deck in passenger ships and to the freeboard deck in non-passenger ships (or to uppermost completed deck, if bulkhead or freeboard deck is not specified.)	3. The metric system should be used for all measurements.	4. Data marked with an asterisk (*) are the most important.
	5. The provision of data marked ^(o) is optional.	6. It is desirable to attach a sketch of statical stability curves, drawn for both the below loading conditions, using the following scales:	(i) 20 mm for every 10° angle of inclination.
	(ii) 10 mm (or 20 mm) for every 0.1 meter of righting lever.		

ANNEX 6

IMO MARINE CASUALTY AND INCIDENT REPORT

FIRE CASUALTY RECORD

Administrations are urged to supply the additional information listed in this annex for all casualties involving vessel fires.

1. Were any voyage limits placed on the ship?²:
2. Propelling machinery (type, fuel, etc.):
3. Nature of cargo:
4. Location of ship¹
 - .1 Was the ship underway or in port?:
 - .2 If in port, specify the condition (loading, unloading, under repair, or others):
5. Local conditions¹
 - .1 Time (Daylight or darkness):
 - .2 Wind force (Beaufort scale):
 - .3 State of sea (and code used):
6. Part of ship where fire broke out²:
7. Probable cause of fire²:
8. Probable origin of flammable liquids, if applicable:
9. Description of damage^{1,2}:
10. No. of persons on board¹
 - .1 Passengers:
 - .2 Crew:

Notes

¹ Data should be provided only if not provided otherwise.

² Data should be given as precisely as possible.

11. Structural fire protection (briefly describe fire resisting and fire retarding bulkheads, doors, decks, etc., through the whole of the area affected by fire):
12. Fire detection method at site of fire
 - .1 Automatic:
 - .2 Others²:
13. Fixed fire-extinguishing installations
 - .1 At site of fire:
 - .2 Adjacent areas:
14. Ship's fire-extinguishing equipment used (foam, dry chemical, CO₂, water, steam. etc.)
 - .1 Fixed²:
 - .2 Portable²:
15. Effectiveness of action taken by crew to extinguish fire:
16. Outside assistance given and equipment used (e.g. fire department, other ship, etc.)¹:
17. Time taken to fight fire
 - .1 To control:
 - .2 To extinguish:
18. Observations¹:
19. Classification (see classification scheme appended to this annex):

Notes

¹ Data should be provided only if not provided otherwise.

² Data should be given as precisely as possible.

APPENDIX A

CLASSIFICATION SYSTEM FOR FIRE CASUALTY RECORDS

This classification system should be used when entering the “Classification” of fire casualty records (paragraph 19 of annex 6). For the purpose of correct usage of the classification system the Guidance for preparing the casualty classification is attached at appendix B. The numbering has been kept in consistence with the numbering in MSC/Circ.388.

- 3 Service
 - .1 International
 - .2 Short international
 - .3 Coastal sea trade
 - .4 Inland waters
 - .5 Not reported

- 4 Condition
 - .1 Underway
 - .2 In port - Loading
 - .3 In port - Unloading
 - .4 In port - Awaiting departure
 - .5 In port - Other
 - .6 Under repair
 - .7 Others
 - .8 Not reported

- 5 Time at which fire was discovered
 - .1 Midnight to 0559
 - .2 0600 to 1159
 - .3 1200 to 1759
 - .4 1800 to 2359
 - .5 Not reported

- 6 Duration of fire
 - .1 Extinguished within 1 minute
 - .2 1 - 5 minutes
 - .3 6 - 10 minutes
 - .4 11 - 30 minutes
 - .5 31 - 60 minutes
 - .6 1 - 6 hours
 - .7 More than 6 hours
 - .8 Not reported

- 7 Position of outbreak
 - .1 Accommodations
 - .2 Cargo spaces
 - .3 Machinery space of category A
 - .4 Machinery space other than of category A

- .5 Galley
 - .6 Cargo pump room
 - .7 Service space
 - .8 Other spaces
 - .9 Not reported
- 8 Combustibles involved
- .1 Structural materials
 - .2 Furnishings and baggage
 - .3 Ship stores
 - .4 Dry cargo
 - .5 Liquid cargo
 - .6 Liquid fuel
 - .7 Lubricating oil
 - .8 Hydraulic oil
 - .9 Other flammable liquids
 - .10 Not reported
- 9 Origin of flammable liquid
- .1 Burst piping
 - .2 Leaking valve
 - .3 Overflow from tank
 - .4 Leaking coupling or flanges
 - .5 Flexible hose
 - .6 Leaking gasket
 - .7 Oil soaked insulation material
 - .8 Others
 - .9 Not applicable
 - .10 Not reported
- 10 Source of ignition
- .1 Cigarettes, matches, or similar smoking materials
 - .2 Open flames other than .1 and .8
 - .3 Static generation
 - .4 Electrical other than static charges
 - .5 Spontaneous combustion
 - .6 Collision
 - .7 Mechanical fault or breakdown
 - .8 Burning or welding
 - .9 Hot exhaust pipe or steam line
 - .10 Not on vessel concerned
 - .11 Other
 - .12 Not reported
- 11 Type of protection at space concerned
- .1 Fire resisting divisions
 - .2 Fire mains and hydrants
 - .3 Inert gas system

- .4 Fixed CO₂ system
 - .5 Halogenated hydrocarbon system
 - .6 Foam system
 - .7 Other fixed extinguishing system(e.g., automatic sprinkler or steam smothering)
 - .8 Other protection (portable and semi-portable extinguishers)
 - .9 Not reported
- 12 Means by which fire was detected
- .1 Detection system installed and utilized
 - .2 Detection system installed, but fire detected by personnel
 - .3 No fire detection system installed, but fire detected by personnel
 - .4 Not reported
- 13 Fire-extinguishing effectiveness
- .1 Fire-extinguishing equipment adequate
 - .2 Fire-extinguishing equipment not adequate
 - .3 Fire-extinguishing equipment improperly used
 - .4 Assistance from other ship required
 - .5 Assistance from shore fire brigade required
 - .6 Ship abandoned
 - .7 Not applicable
 - .8 Not reported
- 14 Extent of damage
- .1 Slight damage
 - .2 Extensive damage
 - .3 Immobilization of ship due to serious damage
 - .4 Total constructive loss
- 17 Observations pertaining to
- .1 Construction
 - .2 Equipment
 - .3 Crew training
 - .4 Stowage requirements
 - .5 Housekeeping
 - .6 Improper maintenance
 - .7 Other
 - .8 None

APPENDIX B

GUIDANCE FOR PREPARING THE FIRE CASUALTY CLASSIFICATION

The following should be taken into account when preparing the casualty classification for the purpose of entering the fire casualty record. The numbering has been kept in consistence with MSC/Circ.388.

- 3 **Service:** There should be only one entry for each ship.
- 4 **Condition:** There should be only one entry for each ship. The entries "In port - Loading" and "In port - Unloading" apply only to the time during which transfer operations are taking place; any fire occurring while waiting to begin transfer operations should be entered as "In port - Other."
- 5 **Time at which fire was discovered:** There should be only one entry for each ship.
- 6 **Duration of fire:** There should be only one entry for each ship.
- 7 **Position of outbreak:** There should be only one entry for each ship. The definition of the spaces involved should be the same as those given in the latest version of the SOLAS Convention.
- 8 **Combustibles involved:** There may be more than one entry for each ship.
- 9 **Origin of flammable liquid:** There may be more than one entry for each ship.
- 10 **Source of ignition:** There may be more than one entry reported for each ship, especially if the damage was so severe that two or more likely sources can be identified.
- 11 **Type of protection at space concerned:** There will probably be more than one entry for each ship. Fixed systems should be entered only if they were in the space on fire; portable systems and those that use hoses should be entered if they can be brought to bear on the fire.
- 12 **Means by which the fire was detected:** There should be only one entry for each ship. The principle question is whether the fire detection system, if any, was the first to alert ship's personnel.
- 13 **Fire-extinguishing effectiveness:** There may be more than one entry for each ship. If the fire is extinguished without fire fighting, as with an explosion that "blows itself out," then enter "Not applicable."
- 14 **Extent of damage:** There may be more than one entry for each ship. The "Immobilization of ship due to serious damage" should also be entered when the propulsion system is shut down to aid in fire fighting.
- 17 **Observations:** There may be more than one entry for each ship. Favourable comments as well as unfavourable comments should be noted. This is the most important part of the casualty report and every effort should be made to record all observations to be made in paragraph 23 of the fire casualty record.

ANNEX 7

IMO MARINE CASUALTY AND INCIDENT REPORT
QUESTIONNAIRE RELATED TO THE
GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM

1. This questionnaire covers both the existing maritime communications system and the GMDSS and is intended for use during the latter's transition period (from 1 February 1992 to its full implementation on 1 February 1999).

2. The purpose of this questionnaire is to enable the Sub-Committee on Radiocommunications and Search and Rescue to assess the effectiveness of the global maritime distress and safety system and to recommend improvements where necessary.

3. Member Governments are urged to complete the questionnaire in respect of distress and safety incidents occurring to ships under their flag, adding any other information which, at their discretion, would provide lessons to be learned concerning the application of the global maritime distress and safety system.

4. In addition, Member Governments are encouraged to pass any relevant information they may possess on casualties concerning foreign ships to the country in which such ships are registered.

4.1 (a) GMDSS sea area or sea areas for which radio equipment was installed:

(b) Date and time of incident (UTC): _____

4.2 Brief description of:

(a) GMDSS sea area: _____

(b) weather conditions during SAR operations: _____

4.3 Description of distress and safety radiocommunications, including particulars of the following items:

(a) means of communication (radiotelegraphy, radiotelephony, INMARSAT SES, DSC, EPIRB) and frequencies used for:

distress alert by ship: _____

distress relay by RCC: _____

SAR Coordinating communications: _____

(b) use of alarm signal: _____

(c) contents of distress message: _____

(d) RCC(S), ships, coast station or coast earth stations which acknowledged distress message (state time and position): _____

(e) language difficulties: _____

4.4 If the ship was abandoned, description of distress radiocommunications and location signals from survival craft: _____

4.5 If a satellite EPIRB or EPIRB was used for alerting and/or locating survivors, give details (frequency, type of activation, etc.) and which LUT/CES or coast station received the alerting signal: _____

4.6 Description of on-scene radiocommunications, including surface/air communications: _____

4.7 Any unusual, or additional, radiocommunication aspects, apparent shortcomings and/or lessons to be learned: _____

ANNEX 8

IMO MARINE CASUALTY AND INCIDENT REPORT

**FATIGUE AS A CONTRIBUTORY FACTOR TO MARITIME ACCIDENTS
FATIGUE FACTORS DATA COMPILATION SHEET**

This compilation sheet should be completed and submitted with each maritime accident investigation report where fatigue has been identified as a contributory factor. The compilation sheet should indicate the cause of the identified fatigue. See MSC/Circ.621 for guidelines for the investigation of accidents where fatigue may have been a contributing factor.

Fatigue identified in this accident was caused by (Check all factors that apply):

- | | | |
|----------|---|-------|
| 1 | Management/regulatory factors | |
| | Contractual arrangements | _____ |
| | Work and rest periods | _____ |
| | Manning levels | _____ |
| | Watchkeeping practices | _____ |
| | Assignment of duties | _____ |
| | Shore-ship-shore support and communication | _____ |
| | Management policy | _____ |
| | Voyage planning | _____ |
| | Recreational facilities | _____ |
| 2 | Ship factors | |
| | Level of automation | _____ |
| | Reliability of equipment | _____ |
| | Motion characteristics | _____ |
| | Vibration, heat and noise levels | _____ |
| | Quality of working and living environment | _____ |
| | Cargo characteristics/requirements | _____ |
| | Ship design | _____ |
| 3 | Crew factors | |
| | Period on board | _____ |
| | Experience/training | _____ |
| | Crew composition, cohesiveness, and relationships | _____ |
| | Crew competency and quality | _____ |
| | Personal problems and condition | _____ |
| 4 | External factors | |
| | Weather | _____ |
| | Port conditions | _____ |
| | Ice conditions | _____ |
| | Density of vessel traffic | _____ |

ANNEX 9

IMO MARINE CASUALTY AND INCIDENT REPORT

INCIDENTAL SPILLAGES OF HARMFUL SUBSTANCES OF 50 TONNES OR MORE

The following additional information should be submitted for each incident involving spillage of 50 tonnes or more of harmful substances. See annexes 1 and 2 of this circular for information to be submitted on vessel identification and casualty specifics. One copy of the report should be retained by the reporting State, one copy to be sent to the flag State, and one copy to be sent to the International Maritime Organization.

This reporting format on Incidental Spillages of Harmful Substances of 50 Tonnes or more has been added, as the report is considered necessary when investigating a casualty or an incident (MARPOL 73/78, articles 8 and 12), however this does not replace the one-line entry report required by the annual mandatory report under MARPOL 73/78, article 11 (MEPC/Circ.318, Part 1).

Part 1

To be completed by the reporting State

1. Was the date of the incident known or estimated? _____
2. Location of the incident (select one of the following):
 - .1 in inland waters
 - .2 in the territorial sea
 - .3 within the exclusive economic zone
 - .4 outside the exclusive economic zone,
in international waters
3. Reporting State: _____

Report completed by: (Administration and address)

Part 2

Information to be supplied by the reporting State and/or the flag State

4. Action taken by reporting State:

.1 Response to the spill:

- | | | |
|----|------------------|--------------------------|
| .1 | no action | <input type="checkbox"/> |
| .2 | clean-up efforts | <input type="checkbox"/> |
| .3 | salvage efforts | <input type="checkbox"/> |
| .4 | other, i.e. | <input type="checkbox"/> |
-

.2 Legal action:

- | | | |
|----|---------------------------------------|--------------------------|
| .1 | no action | <input type="checkbox"/> |
| .2 | action to be taken by flag State | <input type="checkbox"/> |
| .3 | pending | <input type="checkbox"/> |
| .4 | action taken by reporting State, i.e. | <input type="checkbox"/> |
-

.3 Measures/recommendations to prevent recurrence:

.4 Additional information:

Direct Natural Resource Damages

- Loss of wildlife
 - Impact on birds
 - Impact on marine mammals
 - Impact on fish
 - Impact on other marine life, including invertebrates
- Loss of fisheries
 - Fin fish
 - Shellfish
 - Fish farming
- Damage to marine environment
- Damage to shore environment
- Habitat Degradation
 - Soft Habitats (salt marshes, mangroves, mudflats)
 - Shoreline (Beaches)
 - Rocky Coasts / Reefs, including coral

Part 3

To be completed by the flag State

5. Legal action taken by flag State
- .1 no action
 - .2 pending
 - .3 action taken, i.e.
-