INTERNATIONAL MARITIME ORGANIZATION

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MSC-MEPC.3/Circ.4/Rev.1
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CASUALTY-RELATED MATTERS*
REPORTS ON MARINE CASUALTIES AND INCIDENTS

Revised harmonized reporting procedures – Reports required under SOLAS regulations I/21 and XI-1/6, and MARPOL, articles 8 and 12

1 The Maritime Safety Committee, at its seventy-second session (17 to 26 May 2000) and the Marine Environment Protection Committee, at its forty-fourth and forty-fifth sessions (6 to 13 March 2000 and 2 to 6 October 2000, respectively) approved MSC/Circ.953 – MEPC/Circ.372 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, which was subsequently amended by means of MSC-MEPC.3 circulars. The Marine Environment Protection Committee, at its sixty-fifth session (13 to 17 May 2013) and the Maritime Safety Committee, at its ninety-second session (12 to 21 June 2013) approved amendments to MSC-MEPC.3/Circ.3.

2 Under SOLAS regulation I/21 and MARPOL 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 if:

.1 it judges that such an investigation may assist in determining what changes in the present regulations may be desirable; and/or

.2 the casualty has produced a major deleterious effect on the marine environment.

3 Additionally, each Administration shall conduct investigations of marine casualties and incidents, in accordance with SOLAS regulation XI-1/6, as supplemented by the provisions of the *Code of the International Standards and Recommended Practices for a*

* In order to facilitate the identification and retrieval of information circulated by means of joint MSC-MEPC circulars, from now on such information will be disseminated through the following circular series:

1 Organization and methods of work, as MSC-MEPC.1/Circ…
2 General matters, as MSC-MEPC.2/Circ…
3 Casualty-related matters, as MSC-MEPC.3/Circ…
4 Port State control-related matters, as MSC-MEPC.4/Circ…
5 Survey and certification-related matters, as MSC-MEPC.5/Circ…
6 National contact points for safety and pollution prevention and response, as MSC-MEPC.6/Circ…
7 Human element-related matters, as MSC-MEPC.7/Circ….

Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code) adopted by resolution MSC.255(84).

4 The reporting formats contained in the annex to this circular replace the reporting forms contained in MSC-MEPC.3/Circ.3. They do not replace the reports required under MSC/Circ.539/Add.2 – *Reports on casualty statistics concerning fishing vessels and fishermen at sea* and MSC/Circ.802 – MEPC/Circ.332 – *Provision of preliminary information on serious and very serious casualties by rescue coordination centres*. 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, articles 8 and 12). This, however, does not replace the online entry report required by the annual mandatory report under MARPOL, article 11 (MEPC/Circ.318 – *Formats for a mandatory reporting under MARPOL 73/78*, part 1).

5 Unlike MSC-MEPC.3/Circ.3, this circular only serves as an aide-memoire for online reporting through the IMO Global Integrated Shipping Information System (GISIS) and should not be used as a paper means for accumulating data. The marine safety investigating State should submit data through the GISIS marine casualties and incidents (MCI) module directly and by electronic means only.

6 Following a very serious marine casualty, where data from a marine safety investigation is to be supplied to the Organization, the marine safety investigating State should submit a marine safety investigation report in addition to the data required in the appendices to this circular. Where there are important lessons to be learned from marine casualties or incidents other than very serious marine casualties, full investigation reports should also be submitted in addition to completing the database.

7 Investigating States are invited to populate the GISIS MCI module with basic factual data about the casualty as soon as possible after the occurrence. This will register on GISIS that a casualty event has occurred and that it is being investigated. At this early stage, investigating States should aim, as a minimum, at completing all the asterisked fields in appendices 1 and 2 and as much of the consequence data in appendix 3, as possible.

8 The GISIS MCI module is divided into five appendices, as follows:

.1 **Appendix 1** requires generic information: the marine safety investigating State, the number of ships involved, generic casualty data, external environmental data, actions taken following the marine casualties and/or marine incidents forming the overall occurrence, and safety recommendations made with the aim of preventing future marine casualties;

.2 **Appendix 2** requires factual information relating to each ship involved in each marine casualty or marine incident: ship particulars, voyage data, casualty data and consequences;

.3 **Appendix 3** requires casualty analysis data relating to each ship involved in each marine casualty or marine incident: accidental events and contributing factors;

.4 **Appendix 4** requires supplementary information to be added in particular circumstances relating to each marine casualty or marine incident. These additional data requirements will be automatically prompted; and

.5 **Appendix 5** provides field value option tables.

9 Member Governments are requested to use the present circular when making use of the electronic data exchange and reporting facilities available through GISIS for reporting on marine casualties and incidents (http://gisis.imo.org/Members), as described in Circular Letter No.2892 – *Access to IMO web services, including GISIS and IMODOCS*.

10 The present circular supersedes MSC-MEPC.3/Circ.3.

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ANNEX

REVISED HARMONIZED REPORTING PROCEDURES – REPORTS REQUIRED UNDER SOLAS REGULATIONS I/21 AND XI-1/6, AND MARPOL, ARTICLES 8 AND 12

APPENDIX 1

GENERIC INFORMATION

General

Field number	Field description	Field value type
.1*	Marine safety investigating State	See table 1
.2*	Number of ships involved	Number
.3	Actions taken	Text
.4	Safety recommendation focus (loop for more than one safety recommendation)	See table 2 (multi-choice)
.5	Safety recommendation acceptance	Y/N/Partial
.6	Safety recommendation	Text

Generic casualty data

.1	Summary of events	Text
.2*	Date of initial marine casualty or marine incident (local)	Numbers
.3*	Time of initial marine casualty or marine incident (local)	Numbers
.4*	Position of initial marine casualty or marine incident – latitude	Numbers
.5*	Position of initial marine casualty or marine incident – longitude	Numbers
.6*	Location of initial marine casualty or marine incident	See table 3
.7*	Overall occurrence designated casualty event	See table 4
.8*	Overall occurrence severity	See table 5

External environmental data

.1	Sea state	See table 6
.2	Wind force	See table 7
.3	Natural light	See table 8
.4	Visibility	See table 9
.5	Type of weather	See table 10
.6	Ice	See table 11

APPENDIX 2

FACTUAL INFORMATION
(relating to each ship involved)

1 Ship particulars

.1*	IMO number	Number/Auto[1]
.2*	Name of ship	Text/Auto
.3	Call sign	Text/Auto
.4	MMSI number	Number/Auto
.5*	Flag State	Auto
.6*	Type of ship (drop list to include high speed craft)	Auto
.7	Gross tonnage	Auto
.8	Length overall	Auto
.9	Classification society	Auto
.10	Registered shipowner	Auto
.11	Ship's company	Auto
.12	Year of build	Auto
.13	Deadweight	Auto
.14	Hull material	Auto
.15	Hull construction	Auto
.16	Propulsion type	Auto
.17	Type of bunkers	See table 13
.18	Number of crew on ship's certificate	Number
.19	Number of passengers on ship's certificate	Number

2 Voyage data

.1	Type of cargo	Text
.2	Packaged dangerous goods or marine pollutants on board	Y/N/U[2]
.3	Number of crew on board	Number
.4	Number of passengers on board	Number
.5	Number of other persons on board	Number

[1] "Auto" means "automatically populated".

[2] Y/N/U means Yes/No/Unknown.

3 Casualty data

.1	Casualty event (loop for more than one casualty event)	See table 4
.2*	Casualty event severity	See table 5
.3	Ship operation	See table 12 (multi-choice)
.4	Under pilotage	Y/N/U
.5	GMDSS used	Y/N/U
.6	Life-saving appliances used	Y/N/U
.7	Ship abandoned	Y/N/U
.8	VDR / S-VDR fitted	Y/N/U
.9	VDR / S-VDR information available	Y/N/U
.10	VDR / S-VDR information downloaded	Y/N/U
.11	VDR / S-VDR information useable	Y/N/U

4 Consequences

.1	Number of dead or missing crew	Number
.2	Number of dead or missing passengers	Number
.3	Number of other dead or missing persons	Number
.4	Number of crew seriously injured	Number
.5	Number of passengers seriously injured	Number
.6	Number of other persons seriously injured	Number
.7	Total loss of ship	Y/N/U
.8	Material damage to ship	Y/N/U
.9	Breach of hull causing flooding	Y/N/U
.10	Ship unfit to proceed to sea	Y/N/U
.11	Third party damage (including non-ship source pollution)	Text
.12	Ship pollution – oil cargo type & quantity	See table 13 (multi-choice)
.13	Ship pollution – oil bunkers type & quantity	Table 13 (multi-choice)
.14	Ship pollution – chemicals in bulk pollution category & quantity	Table 15 (multi-choice)
.15	Ship pollution – packaged dangerous goods and marine pollutants type & quantity lost overboard	Table 14

APPENDIX 3

CASUALTY ANALYSIS DATA
(relating to each ship involved)

For each casualty event

.1	Accident event (loop for more than one accident event)	See table 16

For each "human erroneous action" accident event

.1	Subject – age	Number
.2	Subject – gender	M/F/U[3]
.3	Subject – nationality	See table 1
.4	Subject – rank	See table 17
.5	Subject – time at sea	Number
.6	Subject – time in present rank	Number
.7	Subject – time held current qualification	Number
.8	Subject – Certificate of competency (type)	Drop down (STCW/Others)
.9	Subject – State issuing certificate of competency	See table 1
.10	Subject – time served with current employer	Number
.11	Subject – time with related experience	Number
.12	Subject – duration of handover	Number
.13	Subject – lack of relevant training	See table 18 (multi-choice)
.14	Subject – hours of rest in last 24 hours	Number
.15	Subject – hours of rest in last 7 days	Number
.16	Subject – number of rest periods in last 24 hours	Number
.17	Subject – longest rest period in last 24 hours	Number
.18	Subject – hours of sleep in last 24 hours	Number
.19	Subject – hours of sleep in last 7 days	Number
.20	Subject – time on duty before marine casualty or marine incident	Number
.21	Subject – time since last sleep period before marine casualty or marine incident	Number
.22	Subject – watchkeeping pattern (drop down list:4 on/8 off, or 6 on/6 off, or 12 on/12 off, or Other)	Y/N/U
.23	Subject – time served on board ship up to occurrence/continuous service]	
.24	Task operation	See table 12
.25	Description of accidental event	Text
.26	Error type	See table 19
.27	Temporary related contributing factors	See table 20 (multi-choice)
.28	Permanent related contributing factors	See table 21 (multi-choice)
.29	Operational contributing factors	See table 22 (multi-choice)
.30	Management contributing factors	See table 23 (multi-choice)

[3] M/F/U means Male/Female/Unknown.

For each "equipment failure" accidental event

.1	Subject – equipment system	See table 24
.2	Subject – equipment type	Text
.3	Type of equipment failure	See table 25
.4	Description of accidental event	Text
.5	Operational contributing factors	See table 22 (multi-choice)
.6	Management contributing factors	See table 23 (multi-choice)

For each "hazardous material effect" accidental event

.1	Subject – material type	See table 26
.2	Type of effect	See table 27
.3	Description of accidental event	Text

For each "environmental effect" accidental event

.1	Subject – phenomenon	See table 28
.2	Description of accidental event	Text

For each "external agencies" accidental event

.1	Subject – system	See table 29
.2	Task affected	See table 30
.3	Description of accidental event	Text
.4	Operational contributing factors	See table 22 (multi-choice)
.5	Management contributing factors	See table 23 (multi-choice)

APPENDIX 4

SUPPLEMENTARY INFORMATION

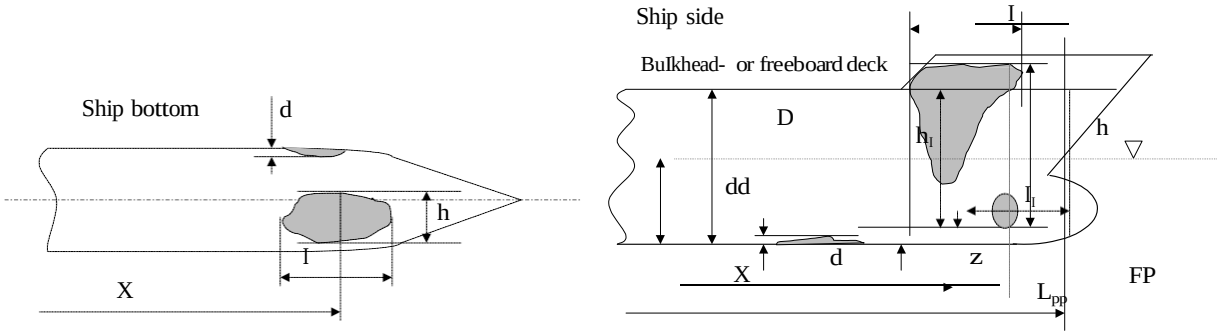
1 If "packaged marine dangerous goods or marine pollutants on board" (Field at appendix 2.2.2) – then complete following appendix 4 data.

1.1 Cargo(es) involved
1.1.1 Proper Shipping Name: UN Number: IMO Hazard Class:
1.1.2 Name and address of manufacturer, or consignor, or consignee:
1.1.3 Type of packaging/container:
1.1.4 Quantity and condition of goods:
1.1.5 Stowage/securing arrangements:

1.2 Pollution – goods lost overboard (yes/no):
If yes:
Lost goods floated or sank:
Lost goods released from packaging (yes/no):

2 **If "breach of hull causing flooding" (Field at appendix 2.4.9) AND "flooding/foundering" casualty event (Field at appendix 2.3.1) AND and 25 metres or more "length overall" (Field at appendix 2.1.8) – then complete following appendix 4 data**

2.1 Nature of damage:
2.2 Length between perpendiculars L_{pp}:
2.3 Moulded breadth B:
2.4 Moulded depth D (to bulkhead deck in passenger ships and freeboard deck in non-passenger ships, or to the uppermost completed deck if bulkhead or freeboard deck are not specified):
2.5 Draught before damage di:



2.6 Ship side (port/starboard/bottom):
2.7 Damage position (fore ship/afterbody/cargo hold/rudder/engine room/other):
2.8 Position (height) with reference to WL:
2.9 Damage type (below and above/above but not below/below but not above/within – the physical limits of the ship structure):
2.10 Distance from AP to centre of damage X:
2.11 Distance from base line to the lower point of damage Z:
2.12 Length of l: Height of h: Penetration d:
2.13 damage l_1: damage h_1: damage d_1:
2.14 dd mid: dd fore: dd aft: (draughts after damage):

2.15 dd mid calc:
2.16 Hole in ship: Y/N Struck ship: Y/N
Ship to ship collision: Y/N Striking ship Y/N
(If damage extends above bulkhead/freeboard deck, additional dimensions should be given for the part located below this deck, these being marked with suffix "$_1$"):
2.17 Speed of damaged ship at time of impact in knots:
2.18 Speed of second ship at time of impact in knots:
2.19 Angle of encounter:
2.20 Did the ship sink: Y/N
If so:
2.20.1 Time taken to sink and manner of sinking:
2.21 Appropriation of breached compartment(s) (e.g. machinery room, cargo hold, etc.):
2.22 Type and quantity of cargo in damaged compartment, if any:
2.23 Were there any special circumstances which influenced the results of damage (e.g. open watertight doors, manholes, side-scuttles or pipes, fractures, etc.)?:
2.24 Position of watertight bulkheads in vicinity of damage (distance from AP to each of them):
2.25 How many compartments flooded?:
2.26 Was there a double bottom in the damaged area? Y/N
If so:
2.26.1 Indicate whether the inner bottom was breached:
2.27 Separate penetration from the bulbous bow? Y/N
2.28 Transverse subdivision bulkhead damaged? Y/N
2.29 Collision bulkhead damaged? Y/N
2.30 Damage assessment:
2.31 Any additional information considered useful:

3 **If "capsize/listing" casualty event (Field at appendix 2.3.1) OR "total loss of ship" (Field at appendix 2.4.7), AND 25 metres (15 metres for fishing vessels) or more in "length overall" (Field at appendix 2.1.8) – then complete following data**

3.1 Length between perpendiculars L_{pp}:
3.2 Moulded breadth B:
3.3 Moulded depth D (to bulkhead deck in passenger ships and freeboard deck in non-passenger ships, or to the uppermost completed deck if bulkhead or freeboard deck are not specified):
3.4 Draught amidships to assigned loadline or subdivision line:
3.5 Service conditions (light or loaded, with approximate percentage of cargo, stores, fuel and passengers):
3.6 Disposition of cargo:
3.7 Stowage factor of cargo:
3.8 Type and quantity of deck cargo, if any:
3.9 Quantity of water ballast, if any:
3.10 Wave length:
3.11 Wave height:
3.12 Direction of wind relative to ship's head (degrees):
3.13 Direction of waves relative to ship's head (degrees):
3.14 Speed of ship at time of casualty:
3.15 Name, length and height of enclosed superstructures and deckhouses above deck to which D was measured:
3.16 Bilge keels: width: longitudinal extent:
3.17 Depth of bar keel, if any:
3.18 Was water trapped on deck?

If so:

3.19 Indicate the extent:
3.20 Were all vulnerable openings effectively closed at time of casualty?:
3.21 Was the ship under action of helm at time of casualty?:
3.22 Were any special instructions relative to this ship in existence concerning the maintenance of stability, e.g. filling tanks, etc.?:
3.23 Were any voyage limits and/or weather restrictions imposed for the ship?:

For ship in fully loaded homogeneous arrival condition (with 10% stores, fuel, etc.):

3.24 Draught (amidships):
3.25 Displacement:
3.26 Centre of gravity above moulded base line:
3.27 Metacentric height (uncorrected):
3.28 Distance between the transverse metacentre and centre of buoyancy:
3.29 Reduction in GM due to any free surface of liquids:
3.30 Block coefficient of fineness of displacement:
3.31 Coefficient of fineness of midship section:
3.32 Coefficient of fineness of waterplane:
3.33 Height of centre of buoyancy above moulded base line:
3.34 Lateral are of ship's profile (including erections, etc.) exposed to wind:
3.35 Distance between centre of lateral area of ship's profile exposed to wind and corresponding waterline:
3.36 Estimated rolling period (P-S-P):
3.37 Rated amplitude of roll (maximum):
3.38 Angle of heel for immersion of uppermost continuous deck:
3.39 Righting levers based on centre of gravity corrected for any free surfaces, for the following angles of heel: 0º,10º,20º,30º,40º,50º,60º,70º,80º,90º:
3.40 Maximum righting lever:
3.41 Angle of maximum stability:
3.42 Angle of vanishing stability:

For ship in condition at time of loss:

3.43 Draught (amidships):
3.44 Displacement:
3.45 Centre of gravity above moulded base line:
3.46 Metacentric height (uncorrected):
3.47 Distance between the transverse metacentre and centre of buoyancy:
3.48 Reduction in GM due to any free surface of liquids:
3.49 Block coefficient of fineness of displacement:
3.50 Coefficient of fineness of midship section:
3.51 Coefficient of fineness of waterplane:
3.52 Height of centre of buoyancy above moulded base line:
3.53 Lateral are of ship's profile (including erections, etc.) exposed to wind:
3.54 Distance between centre of lateral area of ship's profile exposed to wind and corresponding waterline:
3.55 Estimated rolling period (P-S-P):
3.56 Rated amplitude of roll (maximum):
3.57 Angle of heel for immersion of uppermost continuous deck:
3.58 Righting levers based on centre of gravity corrected for any free surfaces, for the following angles of heel: 0º,10º,20º,30º,40º,50º,60º,70º,80º,90º:
3.59 Maximum righting lever:
3.60 Angle of maximum stability:
3.61 Angle of vanishing stability:
3.62 Lightship displacement:
3.63 Centre of gravity above moulded base line:

(It is desirable to attach a sketch of statical stability curves, drawn for both the below loading conditions, using the following scales:
20 mm for every 10º angle of inclination
10 mm (or 20mm) for every 0.1 metre of righting lever)

4 **If "fire/explosion" casualty event (Field at appendix 2.3.1) AND "very serious" casualty severity (Field at appendix 2.3.2) – then complete following data.**

4.1 Wind direction:
4.2 Part of ship where fire broke out:
4.3 Explain how persons on board were alerted:
4.4 Means by which fire was initially detected: Fixed fire detection system/by ship's crew or passenger/not known:
4.5 Briefly, describe the performance of structural fire protection (fire resisting and fire retarding bulkheads, doors, decks, etc.) with respect to: containment and extinguishment of any fire in the space of origin, protection of means of escape or access for firefighting, adequacy of structural fire protection:
4.6 Ship's portable fire-extinguishing equipment used (foam, dry chemical, CO_2, water, etc.):
4.7 Fixed fire-extinguishing installations: at site of origin of fire (specify the type), adjacent areas (specify the type):
4.8 Were fixed fire-extinguishing systems used in an attempt to extinguish the fire?:
4.9 Did the use of fixed fire-extinguishing systems contribute to the extinguishment of the fire?:
4.10 Briefly explain the action taken by the crew to contain, control and suppress the fire and explosion in the space of origin:
4.11 Was outside assistance provided (e.g. fire department, other ship, etc.)?:
If so:
4.12 What equipment was used?:
4.13 Determine qualifications and training of all ship's crew involved in the firefighting operations:
4.14 Report on whether company or industry procedures, including hot work procedures, were in place and relevant to the operation concerned:
4.15 If the procedures were in place, were they correctly implemented?:
4.16 Time taken to fight fire from first alarm: to control the fire; once controlled, to extinguish the fire:
4.17 Total duration of fire:
4.18 Damage caused by fire: loss of life or injuries to personnel, to the cargo, to the ship, release of pollutants:
4.19 Was there an adequate supply of air on board for self-contained breathing apparatus or was outside assistance needed to supply such air?:

5 **If "GMDSS used" (Field at appendix 2.3.5) – then complete following data.**

5.1 GMDSS sea area or sea areas for which radio equipment was installed:
5.2 GMDSS sea area:
5.3 Description of distress and safety radio communications, including particulars of: means of communication (radiotelegraphy, radiotelephony, INMARSAT SES, DSC, EPIRB) and frequencies used for distress alert by ship, distress relay by RCC, SAR coordinating communications; use of alarm signal; contents of distress message; RCC(s), ships, coast station or coast earth stations which acknowledged distress message (state time and position); language difficulties:

5.4 If the ship was abandoned, description of distress radio communications and location signals from survival craft:
5.5 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:
5.6 Description of on-scene radio communications, including surface/air communications:

6 **If "oil cargo" (2.4.12) OR "oil bunkers" (2.4.13) OR "chemicals in bulk" (Field 2.4.14) OR "packaged dangerous goods and marine pollutants" (Field 2.4.15) "quantity spilled" or "lost overboard" total 50 tonnes or more – then complete following data.**

Direct Natural Resources Damages

Loss of wildlife:	
.1	Impact on birds
.2	Impact on marine mammals
.3	Impact on fish
.4	Impact on the marine life, including invertebrates
Loss of fisheries:	
.1	Fin fish
.2	Shellfish
.3	Fish farming
Damage to the marine environment:	
Damage to the shore environment:	
Habitat Degradation:	
.1	Soft habitats (salt marshes, mangroves, mudflats)
.2	Shoreline (beaches)
.3	Rocky coasts/reefs, including coral
.1	No action
.2	Pending
.3	Action taken, i.e.

7 **If "life-saving appliances used" (Field at appendix 2.3.6) – then complete following data.**

7.1 Wave height (observed):
7.2 Sea temperature ºC:
7.3 Air temperature ºC:
7.4 Warm climates: Y/N:
7.5 Inflatable liferaft involved?
If so:
7.5.1 Capacity: POB: Davit launched?: Y/N

7.6 Marine Evacuation System (MES) involved?
If so:
7.6.1 Vertical? Slide?
7.7 Lifeboat involved?
If so:
7.7.1 Capacity: POB: Davit launched? Free fall?:
7.8 Buoyant apparatus involved?:
7.9 Ship's rescue boat involved?:
7.10 Launching appliances involved?:
If so:
7.10.1 Capacity: POB:
7.11 Other life-saving appliance involved?:
If so:
7.11.1 Capacity: POB:
7.12 Immersion suit used?:
7.13 Lifejacket used?:
7.14 Personal Flotation Device (PFD) other than a lifejacket used?:
7.15 Anti-exposure suit used?:
7.16 Lifebuoy used?:
7.17 Reason for deployment of life-saving appliance: emergency evacuation/abandonment/crew training/deployment as required by regulations/ approval trials (give details):

APPENDIX 5

FIELD VALUE OPTION TABLES

Table 1

Marine safety investigating State/Administration/Nationality

As per GISIS nomenclatures

Table 2

Safety recommendation focus

.1	Carriage of cargo
.2	Electrical installation
.3	Fire protection/firefighting equipment
.4	Human factors
.5	Life-saving equipment
.6	Machinery
.7	Operational practice
.8	Radio installation
.9	Safety of navigation
.10	Seaworthiness
.11	Stability
.12	Other
.13	No safety recommendations

Table 3

Location of initial marine casualty or marine incident

.1	At berth
.2	Anchorage
.3	Port
.4	Port approach
.5	Inland waters
.6	Canal
.7	River
.8	Archipelagos
.9	Coastal waters
.10	Open sea
.11	Unknown
.12	Strait/channel
.13	Traffic separation scheme
.14	Offshore installation

Table 4

Casualty event

.1	Collision	own ship not under way
.2		with multiple ships
.3		with other ship
.4	Grounding	while drifting
.5		while under power
.6	Contact	with fixed object
.7		with floating object
.8		with flying object
.9	Fire/explosion	fire
.10		explosion
.11	Hull failure	
.12	Loss of control	loss of containment
.13		loss of directional control
.14		loss of electrical power
.15		loss of propulsion power
.16	Ship/equipment damage	
.17	Capsize/listing	capsize
.18		listing
.19	Flooding/foundering	flooding
.20		foundering
.21	Ship missing	
.22	Occupational accident	body movement under or with physical stress (generally leading to an internal injury)
.23		body movement without any physical stress (generally leading to an external injury)
.24		breakage, bursting, splitting, fall or collapse of material agent
.25		overflow, overturn, leak, flow, vaporization, emission of material agent
.26		electrical problems, explosion, fire
.27		loss of control of machine, means of transport or handling equipment, hand-held tool, object, animal
.28		shock, fright, violence, aggression, threat, presence
.29		slipping, stumbling, falling of person overboard
.30		slipping, stumbling, falling of person to a lower level
.31		Slipping, stumbling, falling of a person on the same level
.32		Others
.33	Other	
.34	Unknown	

Table 5

Casualty event severity

.1	Very serious marine casualty
.2	Marine casualty
.3	Marine incident

Table 6

Sea state

.1	0 – Calm glassy – (0m)
.2	1 – Calm rippled – (0 – 0.1m)
.3	2 – Smooth – (0.1 – 0.5m)
.4	3 – Slight – (0.5 – 1.25m)
.5	4 – Moderate – (1.25 – 2.5m)
.6	5 – Rough – (2.5 – 4m)
.7	6 – Very rough – (4 – 6m)
.8	7 – High – (6 – 9m)
.9	8 – Very high – (9 – 14m)
.10	9 – Phenomenal – (+14m)
.11	Unknown

Table 7

Wind force

.1	0 – Calm – knot (0 – 1) m/s (0 – 1)
.2	1 – Light air – knot (1 – 3) m/s (1 – 2)
.3	2 – Light breeze – knot (4 – 6) m/s (2 – 3)
.4	3 – Gentle breeze – knot (7 - 10) m/s (4 – 5)
.5	4 – Moderate breeze – knot (11 – 16) m/s (6 – 8)
.6	5 – Fresh breeze – knot (17 - 21) m/s (9 -11)
.7	6 – Strong breeze – knot (22 – 27) m/s (11 – 14)
.8	7 – Near gale – knot (28 – 33) m/s (14 – 17)
.9	8 – Gale – knot (34 – 40) m/s (17 – 21)
.10	9 – Strong gale – knot (41 – 47) m/s (21 – 24)
.11	10 – Storm – knot (48 – 55) m/s (25 – 28)
.12	11 – Violent storm – knot (56 – 63) m/s (29 – 32)
.13	12 – Hurricane – knot (+64) m/s (+33)
.14	Beaufort Scale: Unknown

Table 8

Natural light

.1	Daylight
.2	Twilight
.3	Night
.4	Unknown

Table 9

Visibility

.1	Very poor – Vis < 0.5nm
.2	Poor – 0.5 <= Vis < 2nm
.3	Moderate – 2 <= Vis < 5nm
.4	Good – 5 <= Vis < 25nm
.5	Very good – Vis >= 25nm
.6	Unknown

Table 10

Type of weather

.1	Clear/partly cloudy
.2	Overcast
.3	Fog
.4	Rain
.5	Snow
.6	Humidity

Table 11

Ice

.1	Thickness (m) (drop down list)
.2	Percent coverage (drop down list)
.3	Type of ice (multi year, 1st year, etc.)

Table 12

Ship operation/Task operation

.1	Being towed		
.2	Emergency		
.3	Fishing	Gutting/handling/stowing fish	
.4		Preparing/stowing fishing gear	
.5		Shooting/hauling fishing gear	
.6		Towing fishing gear	
.7	Normal service	Alongside/moored/anchored	

.8		Ballasting/deballasting	
.9		Berthing	
.10		Bunkering	
.11		Cleaning/washing tanks	
.12		Dropping/hoisting anchor	
.13		Embarking/disembarking people	
.14		On passage	Displacement mode
.15			Non-displacement mode
.16			Transitional mode
.17		Loading	
.18		Maintenance	
.19		Manoeuvring	
.20		Open/close door, hatches, etc.	
.21		Repairing	
.22		Starting/stopping engine	
.23		Taking stores	
.24		Turning	
.25		Under pilotage	
.26		Unloading/discharging cargo	
.27		Water ballast exchange	
.28	Sailing	Beam reaching	
.29		Broad reaching	
.30		Close reaching	
.31		Cruising using engine	
.32		Head to wind	
.33		On the port/starboard tack	
.34		Running	
.35		Set and lower a sail	
.36		Tacking	
.37		Gybing	
.38	Special service	Disposal of residues/slops	
.39		Dredging	
.40		Drifting	
.41		Drilling	
.42		Gas freeing	
.43		Hove-to/dodging	
.44		Ice breaking	
.45		Idle, off-hire	
.46		In icebreaker assistance	
.47		Offshore support	
.48		Inerting	
.49		On watch	
.50		Replenishment at sea operations	
.51		Rowing/paddling	
.52		Ship-to-ship transfer of cargo	
.53		Towing/pushing	
.54		Trials/drills/tests	
.55		Under tow/push	
.56		Anchor handling	
.57	Other		
.58	Unknown		

Table 13

Oil cargo/Bunker type & quantity

	Dropdown list from MARPOL Annex 1, Appendix 1, applies to each item below	Quantity
.1	Asphalt solutions	
.2	Oils	
.3	Distillates	
.4	Gas Oil	
.5	Gasoline blending stocks	
.6	Gasolines	
.7	Jet fuels	
.8	Naphta	
.9	Unknown	
.10	None	

Table 14

Dangerous goods in packaged form

Class (IMDG Code)		Proper Shipping Name	UN number	Quantity lost overboard
.1				
.2				
.3				
.4.1				
.4.2				
.4.3				
.5.1				
.5.2				
.6.1				
.6.2				
.7				
.8				
.9				

Table 15

Chemicals in bulk pollution category

		Quantity
.1	Category X	
.2	Category Y	
.3	Category Z	
.4	Category OS	
.5	Unknown	
.6	None	

Table 16

Accident event

.1	Human erroneous action
.2	Equipment failure
.3	Hazardous material effect
.4	Environmental effect
.5	External agencies
.6	Unknown

Table 17

Rank

.1	Master
.2	Chief mate
.3	Deck officer
.4	Chief engineer officer
.5	Second engineer officer
.6	Engineer officer
.7	Trainee cadet
.8	Radio personnel
.9	Rating deck
.10	Rating engine
.11	Others
.12	Electro-technical officer
.13	Electro-technical rating
.14	Skipper
.15	Other crew member
.16	Pilot
.17	Other non-crew member
.18	Unknown

Table 18

Relevant training

.1	Basic training	Personal survival techniques
.2		Fire prevention and firefighting
.3		Elementary first aid
.4		Personal safety
.5		Basic safety familiarization
.6		Ship specific familiarization
.7	Advanced training	Advanced firefighting
.8		Proficiency in survival craft and rescue boat
.9		Proficiency in fast rescue boat
.10		Shore-based firefighting

.11	Specific training	Automatic Radar Plotting Aids
.12		Bridge team management
.13		Crane operation
.14		Crew resource management
.15		ECDIS
.16		GMDSS
.17		Oil tanker specialized
.18		Chemical tanker specialized
.19		Integrated bridge
.20		Liquefied gas tanker specialized
.21		Passenger ship familiarization
.22		Passenger ship safety
.23		Passenger ship crowd management
.24		Passenger ship crisis management
.25		Passenger ship safety, cargo safety, etc.
.26		Ship/engine control
.27		Tanker familiarization
.28		Towing operations
.29		Dynamic positioning
.30	Training not according to national law	
.31	Other	
.32	None	
.33	Unknown	

Table 19

Error type

.1	Observation
.2	Interpretation
.3	Planning / Intention
.4	Action

Table 20

Temporary related contributing factors (select all that applies)

.1	Distraction
.2	Fatigue
.3	Fear
.4	Inattention
.5	Memory failure
.6	Performance variability
.7	Physical or physiological stress
.8	Psychological stress
.9	Alcohol or drugs
.10	Non-prescription/Prescription medication
.11	Other (specify)

Table 21

Permanent related contributing factors

.1	Cognitive bias
.2	Cognitive style
.3	Functional impairment

Table 22

Operational contributing factors

Social environment

.1	Less than adequate labour-management relations
.2	less than adequate communications
.3	Language problem
.4	Social and cultural barriers and conflicts
.5	Person-to-person conflict/animosity
.6	Inadequate safety/risk awareness
.7	Inappropriate or adventurous behaviour/comportment
.8	Resistance to change

Supervision

.9	Lack of coordination of tasks
.10	Inadequate work preparation
.11	Inadequate briefing/instruction
.12	Lack of resources
.13	Poor Supervision
.14	Inadequate work procedures
.15	Conflicting orders/priorities
.16	Inappropriate peer pressure
.17	

Manning

.18	Long working periods, excessive overtime
.19	Frequent change of watch schedule
.20	Inappropriate person assigned
.21	Too high work load/low work load
.22	Idleness, waiting
.23	Low job satisfaction, monotony
.24	Lack of responsibility for own job
.25	Inadequate manning

Personnel

.26	Lack of motivation/morale
.27	Lack of skill
.28	Lack of knowledge
.29	Less than adequate physical/physiological capability
.30	Less than adequate mental and psychological state

Workplace conditions

.31	Anthropometric factors, dimensions
.32	Lack of information, inadequately presented information
.33	Display design, controls
.34	Inadequate illumination
.35	Hazardous/disorderly workplace

Internal environment

.36	Noise, vibration
.37	Sea motion, acceleration
.38	Temperature, humidity
.39	Toxic substance, other health hazards
.40	Lack of oxygen

Inadequate tools and equipment

.41	Right tools and equipment unavailable
.42	Less than adequate assessment of needs and risks
.43	Inadequate tool or aid
.44	Inadequate standards or specifications
.45	Use of wrong equipment

Maintenance

.46	Failure not detected during maintenance
.47	Lack of maintenance
.48	Inadequate maintenance
.49	Improper performance of maintenance/repair
.50	System out of operation

Navigational/Geographical constraints

.51	High traffic density hinders vessel control
.52	Hindrances in the seaway
.53	Restricted fairway/channel

Emergency response

.54	Contingency plans not followed
.55	Inadequate/lack of training
.56	Lacks initiative to deal with emergencies
.57	Training ignored
.58	Inadequate control of life-saving equipment
.59	Lack of command and control
.60	Inadequate/erroneous information to passengers

Table 23

Management/organizational contributing factors

Impact on business climate

.1	Economic conditions
.2	Market change
.3	Bad relation with other organization
.4	Extreme competition

Organization and general management

.5	Policy, ethical values
.6	Focus on liability and punishment
.7	Communication policy
.8	Standard set by example
.9	Company loyalty and commitment
.10	Response to feedback from employees
.11	Ship undermanned
.12	Support from land organization
.13	Too wide control span
.14	Authoritarian command style
.15	Unclear roles and responsibility
.16	Cross-pressure from schedule and economy
.17	Lack of communication and coordination

Operations management

.18	Pressure to keep schedule and costs
.19	Inadequate procedures and checklists
.20	No review of critical tasks/operations
.21	Management training

Safety and environmental management

.22	Critical system and cargo documentation
.23	Inspection/internal audits
.24	Follow-up of non-conformities
.25	Incident reporting, analysis, improvement
.26	Work instruction
.27	Concern for quality improvement
.28	Inadequate promotion of safety
.29	Less than adequate safety plan and programme
.30	Less than adequate formal safety assessment, risk analysis

Occupational health management

.31	Information about health risks
.32	Personal protective equipment
.33	Health control of personnel
.34	Workplace inspections

.35	Substandard hygiene on board
.36	Less than adequate medical services provided
.37	Follow-up of programmes and plans
.38	No off-the-job safety policy

Personnel management

.39	Hiring and selection policy
.40	Inadequate training programme
.41	Selection / training of officers
.42	Control with use of overtime
.43	Opportunity for advancement
.44	High turnover, lack of continuity

System acquisition

.45	Substandard components
.46	Substandard contractors
.47	Control of contractors
.48	Verification of contract requirements
.49	Inadequate testing

Design

.50	Deviation from standards/specifications
.51	Inappropriate regulations
.52	Design error
.53	Less than adequate design verification
.54	Less than adequate system review and evaluation
.55	Less than adequate change management

Maintenance policy

.56	Lack of priority to maintenance
.57	Lack of competent repair personnel
.58	Less than adequate planning
.59	Lack of follow-up and compliance check

Emergency preparedness

.60	Emergency plans
.61	Emergency procedures
.62	Management training
.63	Crisis handling
.64	Maintenance of life-saving equipment
.65	Inadequate firefighting equipment
.66	Emergency training programme
.67	Life-saving equipment
.68	Lack of decision support
.69	Lack of warning systems

Regulatory activities

.70	Regulatory procedures
.71	Regulatory standards
.72	Regulation
.73	Inspection and survey
.74	Monitoring
.75	Surveillance
.76	Audit
.77	Checks

Table 24

Equipment system

.1	Auxiliary machinery
.2	Ballast
.3	Bilge, drain
.4	Cargo
.5	Cargo securing
.6	Cargo tank venting
.7	Navigational lights or sound signals
.8	Compressed air
.9	COW
.10	Deck machinery
.11	Doors, hatches, ports, etc.
.12	Dredging
.13	Electrical appliances
.14	Electrical installation
.15	Exhaust gas
.16	Fire protection
.17	Fishing gear
.18	Fixtures/fitting
.19	Freshwater
.20	Fuel
.21	IGS
.22	Internal communication, alarms except related to fire
.23	Life-saving appliances
.24	Lifting appliances
.25	Lubrication
.26	Manoeuvrability/DP system
.27	Shipborne Navigational equipment and systems (drop down list include: RADAR, ECDIS, Echo Sounders, GPS, Magnetic compass, Gyro compass, NAVTEX receiver, AIS)
.28	Pollution prevention
.29	Propulsion machinery
.30	Radio communication
.31	Sewage
.32	Ship structure
.33	Stability calculations/loading instrument
.34	Steam generation

.35	Stripping
.36	Ventilation
.37	Welding appliances
.38	Other
.39	Unknown
.40	CCTV

Table 25

Type of equipment failure

.1	Structure failure	Deformation (bulges, deflections, buckling)
.2		Fractured (breaks or incipient cracks)
.3		Penetrated, holed
.4	Containment failure	
.5	Physical binding or jamming	
.6	Vibration	
.7	Fails to remain (in position)	
.8	Fails to open	
.9	Fails to close	
.10	Fails open	
.11	Fails closed	
.12	Internal leakage	
.13	External leakage	
.14	Fails out of tolerance (high)	
.15	Fails out of tolerance (low)	
.16	Inadvertent operation	
.17	Intermittent operation	
.18	Erratic operation	
.19	Erroneous indication	
.20	Restricted flow	
.21	False actuation	
.22	Fails to stop	
.23	Fails to start	
.24	Fails to switch	
.25	Premature operation	
.26	Delayed operation	
.27	Erroneous input (increased)	
.28	Erroneous input (decreased)	
.29	Erroneous output (increased)	
.30	Erroneous output (decreased)	
.31	Loss of input	
.32	Loss of output	
.33	Shorted (electrical)	
.34	Open (electrical)	
.35	Leakage (electrical)	
.36	Other	
.37	Unknown	

Table 26

Hazardous material type

.1	Cargo	
.2	Deck stores	
.3	Engine stores	
.4	Fuel	
.5	Provisions	
.6	Residues/wastes	Oily waste
.7		NLS waste
.8		Garbage
.9		Sewage
.10		Ozone-depleting substances
.11		Exhaust gas-cleaning residues
.12	Other	
.13	Unknown	

Table 27

Type of hazardous material effect

.1	Cargo liquefaction	
.2	Cargo shifting	
.3	Chemical reaction	Corrosive effects
.4		Dust effects
.5		Explosive mixture
.6		Poisoning
.7		Flammable mixture
.8		Radiation
.9		Spontaneous combustion
.10		Toxic fumes or gas
.11	Insufficient stability	
.12	Overflow/leak/escape	
.13	Oxygenation	
.14	Structural damage	
.15	Other	
.16	Unknown	

Table 28

Environmental effect phenomenon

.1	Wind
.2	Wave
.3	Current
.4	Tide
.5	Shallow water
.6	Channel effect
.7	Hydrostatic head

.8	Light
.9	Whiteout
.10	Fog, haze, smoke
.11	Rain, snow, hail
.12	Ice
.13	Icing
.14	Debris
.15	Multi-phenomenon
.16	Other ship interference
.17	Uncharted underwater obstruction
.18	Rope/net (own ship's)
.19	Rope/net (other ship's or source unknown)
.20	Natural disaster/tsunami
.21	Other
.22	Unknown

Table 29

External agencies system

.1	Coastal VTS
.2	Navigation aids
.3	Navigation sign, buoy, etc.
.4	Pilot service
.5	Pollution response
.6	Port VTS
.7	SAR Centre
.8	SAR craft
.9	Towing service
.10	Other
.11	Unknown

Table 30

External agencies task affected

.1	Monitoring
.2	Coordination
.3	Communication
.4	Planning
.5	Operation
.6	Other
.7	Unknown