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**REPORT OF THE
INVESTIGATION INTO THE
SINKING OF THE IRISH FISHING
VESSEL "CHRIST MARIA" IN
GLANDORE HARBOUR, CO.
CORK ON 30 MARCH 2003.**

The Marine Casualty Investigation Board was established on the 23rd, May 2002 under The Merchant Shipping (Investigation of Marine Casualties) Act 2000

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SYNOPSIS

1. SYNOPSIS.

- 1.1 1.1 On March 26th 2003 at about 2330 hours, the "Christ Maria" a 17.04 metre wooden fishing vessel sailed from Union Hall, Co. Cork. The vessel proceeded to the fishing grounds around 50° 33'North 008°23'West and commenced fishing. There was a crew of three on board.
- 1.2 The vessel departed from the fishing grounds at 2015 hours GMT on Saturday 29th March 2003 and proceeded back to Union Hall. The sea state was slight with light winds and good visibility.
- 1.3 It was shortly after high water when the vessel went aground. A local fishing vessel attempted to tow the "Christ Maria" off without success. The three crewmembers went onto the other vessel. Shortly before low water the "Christ Maria" slipped sternwards and sank.
- 1.4 There were no injuries suffered to any of the crewmembers. In the subsequent weather conditions, the vessel was severely damaged on the seabed.

2. FACTUAL INFORMATION

2.1 Description of the "CHRIST MARIA".

2.1.1 Particulars of the vessel.

Built:	1969 in Douvanez, France.
Owner:	John Healy, Co. Cork.
Purchased:	February 2000.
Official Number:	402633
Registered Length:	17.04 metres.
Registered Breadth:	5.67 metres.
Registered Depth:	2.53 metres.
Gross Tonnage:	49.80 tons.
Net Tonnage:	33.86 tons
Port of Registry:	Dublin. {D 481}
Main Engine:	Baudouin 430 B.H.P. Vee Internal Combustion engine giving a speed of about 10 knots.

2.1.2 Description of Vessel.

Carvel built, wooden fishing vessel with a raked stem, transom stern and wheelhouse fitted aft. The vessel had three bulkheads fitted. The vessel, a twin rig stern trawler, was fishing for prawns, monk and other fish species off the south coast of Ireland. Photographs of the vessel are given in Appendix 8.1.

2.1.3 Lifesaving Appliances available on board.

Liferafts:	Two 6 man liferafts, which were last serviced in August 2002.
Lifejackets:	Six with whistles. Also three personal flotation devices
Lifebuoys:	Two - one with line and manoverboard light attached.
Pyrotechnics:	Twelve red star distress signals.
Line Throwing Apparatus:	One.
EPIRB:	One Kannad
SART:	One

Hydrostatic Release Units were fitted to both liferafts and the EPIRB.

2.1.4 Navigational aids provided on board.

- One Magnetic Compass.
- One Robertson AP 30 Auto pilot
- One Koden MD 3404 Radar.
- One JMC V105 Colour echo sounder.
- One Sodena digital chart plotter.
- One Decca CVP and two plotters.
- One Raytheon 298 GPS Navigator.
- One Valsat 2008 M2 GPS Navigator with differential.
- One ICOM M 59 VHF Radio.
- One Furuno A2 GMDSS radio station.

2.1.5 Crewing

The crew of the "Christ Maria" on 30th March 2003 consisted of the following persons.

Mr. John Healy, Co. Cork. He was the skipper and owner of the vessel. Mr. Healy is the holder of a Second Hand Limited Certificate of Competency, obtained in 2001. He had been engaged in fishing for about 19 years

Mr. Malachi Reed, Co. Cork. Mr. Reed does not hold any formal sea going qualifications. He had a total of about 33 months fishing service at the time of the incident and had been on the "Christ Maria" for about six months.

Mr. Michael Sievert, Co. Cork. Mr. Sievert had previously sailed as an able bodied seaman in the German Merchant Navy and has been employed on water related work all his life. He joined the vessel about two weeks prior to the incident.

3. EVENTS PRIOR TO THE INCIDENT

- 3.1 The vessel sailed from Union Hall, Co. Cork, where it was based, at about 2330 hours * on Wednesday 26th March 2003 for a position of 50°33'North 008°23' West. The vessel, a twin rig stern trawler, was to fish for prawns, monk and other fish species. The fishing area is given in the chart extract in Appendix 8.2.
- 3.2 After arriving in the fishing area the crew proceeded to shoot their fishing gear and they continued to haul and shoot the gear and sort the fish over the next couple of days.
- 3.3 The vessel departed from the fishing grounds at 2015 hours on Saturday 29th March 2003 and proceeded back to Union Hall. At this time the skipper recalls that they were 65 nautical miles from the harbour entrance.
- 3.4 The skipper remained on watch until the fish was stowed. He handed over the watch to Malachi Reed when the "Christ Maria" was 46 miles from the harbour entrance and proceeding at a speed of about 7.8 knots. The vessel was being steered by auto-pilot. The skipper recalls that there was a light north to north east wind with good visibility. The Met Eireann weather report is given in Appendix 8.3.
- 3.5 The skipper, John Healy, recalls that he gave two instructions to Malachi Reed when he handed over the watch to him. The first was to split the remaining watch between Malachi Reed and Michael Sievert and the second one was to call the skipper two miles from the harbour entrance. Malachi Reed acknowledges that he received these instructions from John Healy.
- 3.6 After this Mr. Healy recalls that he went to bed and slept in the bunk area in the after cabin. Michael Sievert went to his bunk at about 0030 or 0100 hours on Sunday 30th March 2003.

* All times in this report are GMT

THE INCIDENT

4. THE INCIDENT

- 4.1 Malachi Reed recalls that it was his intention to bring the vessel to a position of two miles from the harbour entrance and to then call the skipper. He remembers that everything was proceeding as normal. The last position that he remembers is being four miles off the harbour entrance.
- 4.2 Mr. Reed recalls that he was sitting in a chair and he dozed off. He does not know for how long he slept.
- 4.3 When Mr. Reed awoke, the radar was still on the six mile range and the Sodena plotter was also on a high range. He stated that he knew that the vessel was on the east side of the harbour. He slowed the vessel down to about 3 knots.
- 4.4 Malachi Reed then went below and called the skipper. He immediately returned to the wheelhouse and was closely followed by the skipper. As both men arrived in the wheelhouse the "Christ Maria" grounded. The skipper immediately took the engine out of gear.

5. EVENTS FOLLOWING INCIDENT

- 5.1 The skipper immediately ordered the crew to check all the areas on board the vessel for any water entering. No water was found to be entering the vessel.
- 5.2 After this, the skipper was able to establish, using the harbour lights, that the vessel was aground on the east side of the entrance to Glandore / Union Hall harbour. The skipper also recalls that the vessel was in manual steering although Malachi Reed does not remember changing over from auto-pilot to manual steering.
- 5.3 The skipper tried to re-float the vessel by going astern on the engine but to no avail. The skipper immediately called Valencia Radio on VHF Channel 16 with a Mayday message. The skipper informed the Irish Coast Guard of the vessel's position, that the crew was in no immediate danger and that the vessel was listed about 30 degrees to port. The time was now 0457 hours on Sunday 30th March and the vessel's position is shown in the Glandore Harbour chart extract given in Appendix 8.4.
- 5.4 It was shortly after high water when the vessel went aground. A local fishing vessel "Coral Strand", which was leaving the pier at Union Hall, came on the scene. The "Coral Strand" approached the "Christ Maria" from astern and a tow line was rigged between the two vessels. The "Coral Strand" attempted to tow the "Christ Maria" but without success. John Healy then decided to stop the tow attempt, as he feared that further damage might be caused to his vessel.
- 5.5 The other two crewmembers went across to the "Coral Strand" but the skipper stayed on the "Christ Maria" in order to further assess the situation. During this time, as the tide was dropping, so also was the stern of the "Christ Maria". On the advice of the skipper of the Coral Strand, John Healy left his vessel and went across to the "Coral Strand".
- 5.6 The Baltimore lifeboat arrived soon afterwards and passed a pump on board the "Coral Strand" as it might be of assistance later. It was recognised that there was nothing that could be done until the flood tide. However, the stern of the "Christ Maria" was dropping all the time as the tide was falling. The bow was now out of the water and the vessel was pivoted just forward of amidships.
- 5.7 Shortly before low water the skipper intended to re-board the "Christ Maria". As the "Coral Strand" was backing into position the "Christ Maria" started to slip sternwards and the "Coral Strand" had to go ahead fast to get clear of the mast of the "Christ Maria".
- 5.8 The "Christ Maria" kept going back and stern under and then she rolled right over to port. Her keel was visible for some time. She then sank stern first at about 0938 hours.

EVENTS FOLLOWING

- 5.9 The EPIRB appeared and was recovered by the Baltimore lifeboat. Neither of the two six man liferafts came to the surface. Both liferafts and the EPIRB were stowed on top of the wheelhouse and all were fitted with hydrostatic release units.
- 5.10 There was a diesel oil slick observed in the water shortly after the sinking. It was also observed that the oil was evaporating quickly. At the time of the sinking there was about 8,000 or 9,000 litres of diesel oil, 100 litres of engine oil and 60 litres of hydraulic oil on board the "Christ Maria".
- 5.11 In the subsequent weather conditions, the vessel was severely damaged on the seabed.
- 5.12 The wreck of the vessel was subsequently removed from the seabed with no pollution occurring.

6. CONCLUSIONS AND FINDINGS

- 6.1 The vessel grounded because a safe navigational watch was not being maintained on board. The crewmember on watch admitted to falling asleep while on duty.
- 6.2 The crewmember on watch did not adhere to the instructions of the skipper with regard to splitting the watch. He remained on watch even though he had been working since 1000 hours the previous day and had about three hours sleep when last off duty.
- 6.3 The hydrostatic release units on the liferafts did not function even though they were at a minimum depth of 12 metres. Divers recovered these units together with the liferafts and it was found that they had an expiry date of 04 /2002. However, these units were sent for analysis to the manufacturers Pains Wessex and their report is attached at Appendix 8.5.
- 6.4 The Failure Summary section of the Pains Wessex report concludes, "The evidence presented by the returned units would indicate that the primary cause of failure occurred due to the inverted orientation of the mounting. This allowed water to enter the unit in sufficient quantity to enable a galvanic action to take place, which resulted in the positive wire from the circuit board being dissolved. In addition to this, Pains Wessex has examined a number of hydrostatic release units after their service life had expired and has never seen units in such poor condition. Therefore it is also suspected that the paint and diesel contamination could have been a contributing factor in the failures which has severely compromised the performance of the gas plug, not least by the erosion of the silicon from the related chemicals and thereby allowing entry of water to the unit."
- 6.5 Video evidence taken after the sinking did show that the hydrostatic release units on the liferafts were fitted correctly at the time of the grounding. When these units were recovered there was evidence of different colour paints on them. The manufacturers advice is to avoid paint getting on such units.
- 6.6 The "Christ Maria", due to her length, when operating in the Limited Fishing Area, is required to be manned with a minimum of a Second Hand Special Certificate. As stated previously, the skipper of the vessel was the holder of a Deck Officer Second Hand Limited Certificate of Competency. If applied for, it would appear that he would have qualified for the issue of a Second Hand Special Certificate of Competency.
- 6.7 Mr. Malachi Reed did not have basic safety training completed as required by S.I. No. 587 of 2001, Fishing Vessel (Basic Safety Training) Regulations, 2001. A copy of S.I. No. 587 of 2001 is given in Appendix 8.6.
- 6.8 There were no known problems with the rudder, steering or engines on the "Christ Maria". A watch alarm was not fitted on the bridge of the "Christ Maria". All aids to navigation in the vicinity were functioning correctly at the time of the incident.

7. RECOMMENDATIONS

- 7.1 All fishing vessels should at all times keep a safe navigational watch on board. The International Maritime Organisation (IMO) has adopted Resolution A.484 (XII) "Basic Principles to be observed in keeping a Navigational Watch on board Fishing Vessels" relating to the principles to be observed in order to ensure that a safe navigational watch is maintained. The basic principles have been reproduced in the Annex to Marine Notice No. 9 of 2002 and should be observed by all concerned. (See Appendix 8.7).
- 7.2 The hydrostatic release unit manufacturers instructions should be strictly adhered to, with regard to the expiry date, not painting and using the correct fitting instructions. Marine Notice No. 6 of 2000 deals with the Stowage and Float Free arrangements for Inflatable Liferafts and is reproduced in Appendix 8.8.
- 7.3 There are at present no regulated hours of work for fishermen. Consideration should be given to regulating this area of operation. The International Labour Organisation (ILO) has issued Hours of Work (Fishing) Recommendation, 1920 and further studies in this area is planned by the ILO during 2004.

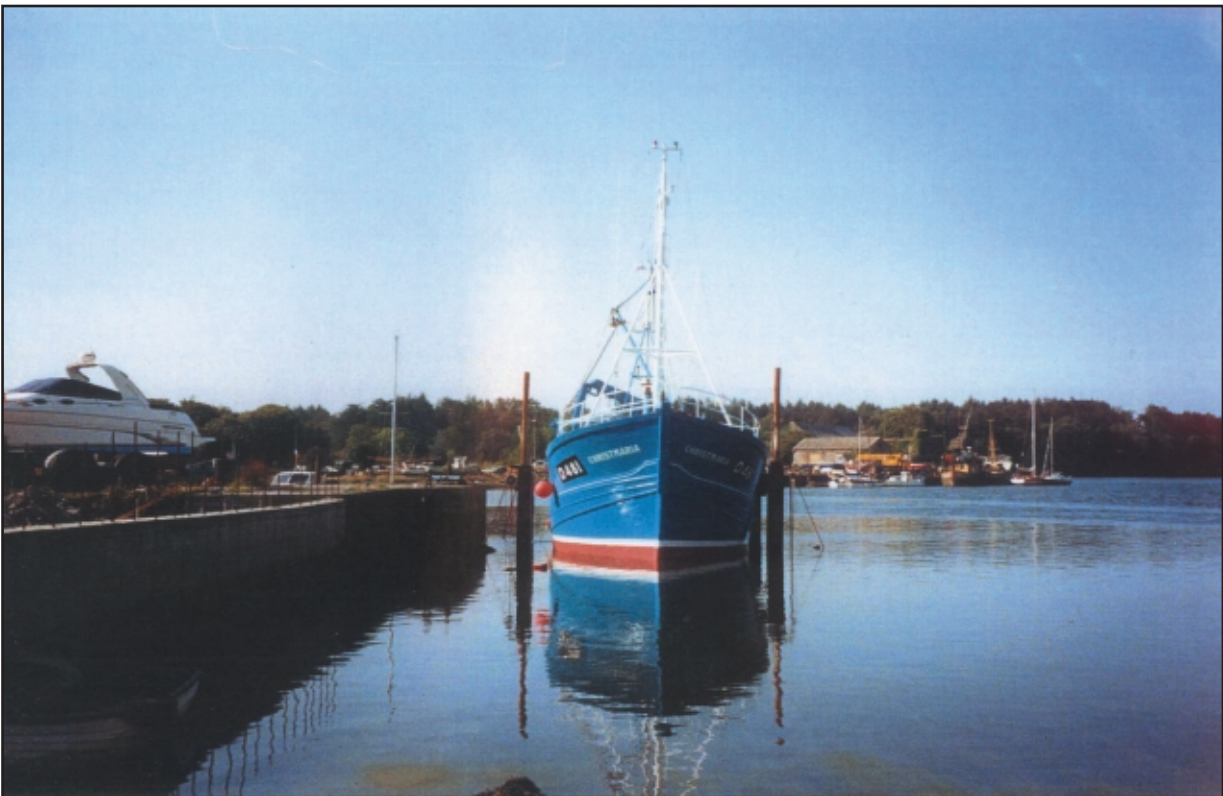
8. APPENDICES

- 8.1 Photographs of the Irish fishing vessel "Christ Maria".
- 8.2 Chart extract showing the fishing area around 50°33'North 008°23'West.
- 8.3 Met Eireann weather report.
- 8.4 Chart extract of Glandore Harbour.
- 8.5 Manufacturers report on Hydrostatic Release Units.
- 8.6 S.I. No. 587 of 2001, Fishing Vessel (Basic Safety Training) Regulations, 2001.
- 8.7 Marine Notice No. 9 of 2002.
- 8.8 Marine Notice No. 6 of 2000.

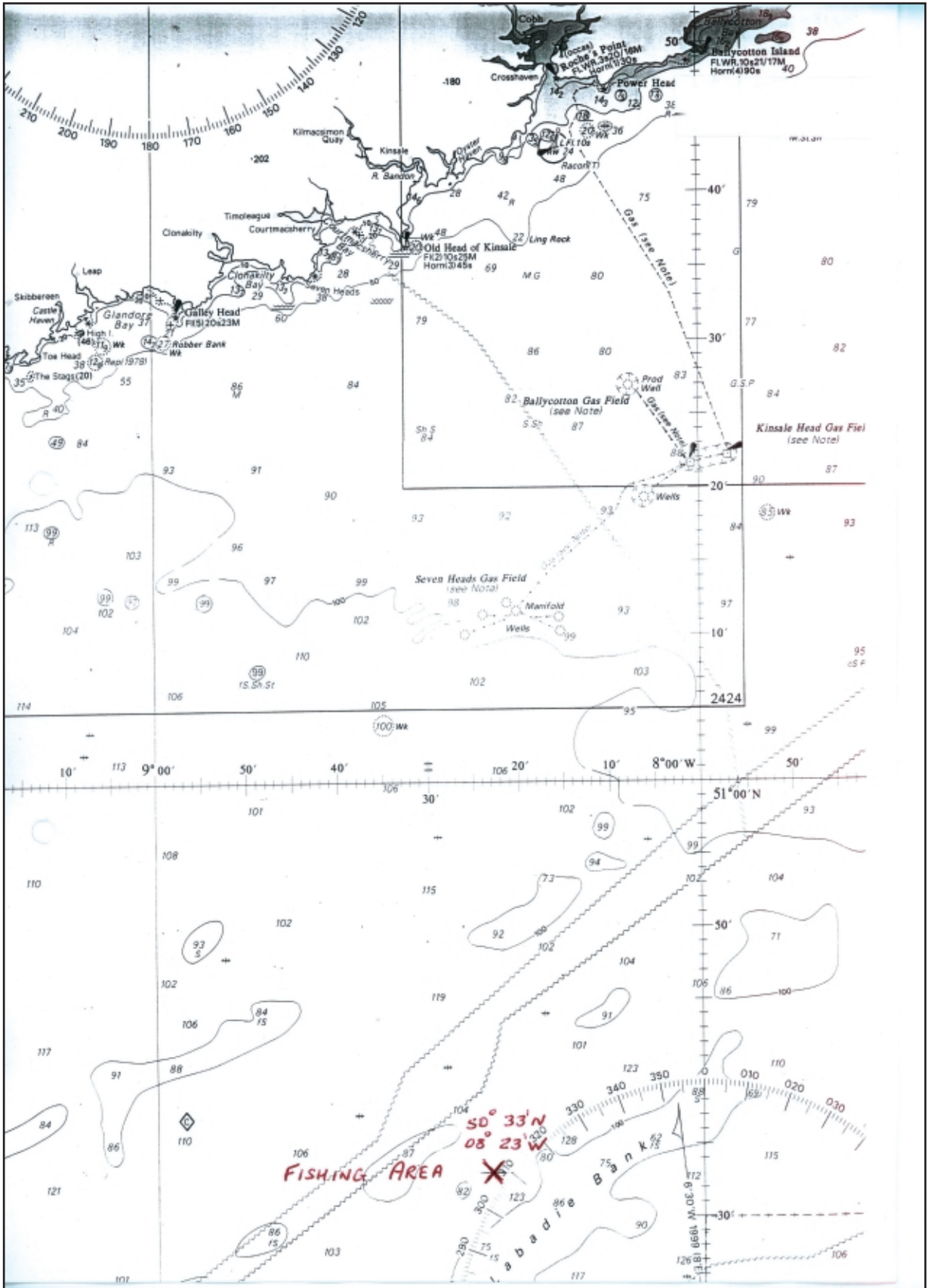
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APPENDIX 8.1

8.1 Photographs of the Irish fishing vessel "Christ Maria".




8.2 Chart extract showing the fishing area around 50°33'North 008°23'West.



NOT TO USE FOR NAVIGATION

8.3 Met Éireann weather report.



MET ÉIREANN
The Irish Meteorological Service

Glasnevin Hill, Cnoc Ghlas Naíon Tel: +353-1-806 4200
Dublin 9, Ireland. Baile Átha Cliath 9, Éire. Fax: +353-1-806 4247
www.met.ie E-mail: met.eireann@met.ie

**Weather Report for the sea area of Glandore Harbour, Co Cork
on the 30th March 2003 between 1 and 11 hours**

General Situation
A large Anticyclone over and to the west of Ireland gave a slack airflow over Ireland


Details for the Glandore Harbour area

Winds: variable Force 1 to 2 in the inner Harbour and east-north-east Force 2 to 4 in the outer Harbour (strongest in the late morning).

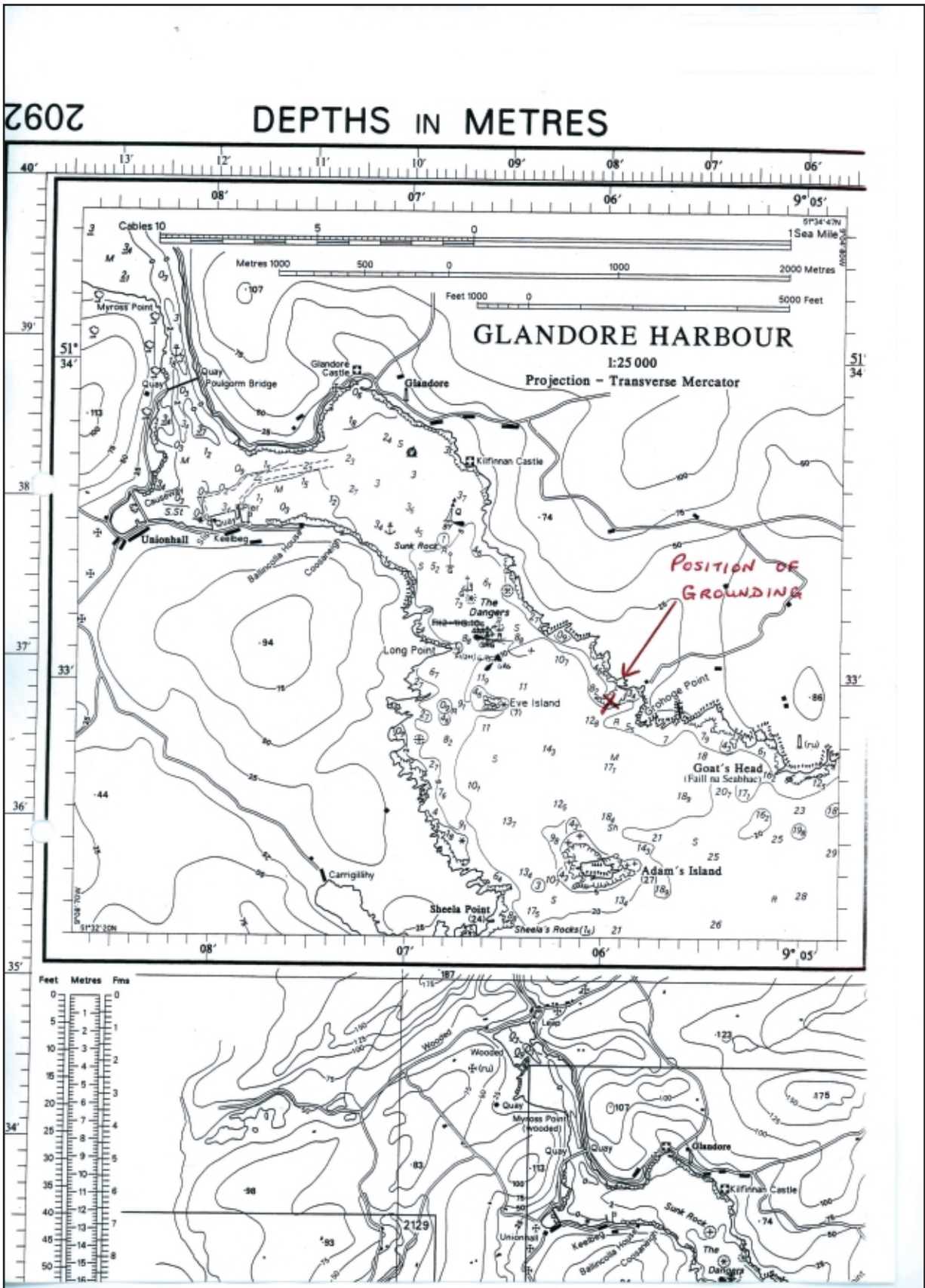
Weather: Dry, clear spells overnight and sunny spells in the morning.

Visibility: good

Waves were **Slight** off the south coast would lead to an estimation of calm or rippled in the Harbour itself.



8.4 Chart extract of Glandore Harbour.



NOT TO USE FOR NAVIGATION

8.5 Manufacturers report on Hydrostatic Release Units.

APPENDIX 8.5

McMurdo Ltd
Silver Point
Airport Service Road
Portsmouth
Hampshire
PO3 5PB

**Technical Investigation Into HRU failure
Reference Customer Complaint CC003789**

Report No. 013-03

Document Change History

Issue No.	Date	Details
1	18/07/03	First Issue

Introduction

Pains Wessex has produced approximately 70,000 Hydrostatic Release Units (HRU's) for both liferaft release and EPIRB applications. Since the product was launched in 1999, there have been a very small number of complaints, all of which relate to liferaft release applications. No non-activation's have been reported in either application. Therefore as a result of the incident reported by yourselves an investigation was carried out to establish the cause of failure.

The two returned units were examined and photographed prior to dismantling, neither had any serious cracks or scratches; after careful examination of the worn labels they were found to be serial no 07577 and serial no 0757? (? Is substituted for the last digit due to illegibility through wear)

Both were manufactured in batch number 000052 which was completed on 10 September 1999, therefore both unit's service life expired in April 2002; as the incident occurred on the 30 March 2003 the units were in service for almost one year beyond their expiry date

Both units had evidence of having been contaminated with four different colours of paint. White and blue in fine speckles suggesting that they had been applied as a spray, also yellow and orange paint, which had been applied by brush. The brush applied paint was not of sufficient quantity or in a position that would interfere with the operation of the HRU. However there were some specks of the blue spray paint on the gas plugs of both units and this may have had some detrimental effect on the performance of the gas plug. The position and pattern of this paint contamination suggest that both units have been mounted upside down, that is with the label underneath and the gas plug uppermost. The label on the product clearly states "DO NOT PAINT" in the interests of preserving the effectiveness of the breathable gas plug. In addition both units had been contaminated by diesel fuel as was evident by smell.

Operational Test

The units were placed in a water filled tray and subjected to an air pressure of 0.5 bar this being equivalent to the unit being submerged to a depth of 5 metres. This pressure was applied for 10 minutes at the end of which the units had not fired. This test confirmed that the units would not fire either within or beyond the normal specification.

Disassembly of HRU's

The units were then disassembled and photographed. There was evidence of water in the chamber under the diaphragm. This chamber contains the circuit board on which the switch is mounted that is activated by the diaphragm. The water had caused a galvanic action to be set between the wire leading from the circuit board to the pyrotechnic fuze and from there to the positive terminal of the battery, and the other side of the switch board which is connected to the negative terminal of the battery. This had resulted in the exposed portion of the wire being dissolved and the circuit broken. Both units were found to have suffered from the same fault.

Once water had got into the diaphragm chamber it passed through the core of the multi-stranded wire which connects the battery to the circuit board. Water was then present in the battery compartment where a second galvanic action was set up between the ends of the battery. This resulted in damage to the steel tag that is welded to the positive terminal of the battery, and again causing an open circuit.

The battery tag of 07577 had very severe corrosion, the steel tag was completely rusted away and there was also corrosion on the terminal of the battery.

The battery tag of 0757? had less damage, corrosion had formed in the spot welding which connected the tag to the positive battery terminal and the rust had broken the spot weld again causing an open circuit.

In order for this level of galvanic action to take place the wire and circuit board must have been submerged in electrolyte (salt water). This could only happen if the HRU was mounted up side down.

In addition for water to enter the battery compartment it would have had to travel by capillary action through the multi-stranded wire this would require the end of the wire in the diaphragm chamber to be under water, again this could only happen if the HRU was mounted up side down

Battery Test

The batteries from both the units were then used to initiate a pyrotechnic fuzehead, in both batteries there was sufficient energy to initiate the fuzehead and activate the HRU's. The switch and circuit board of both units were tested and were found to be operating correctly. All the other components were examined and tested, no fault was found.

This confirms that the open circuit was the only fault present in the units.

Gas plug Test

The gas plug, which is fitted into the chamber under the diaphragm, allows air to pass through it but not water. This will equalise the pressure under the diaphragm to prevent HRU being activated by changes in air pressure, but will allow it to be activated by a change in water pressure.

The gas plug is treated with silicon to prevent water ingress into the plug, however a test conducted on the returned units showed that there appeared to be no silicon present on the outer surface of the gas plugs, which in point of fact could have been due to contamination by chemicals related to paint or diesel. The same test showed that silicon treatment was still present on the inside surface.

Failure Summary

The evidence presented by the returned units would indicate that the primary cause of failure occurred due to the inverted orientation of the mounting. This allowed water to enter the unit in sufficient quantity to enable a galvanic action to take place, which resulted in the positive wire from the circuit board being dissolved.

In addition to this, Pains Wessex has examined a number of HRU's after their service life had expired and has never seen units in such poor condition. Therefore it is also suspected that the paint and diesel contamination could have been a contributing factor in the failures which has severely compromised the performance of the gas plug, not least by the erosion of the silicon from the related chemicals and thereby allowing entry of water to the unit.

This report and the testing regime carried out has been passed to you with 100% confidence that the BreakthRU is suitable for applications of this type; when installed and used in conjunction with instructions.

- END -



McMurdo Ltd
 Silver Point
 Airport Service Road
 Portsmouth
 Hampshire
 PO3 5PB

**Technical Investigation - HRU failure
 Reference Customer Complaint CC003789**

Report No. 013-03 (Annex 1)

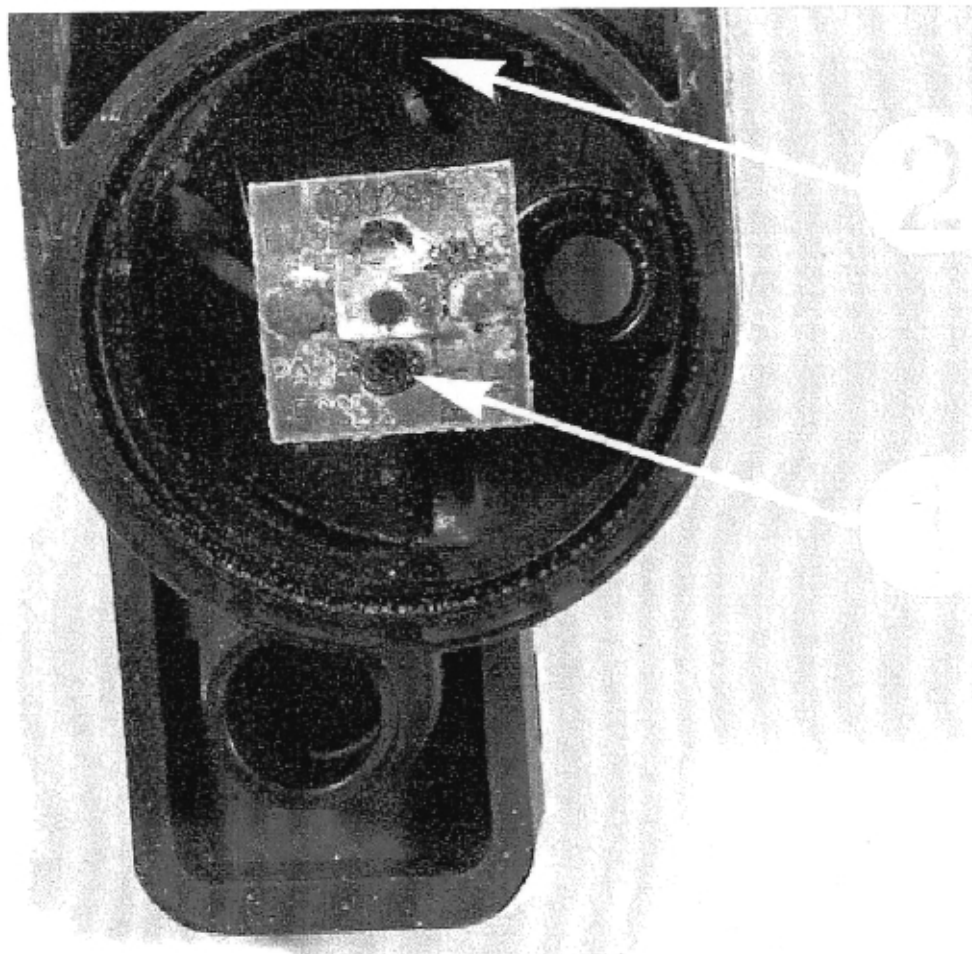
Document Change History

Issue No.	Date	Details
1a	21/09/03	Annex 1 to original report

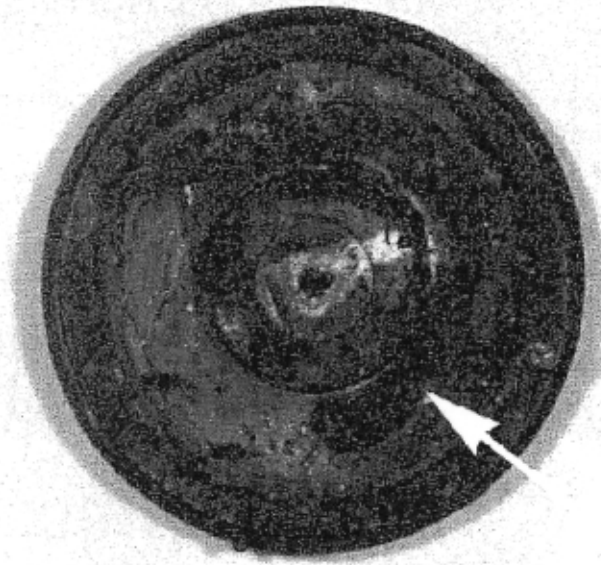
As discussed the picture below shows the internal chamber, which contains the circuit board on which the switch is mounted that is, activated by the diaphragm.

1. Illustrates the corrosion of the board,
2. Shows that the salt water was confined to the top of the unit due to the cle of the base of the unit.

In order for this level of galvanic action to take place the circuit board must be submerged in electrolyte (salt water). This could only happen if the HRU was mounted up side down.



4. The view below is the internal surface of the diaphragm, which is mounted on top of the circuit board. This shows the build up of residue from the salt water, again verifying that there was evidence of water in the chamber under the diaphragm



Paint runs on underside of unit.



8.6 S.I. No. 587 of 2001, Fishing Vessel (Basic Safety Training) Regulations, 2001.

S.I. No. 587 of 2001

Fishing Vessel (Basic Safety Training) Regulations, 2001

I, FRANK FAHEY, Minister for the Marine and Natural Resources, in exercise of the powers conferred on me by section 19 of the Merchant Shipping Act, 1992, as amended by section 44 of the Merchant Shipping (Investigation of Marine Casualties) Act, and the Marine (Alteration of Name of Department and Name of Minister) Order 1997 (S.I. No. 301 of 1997), hereby make the following Regulations:

Citation and commencement

1. (1) These Regulations may be cited as the Fishing Vessel (Basic Safety Training) Regulations, 2001.
- (2) These Regulations come into operation on 1 March 2002.

Interpretation

2. (1) In these Regulations, unless the context otherwise requires:

“basic safety training” shall be construed in accordance with Regulation 4;

“BIM” means Bord Iascaigh Mhara;

“BIM Commercial Fishing Training Record Book” means a book, as approved by the Minister and issued by BIM, containing a record of all fisheries-related certificates and qualifications awarded;

“crew member” means the skipper or any other person gainfully employed or engaged by the owner or skipper in any capacity on board a fishing vessel;

“fishing vessel” means any vessel designed, equipped or used commercially for catching or taking fish or other living resources of the sea (including the sea bed) but does not include a vessel that is registered under the law of any State, other than the State;

“new entrant” means a person who is for the first time gainfully employed or engaged as a crew member;

“serving crew member” means a crew member who is not a new entrant.
- (2) In these Regulations, unless otherwise indicated-
 - (a) a reference to a Regulation is a reference to a Regulation of these Regulations;

- (b) a reference to a paragraph is to a paragraph of the Regulation in which the reference occurs.

Application

3. (1) Subject to paragraph (2), these Regulations apply to all crew members of fishing vessels.
- (2) These Regulations do not apply to a crew member who can provide evidence of having completed approved training in Personal Survival Techniques, First Aid and Fire Fighting required for fishing vessel officer certificates of competency issued under the Fishing Vessels (Certification of Deck Officers and Engineer Officers) Regulations, 1988 (S.I. No. 289 of 1988).
- (3) Crew members complying with (2) of this Regulation are eligible for the issuance of a BIM Commercial Fishing Training Record Book on completion of an application form signed by the applicant, the details of which are verified by an authorised BIM official.

Basic Safety Training

4. (1) Every crew member of a fishing vessel shall undertake basic safety training as set out in this Regulation.
- (2) Basic safety training shall consist of the following 3 training units-
- (a) personal survival techniques, including man overboard techniques,
- (b) elementary first aid, and
- (c) fire prevention, health and safety training,
- and shall be held in such establishments, to such standards, under such conditions and for such duration as BIM may approve and determine.
- (3) The dates by which basic safety training must have been completed by each crew member are specified in the Table to this Regulation.
- (4) A crew member who has not successfully completed basic safety training by the date specified in the Table shall not work on board a fishing vessel.

TABLE

Category of crew members	Date by which the safety training must be completed
New entrants	Before going to sea
Serving crew members born on or after 1 March 1982	Before 1 March 2003
Serving crew members born between 1 March 1976 and 28 February 1982 inclusive	Before 1 March 2004
Serving crew members born between 1 March 1971 and 29 February 1976 inclusive	Before 1 March 2005
Serving crew members born between 1 March 1966 and 28 February 1971 inclusive	Before 1 March 2006
Serving crew members born between 1 March 1961 and 28 February 1966 inclusive	Before 1 March 2007
Serving crew members born before 1 March 1961	Before 1 March 2008

BIM Commercial Fishing Training Record Book

5. (1) On successful completion of the basic safety training defined in paragraph 4(2), a Commercial Fishing Training Record Book shall be issued to each participant by BIM on completion of an application form signed by the applicant, the details of which are verified by an authorised BIM official.
- (2) All fisheries-related certificates and qualifications issued by the appropriate authorities shall be verified and recorded in the BIM Commercial Fishing Training Record Book by an authorised BIM official.



GIVEN under my Official Seal
this 14th day of December 2001

Frank Fahey

Minister for the Marine and Natural Resources

Pn No. 10942
Price £0.60
€0.76

EXPLANATORY NOTE

(THIS NOTE IS NOT PART OF THE INSTRUMENT AND DOES NOT PURPORT
TO BE A LEGAL INTERPRETATION)

These Regulations require all crew members of a fishing vessel to undertake basic safety training before going to sea for the first time and also require all serving crew members to undertake basic safety training on a phased basis between 2003 and 2008

8.7 Marine Notice No. 9 of 2002.

APPENDIX 8.7



Department of the Marine
and Natural Resources

Roinn na Mara agus Acmhainní Náidúrtha

MARINE NOTICE No. 9 Of 2002

**NOTICE TO ALL OWNERS, OPERATORS, SKIPPERS, SECOND HANDS
AND CREWS OF FISHING VESSELS, AND TO NAUTICAL SCHOOLS**

Keeping A Safe Navigational Watch On Board Fishing Vessels

The International Maritime Organisation (IMO) has adopted Resolution A.484 (XII) "Basic Principles to be Observed in Keeping a Navigational Watch on board Fishing Vessels" relating to the principles to be observed in order to ensure that a safe navigational watch is maintained.

These principles were in effect reviewed and updated by the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel 1995.

The basic principles are reproduced in the Annex to this Notice and should be observed by all concerned.

Candidates for all fishing certificates of competency will be expected to have a thorough knowledge of the content and application of the basic principles.

Marine Notice 39 of 1999 is hereby withdrawn as this Notice supersedes it.

Secretary-General
Department of the Marine and
Natural Resources
Dublin 2

12th May 2002

Any enquiries concerning Marine Notices should be addressed to:
Maritime Safety Division
Tel: 01-6199358 Fax: 01-6620774 email: marine.notices@marine.gov.ie

BASIC PRINCIPLES TO BE OBSERVED IN KEEPING A NAVIGATIONAL WATCH ON BOARD FISHING VESSELS

- 1 These basic principles are to be observed by skippers and watchkeeping personnel to ensure that a safe navigational watch is maintained at all times.
- 2 The skipper of every fishing vessel is bound to ensure that watchkeeping arrangements are adequate for maintaining a safe navigational watch. Under the skipper's general direction, the officers of the watch are responsible for navigating the vessel safely during their periods of duty when they will be particularly concerned with avoiding collision and stranding.
- 3 The basic principles, including but not limited to the following, should be taken into account on all fishing vessels. However, very small fishing vessels may be excluded from fully observing the basic principles. References to the wheelhouse should, in such vessels, be construed as meaning the position from which the navigation of the ship is controlled.
- 4 En route to or from fishing grounds

4.1 Arrangements of the navigational watch

4.1.1 The composition of the watch should at all times be adequate and appropriate to the prevailing circumstances and conditions and should take into account the need for maintaining a proper look-out.

4.1.2 When deciding the composition of the watch the following factors, inter alia, should be taken into account:

- (i) at no time should the wheelhouse be left unattended;
- (ii) weather conditions, visibility and whether there is daylight or darkness;
- (iii) proximity of navigational hazards which may make it necessary for the officer in charge of the watch to carry out additional navigational duties;
- (iv) use and operational condition of navigational aids such as radar or electronic position-indicating devices and any other equipment affecting the safe navigation of the vessel;
- (v) whether the vessel is fitted with automatic steering;
- (vi) any unusual demands on the navigational watch that may arise as a result of special operational circumstances.

4.2 Fitness for duty

4.2.1 The watch system should be such that the efficiency of watchkeeping personnel is not impaired by fatigue. Duties should be so organised that the first watch at the commencement of a voyage and the subsequent relieving watches are sufficiently rested and otherwise fit for duty.

4.3 Navigation

4.3.1 The intended voyage should, as far as practicable, be planned in advance taking into consideration all pertinent information and any course laid down should be checked before the voyage commences.

4.3.2 During the watch the course steered, position and speed should be checked at sufficiently frequent intervals, using any available navigational aids necessary, to ensure that the vessel follows the planned course.

4.3.3 The officer in charge of the watch should have full knowledge of the location and operation of all safety and navigational equipment on board the vessel and should be aware and take account of the operating limitations of such equipment.

4.3.4 The officer in charge of a navigational watch should not be assigned or undertake any duties which would interfere with the safe navigation of the vessel.

4.4 Navigational equipment

4.4.1 The officer in charge of the watch should make the most effective use of all navigational equipment at his disposal.

4.4.2 When using radar the officer in charge of the watch should bear in mind the necessity to comply at all times with the provisions on the use of radar contained in the applicable regulations for preventing collisions at sea.

4.4.3 In cases of need the officer of the watch should not hesitate to use the helm, engines and sound signalling apparatus.

4.5 Navigational duties and responsibilities

4.5.1 The officer in charge of the watch should:

- (i) keep his watch in the wheelhouse;
- (ii) which he should in no circumstances leave until properly

relieved;

- (iii) continue to be responsible for the safe navigation of the vessel
- (iv) despite the presence of the skipper in the wheelhouse until the skipper informs him specifically that he has assumed that responsibility and this is mutually understood;
- (iv) notify the skipper when in any doubt as to what action to take in the interest of safety;
- (v) not hand over the watch to a relieving officer if he has reason to believe that the latter is obviously not capable of carrying out his duties effectively, in which case he should notify the skipper accordingly.

4.5.2 On taking over the watch the relieving officer should satisfy himself as to the vessel's estimated or true position and confirm its intended track, course and speed and should note any dangers to navigation expected to be encountered during his watch.

4.5.3 Whenever practicable a proper record should be kept of the movements and activities during the watch relating to the navigation of the vessel.

4.6 Look-out

4.6.1 A proper look-out shall be maintained in compliance with Rule 5 of the International Regulations for Preventing Collisions at Sea, 1972. It shall serve the purpose of:

- (i) maintaining a continuous state of vigilance by sight and hearing as well as by all other available means, with regard to any significant changes in the operating environment;
- (ii) fully appraising the situation and the risk of collision, stranding and other dangers to navigation, and;
- (iii) detecting ships or aircraft in distress, shipwrecked persons, wrecks and debris;

The look-out must be able to give full attention to the keeping of a proper look-out and no other duties shall be undertaken or assigned which could interfere with that task.

4.6.2 In determining that the composition of the navigational watch is adequate to ensure that a proper look-out can continuously be maintained, the skipper shall take into account all relevant factors, including those described under paragraph 4.1, as well as the following factors:

- (i) visibility, state of weather and sea;
- (ii) traffic density and other activities occurring in the area in which the vessel is operating;
- (iii) the attention necessary when navigating in or near traffic separation schemes and other routing measures;
- (iv) the additional workload caused by the nature of the vessel's functions, immediate operating requirements and anticipated manoeuvres;
- (v) rudder and propeller control and vessel manoeuvring characteristics;
- (vi) the fitness for duty of any crewmembers on call who may be assigned as members of the watch;
- (vii) knowledge of and confidence in the professional competence of the vessel's officers and crew;
- (viii) the experience of the officer of the navigational watch and the familiarity of that officer with the vessel's equipment, procedures and manoeuvring capability;
- (ix) activities taking place on board the vessel at any particular time and the availability of assistance to be summoned immediately to the wheelhouse when necessary;
- (x) the operational status of instrumentation in the wheelhouse and controls, including alarm systems;
- (xi) the size of the vessel and the field of vision available from the conning position;
- (xii) the configuration of the wheelhouse, to the extent such configuration might inhibit a member of the watch from detecting by sight or hearing any external developments.

4.7 Protection of the marine environment

4.7.1 The skipper and the officer in charge of the watch should be aware of the serious effects of operational or accidental pollution of the marine environment and should take all possible precautions to prevent such pollution particularly within the framework of relevant international and port regulations.

4.8 Weather conditions

4.8.1 The officer in charge of the watch should take relevant measures and notify the skipper when adverse changes in weather could affect the

4.8.2 Safety of the vessel, including conditions leading to ice accretion.

5.1 Navigation with pilot embarked

5.1.1 The presence of a Pilot on board does not relieve the skipper or officer in charge of the watch from their duties and obligations for the safety of the vessel. The skipper and the pilot should exchange information regarding navigation procedures, local conditions and the vessel's characteristics. The skipper and the officer of the watch should co-operate closely with the pilot and maintain an accurate check of the vessel's position and movement.

6.1 Vessels engaged in fishing or searching for fish

6.1.1 In addition to the principles enumerated in paragraph 4, the following factors should be considered and properly acted upon by the officer in charge of the watch:

- (i) other vessels engaged in fishing and their gear, own vessel's manoeuvring characteristics, particularly in stopping distance and the diameter of turning circle at sailing speed and with the fishing gear overboard;
- (ii) safety of the crew on deck;
- (iii) adverse effects on the safety of the vessel and its crew through reduction of stability and freeboard caused by exceptional forces resulting from fishing operations, catch handling and stowage, and unusual sea and weather conditions;
- (iv) the proximity of offshore structures, with special regard to the safety zones; and
- (v) wrecks and other underwater obstacles which could be hazardous for fishing gear.

6.2 When stowing the catch, attention should be given to the essential requirements for adequate freeboard and adequate stability and watertight integrity at all times during the voyage to the landing port taking into consideration consumption of fuel and stores, risk of adverse weather conditions and, especially in winter, risk of ice accretion on or above exposed decks in areas where ice accretion is likely to occur.


7.1 Anchor watch

7.1.1 The skipper should ensure, with a view to the safety of the vessel and crew, that a proper watch is maintained at all times from the wheelhouse or deck on fishing vessels at anchor.

8.1 Radio watchkeeping

8.1.1 The skipper should ensure that an adequate radio watch is maintained while the vessel is at sea, on appropriate frequencies, taking into account the requirements of the Radio Regulations.

8.8 Marine Notice No. 6 of 2000.



**Department of the Marine
and Natural Resources**

Roinn na Mara agus Acmhainní Nádurtha

Marine Notice

No. 6 of 2000

**NOTICE TO ALL OWNERS, MASTERS, SKIPPERS AND CREWS OF
MERCHANT SHIPS AND FISHING VESSELS**

**STOWAGE AND FLOAT FREE ARRANGEMENTS FOR
INFLATABLE LIFERAFTS**

The Purpose of this Notice is to provide general advice and guidance on the securing, stowage and launching of liferafts, and the fitting of Hydrostatic Release Units (HRU's).

**STATISTICS SHOW THAT UP TO 1 IN EVERY 5
MERCHANT SHIPS AND FISHING VESSELS HAS
AN INCORRECTLY SECURED LIFERAFT
WHICH MAY NOT WORK IN AN EMERGENCY**

Part One

A liferaft is required to do two things:

1. **Float free and automatically inflate if the ship sinks**
 - .1 This is achieved by fitting a Hydrostatic Release Unit (HRU) which automatically releases when the liferaft is submerged.
 - .2 The liferaft then starts to float to the surface because of its internal buoyancy, pulling out the painter which is now only connected by the weak link at the end of the painter to the vessel.
 - .3 When the painter is pulled all the way to the end, the gas cylinder is activated, and the raft inflates.
 - .4 At this point the buoyancy force of the inflated liferaft is sufficient to break the weak link, and the liferaft will float to the surface, fully inflated and ready for boarding.

2. Be manually released and thrown overboard

- .1 In a more controlled abandonment, the liferaft retaining strap is released at the senhouse slip and the raft is physically thrown over the side. The painter is then pulled to inflate the liferaft.
 - .2 This system relies critically on the painter being made fast to a strong point. If it is rigged correctly the HRU is a good strong point.
 - .3 If the raft is only secured to the ship by the weak link, and is thrown over the side, the dynamic shock of being thrown over may break the weak link, instead of pulling out the painter, and therefore the whole liferaft and painter may be lost.
3. For these reasons the liferaft and HRU must be fitted correctly, otherwise one or both of the above functions may not work.
 4. Please note the diagrams of the most common types of HRU in the Appendix to this Notice.

Part Two

Key points on the stowage of liferafts and HRU's

Liferafts Must

- Float free.
- Automatically inflate.
- Have launching instructions displayed.
- Be lit by emergency lighting at the stowage position.
- Clear projections and belting.
- Have approved HRU's.
- Be drop tested and approved for the stowage height.
- Have adequate length painters for the drop height.

Do

- Consult manufacturers instructions for HRU fitting instructions.
- Stow clear of propellers and thrusters.
- Stow container with drain holes at the bottom.
- Stow longitudinally in a horizontally fixed cradle.
- Stow to give protection from weather, smoke, soot, oil, heat, flooding.
- Distribute evenly Port and Starboard, and separate longitudinally, to provide redundancy in event of collision, fire etc.
- Carefully identify and remove any transport lashings.
- Inspect frequently for damage to the container. If it is damaged it needs to be checked by an approved service station.

Don't

- Lash in cradles.
- Stow under overhanging decks or awnings.
- Allow contact with materials containing copper or copper compounds.
- Hose down.
- Use bottle screws instead of slips.
- Concentrate all Life-Saving Appliances in one place.

Consider

- Will it float free?
- The risk of damage from cargo or fishing operations.
- Interference with other rafts or lifeboats.
- Effects of icing.
- Effects on ship's compass.
- Ability to manually transfer liferaft to either side.
- Height above waterline – should be as near to waterline as safe and practicable.

Davit Launched Liferafts (DLR's)

- Must be at least 9m forward of propeller.
- Must be not less than 2m above waterline at embarkation position, in fully loaded condition, unfavourable trim and 20 degree list.
- 2 crew can prepare for embarkation and launching in less than 5 minutes per raft.

Forward Liferaft on ships greater than 100m

- HRU not required.
- Must have manual release.
- Must have means of embarkation (a securely fastened knotted lifeline is sufficient).

Fishing Vessels less than 12m in length

There is no mandatory requirement to fit a liferaft to these smaller fishing vessels, however it is strongly recommended that they are provided and fitted with an HRU.

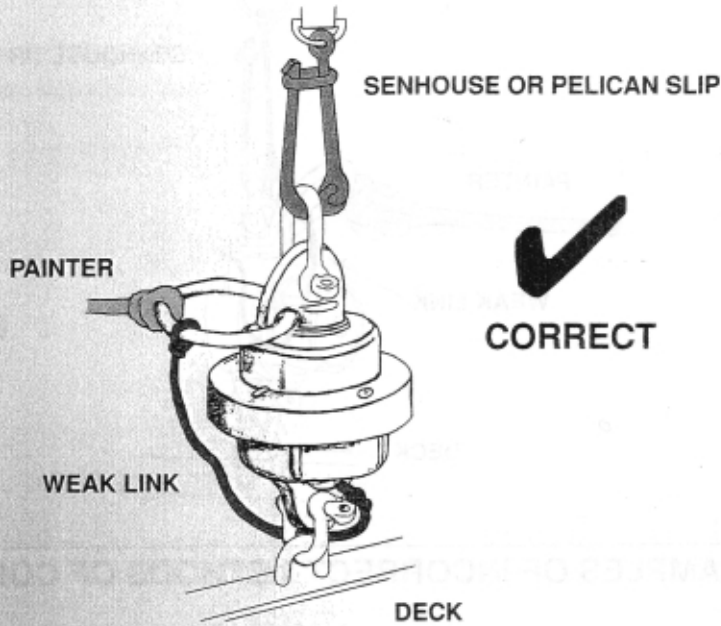
Marine Notice No. 24 of 1999

The Department wishes to again draw attention to Marine Notice No. 24 of 1999 on the Launching of Liferafts Stowed on the Wheelhouse and Galley Top of Fishing Vessels.

All enquiries concerning Marine Notices should be addressed to Maritime Safety Division - Tel: 01-6199359; Fax: 01-6620774.

Secretary-General
Department of the Marine and
Natural Resources
Dublin 2.
2 March, 2000.

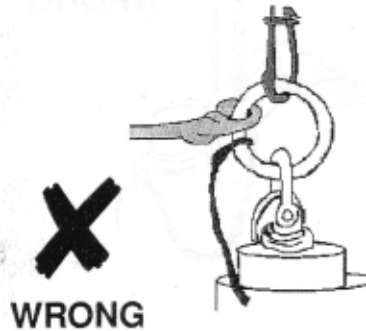
Appendix - Diagrams of commonly fitted HRU's
BERWYN MK 9 TYPE HRU



EXAMPLES OF INCORRECT METHODS OF CONNECTION

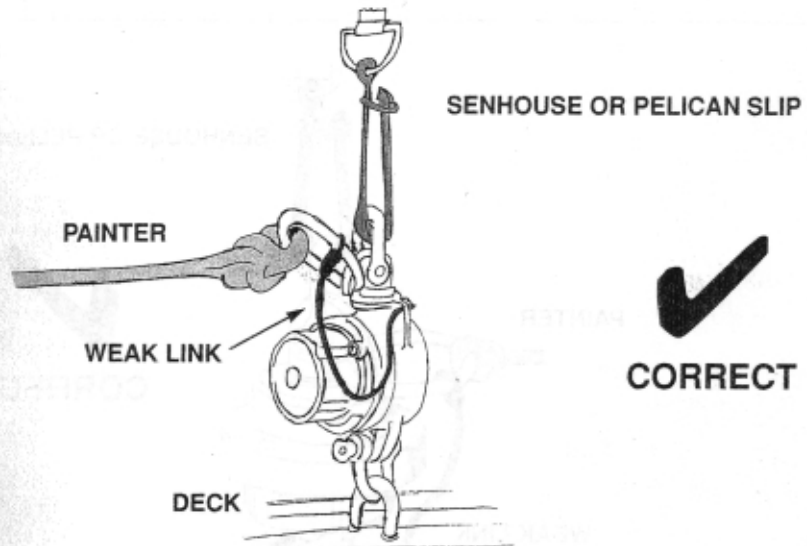


LIFERAFT WILL NOT RELEASE FROM CRADLE IF SHIP SINKS

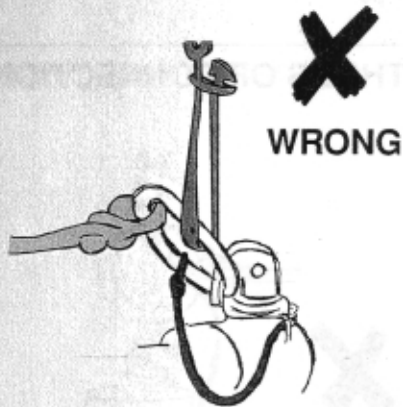


LIFERAFT WILL NOT RELEASE FROM CRADLE IF SHIP SINKS

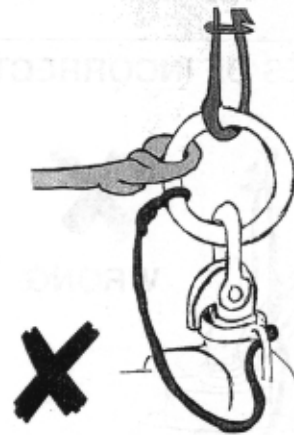
BERWYN MK 7 TYPE HRU



EXAMPLES OF INCORRECT METHODS OF CONNECTION

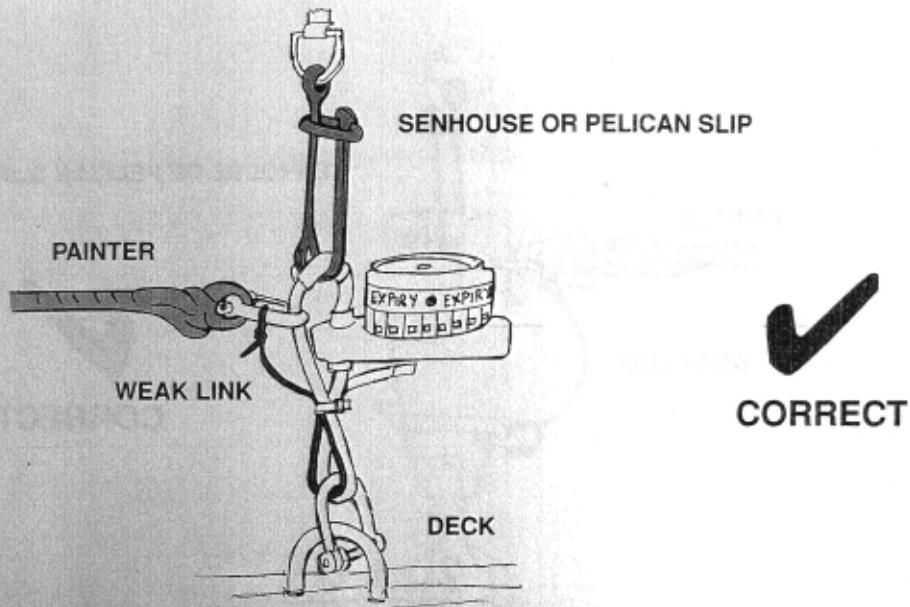


LIFERAFT WILL NOT RELEASE FROM CRADLE IF THE SHIP SINKS

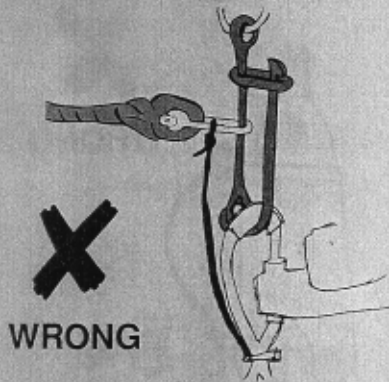


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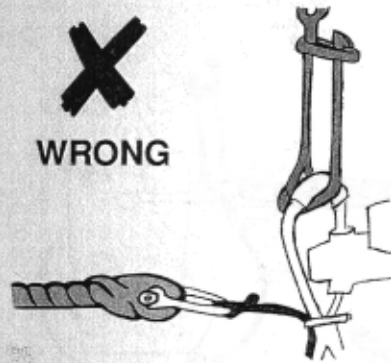
HAMMAR DISPOSABLE TYPE HRU



EXAMPLES OF INCORRECT METHODS OF CONNECTION

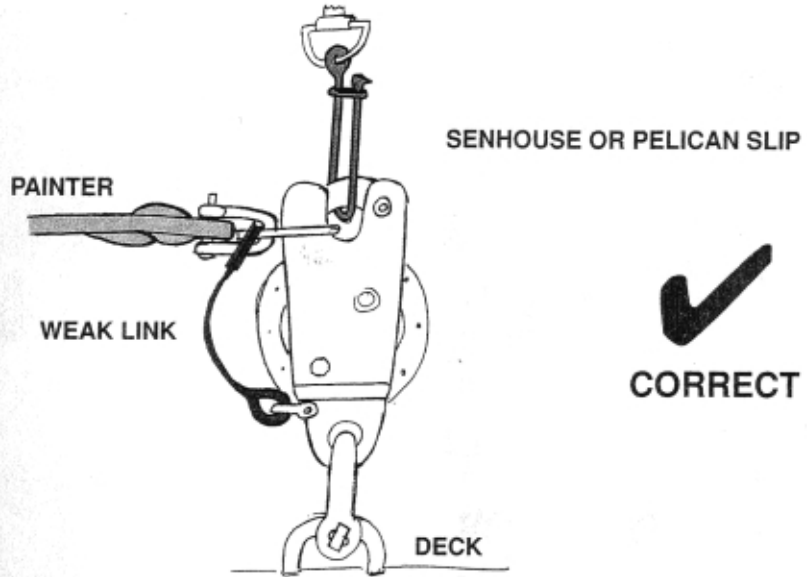


LIFERAFT WILL NOT RELEASE FROM CRADLE IF SHIP SINKS

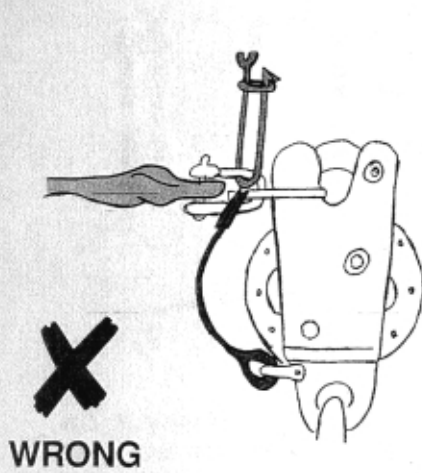


WILL WORK CORRECTLY ON AUTOMATIC RELEASE BUT THE LIFERAFT WILL ONLY BE SECURED BY THE WEAK LINK IF THROWN OVERBOARD - WEAK LINK MAY BREAK AND LIFERAFT WILL BE LOST

THANNER TYPE HRU



EXAMPLES OF INCORRECT METHODS OF CONNECTION



LIFERAFT WILL NOT RELEASE FROM CRADLE IF SHIP SINKS



MAY FOUL WHEN AUTOMATICALLY RELEASED

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Mr. Michael Sievert
MCIB Response



28 Ardmanagh
Schull

18-11-03

Dera Sir,

Regarding the report of the "Christ Maria".

Firstly I was shocked at the state of the safety equipment on board. In any other situation it could have been fatal.

I would also like to emphasise the non-stop work with little or no sleep and the lack of proper meals are to blame for the outcome of the voyage.

Vessels should have sufficient crew to keep a good watch system going.

I believe all vessels with wheelhouse must be fitted with a watch alarm.

I also believe the crew should be compensated for loss of personal belongings and shares.

Yours sincerely,


Michael Sievert

MCIB RESPONSE

The MCIB notes the contents of this letter and the issues raised therein have been addressed in Recommendations 7.1, 7.2 and 7.3.

The question of compensation for loss of personal belongings is not within the remit of the MCIB.

Mr. Malachi Reed



November 30, 2003

Dear Sir,

Thank you for sending me the DRISIFVCIGIT for my comments and observations.

There are three points that I would like to clarify.

In paragraph 3.3, the report states 'they continued to haul and shoot the gear, and sort the fish for over the next couple of days'. I do not think that this adequately describes the workload involved. From the Wednesday evening until we stopped on the Saturday night we were all working almost continuously. The longest break that any of us had during those days was three hours. Food and drink were consumed whilst carrying on work.

In addition, I did not have any break between this voyage and the previous voyage with captain John Healy. I had therefore worked at least eight days without a break.

4.3 The report states: "he did not know the position of the vessel". In fact I did know the position of the vessel. I recognized our position from the streetlights on the pier at union hall. We had been fishing out of union hall for six months and the landmarks are very familiar.

6.8 I would like to clarify why I decided not to call Mike Sievert for his watch.

. He had less experience of handling the boat than I had.

. On that voyage Mike Sievert had done two 2 and a half hour watches at the wheel.

MCIB Response

. We were all exhausted and lacking sleep and I was worried that waking him then would lead him to be disorientated at the wheel.

On balance, at the time I thought the safest course was to continue to steer the Christmaria myself. In the light of experience, my judgment was probably affected by the prolonged lack of sleep, lack of proper meals, and the hours of work. If you need any further clarification please contact me again. I am willing for any of the comments to be used in the final report.

Yours faithfully.

Malachi Reed

Malachi Reed

MCIB Response

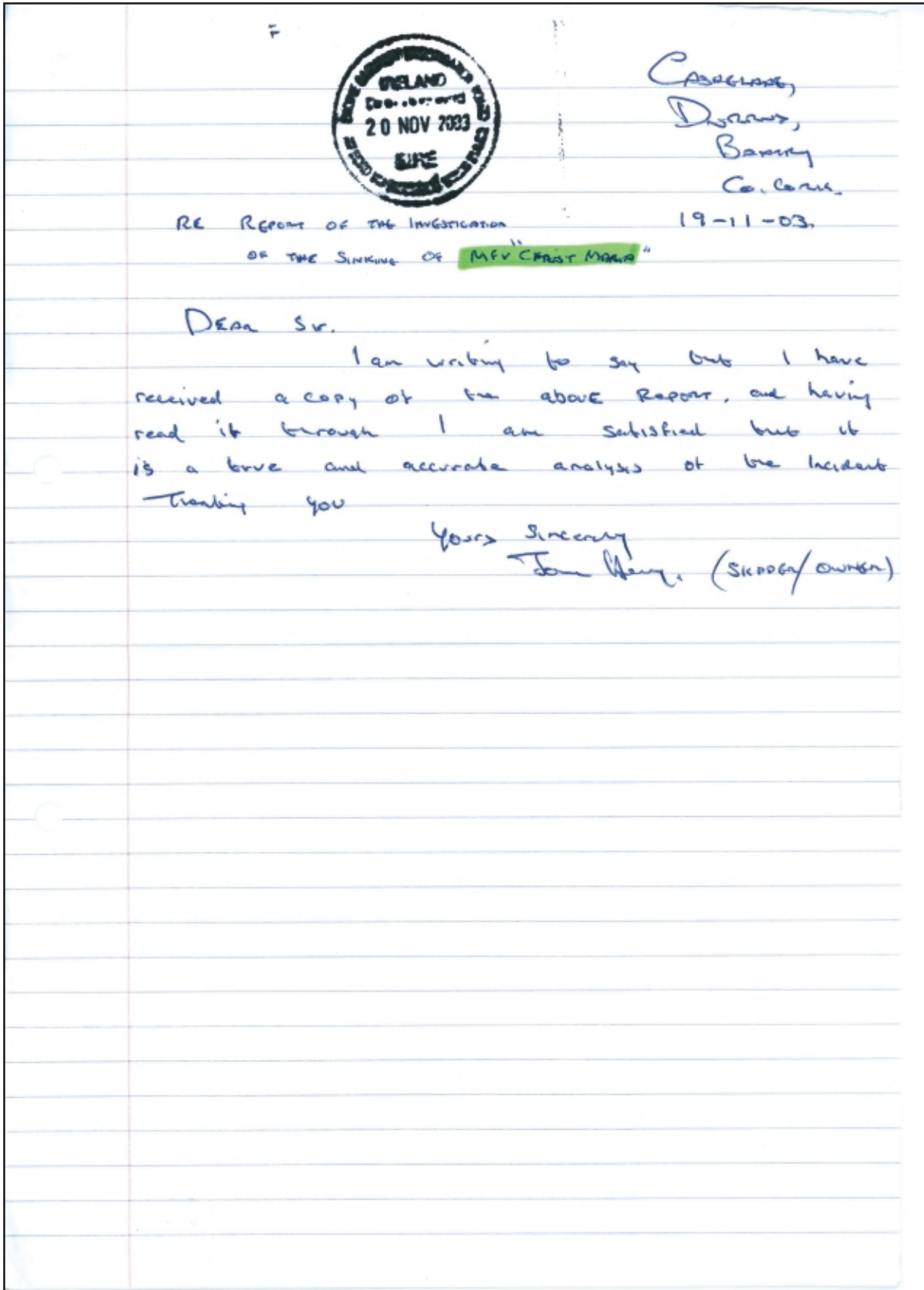
The MCIB notes the contents of this letter and has amended the Report where appropriate.

MCIB RESPONSE

The MCIB notes the contents of this letter and has amended the Report where appropriate.

CORRESPONDENCE

Mr. John Healy



Irish Coast Guard

Irish Coast Guard
GARDA CÓSTA na hÉIREANN



Mr Dick Heron
Secretary
Marine Casualty Investigation Board
Department of Communications,
Marine & Natural Resources
Leeson Lane
Dublin 2.

28th Nov. 2003.

Re MCIB 73 Draft Report on sinking of IFV Christmaria 30th March 2003.

Dear Mr Heron,

The Irish Coast Guard has no comment or observation to make concerning this report.

Yours sincerely,

Eamon Torbay
SAR Operations Manager
IRCH HQ.

Department of Communications, Marine and Natural Resources, Leeson Lane, Dublin 2, Ireland.
An Roinn Cumarsáide, Mara agus Acmhainní Nádurtha, Lána Chill Mochargán, Baile Átha Cliath 2, Éire.
Tel: +353 | 678 2324, Fax: +353 | 678 2269, Email: admin@irishcoastguard.ie

