

**REPORT OF
THE INVESTIGATION
INTO THE GROUNDING AND
FLOODING OF AN
EMERALD STAR
HIRE CRUISER
ON LOUGH DERG
ON 1ST JULY 2006**

The Marine Casualty Investigation Board was established on the 25th March, 2003 under The Merchant Shipping (Investigation of Marine Casualties) Act 2000

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REPORT No. MCIB/127

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1. SYNOPSIS

- 1.1 On 1st July 2006 an Emerald Star hire craft with 5 persons onboard ran aground on Lough Derg at Urra Point. The craft was towed free and permitted to continue by Emerald Star personnel. At approximately 1600 hours the craft was reported by the hirers to be taking on water on Lough Derg at Killaloe, Co. Clare. Killaloe Ballina Search and Rescue responded and took 5 persons safely ashore. The craft was towed to shore and lifted out of water for inspection and repairs.

2. FACTUAL INFORMATION

2.1 Description

Type of Vessel:	Magnifique
Length Over All (m):	14.5
Draught (m):	1.0
Builder:	Porter & Haylett Viaduct Works Norwich Road Wroxham UK
Operator:	Emerald Star - Portumna Branch
RCD Design Category:	Category D "Sheltered Waters"
Crew:	The crew of this boat were foreign nationals and they were not possible to contact.

2.2 The Magnifique is constructed in conventional fibreglass. The craft complies with Category D 'Sheltered Water' requirements of the Directive 94/25/EC of the European Parliament and of the Council of 16 June 1994 (RCD Directive). As a Category D 'Sheltered Waters' the craft is "designed for voyages on small lakes, rivers, and canals where conditions up to, and including, wind force 4 and significant wave heights up to, and including, 0.5m may be experienced.

The craft was on hire on a bareboat basis i.e. no crew was provided by Emerald Star.

3. THE INCIDENT

3.1 Location of Incident: Urra Point and Killaloe, Lough Derg

Emerald Star Portumna Base received a call from the hirers of the vessel requesting assistance that the vessel was aground at Urra Point. Emerald Star responded by sending their RIB to assist. The craft was towed clear and Emerald Star personnel inspected the vessel and permitted the hirers to proceed. At about 16:00 hours that day Emerald Star received a further call requesting assistance as the hirers said the craft was taking on water. Emerald Star immediately contacted the Irish Coast Guard for assistance. Killaloe Ballina Search and Rescue was tasked and rescued 5 persons and brought them safely ashore. The vessel was towed to shore and lifted out of the water. No injuries to any persons onboard were sustained.

4. FINDINGS

4.1 Inspection of Vessel

The vessel was inspected afloat prior to repairs being carried out. Damage was noted to the skeg extending over approximately 1m in length at approximately mid length of the vessel. (See photographs at Appendix 8.1). The damage found was consistent with the reported grounding incident.

RCD Certification

The craft is certified as category D craft (2.5 - 24m in length) recreational craft which is required to be certified in accordance with Module A (internal production control). The procedures in Module A of the Recreational Craft Directive set out an in house manufacturers self-certification procedure.

Testing of Laminate

The hull is constructed of chopped strand matt/woven reinforcement. A sample of the skeg laminate was taken and forwarded to JCS Technology for determination of the overall glass content of the laminate - see appendix 1 for detailed report.

Buoyage on Lough Derg

The buoyage on Shannon Navigation system, which commences from Limerick Northwards, consists of red and black buoys. Red buoys are passed on the left when proceeding upstream and into bays and harbours. Black buoys are passed on the left when proceeding downstream and out of bays and harbours. Emerald Star provides charts of the lake in the form of a booklet to hirers of the vessel detailing the buoyage system.

The buoy at Urra Point consists of a floating black barrel and it could not be established if the skipper of the Emerald Star cruiser was unable to identify the buoy. It should be noted that the use of black buoys is not consistent with buoyage systems in use throughout navigable waterways where the standard system is red and green buoyage.

It is also noted that the buoyage system on the Erne navigation system is different to the Shannon Navigation.

Navigational Chart

The last official navigation chart was published in 1994 and does not contain a revision status or date.

Communications

Emerald Star provides a mobile phone to each vessel. This phone allows contact to be made with each Emerald Star base or the emergency services (999).

Statutory Requirements

The Merchant Shipping Act defines a Passenger Boat and Passenger. The craft was hired by Emerald Star on a bareboat basis and therefore does not fall within the scope of the Merchant Shipping (Passenger Boat) Regulations 2002, as amended.

Reporting of Marine Casualties

All marine casualties are required to be reported in accordance with section 23 of the Merchant Shipping (Investigation of Marine Casualties) Act, 2000. Section 23 states:

23.—(1) An owner, charterer, master, skipper, person in charge, ship's agent, ship's manager or ship's husband of a vessel involved in a marine casualty shall, by using the quickest feasible means, notify the Chief Surveyor or any other marine surveyor in the Marine Survey Office of the Department of the Marine and Natural Resources of the casualty immediately he or she is aware that the marine casualty has occurred or commenced, or as soon as practicable thereafter.

(2) There shall be included in the notification such relevant information as is known to the person notifying the marine casualty, including the name and description of the vessel, its position, the number of persons on board and as accurate a summary as possible of the marine casualty.

(3) A person required by subsection (1) to notify a marine casualty who without reasonable excuse fails to do so shall be guilty of an offence.

5. CONCLUSIONS

- 5.1 Following the refloating Emerald Star did not inspect the outside of the hull bottom to check for damage. Emerald Star allowed the crew to stay aboard after refloating thus risking their safety.
- 5.2 It is likely that the skipper of the craft did not recognize that the black buoy was a navigation mark and may have left the black buoy to starboard.
- 5.3 The manufacturer provided a copy of the appropriate documentation in accordance with the Recreational Craft Directive for a class D craft.
- 5.4 The overall glass content of the skeg laminate was consistent with that of conventional chopped strand matt/woven roven layup.
- 5.5 Mobile phones are not recommended by the Maritime Radio Affairs Unit for emergency communications. The recently published Code of Practice for: The Safe Operation of Recreational Craft recommends the fitting of a fixed or portable type approved VHF unit capable of transmitting radiotelephony on at least channel 16, 13 and 6 (refer to Appendix 2 of the Code). The fitting of VHF needs to be carefully considered, as the majority of hirers may not be appropriately certified. It should note VHF coverage is now available on the major inland waterways.
- 5.6 Emerald Star did not report the incident in accordance with section 23 of the Merchant Shipping (Investigation of Marine Casualties) Act, 2000.
- 5.7 The Merchant Shipping (Passenger Boat) Regulations 2002 do not apply to the craft.

6. RECOMMENDATIONS

- 6.1 Emerald Star, and all other boat rental companies using the inland waterways should under Section 23 of the Merchant Shipping (Investigation of Marine Casualties) Act 2000 report all incidents immediately to the relevant authorities. The Maritime Safety Directorate should issue a Marine Notice to this effect.
- 6.2 Emerald Star should review their procedures in the event of an incident. The MCIB recommends that the crews of any boat involved in an incident should be disembarked until the boat is inspected and declared safe.
- 6.3 Waterways Ireland should, in consultation with the Maritime Safety Directorate establish a buoyage system for inland waterways, which is internationally recognized by all users of the waterways both national and foreign.
- 6.4 Boat rental companies should consider fitting VHF Radio equipment as recommended in Code of Practice: For the Safe Operation of recreational Craft. Any proposal to fit VHF installations should be agreed with the Maritime Radio Affairs Unit including appropriate operating procedures.
- 6.5 The Maritime Safety Directorate should consult with the boat rental companies on the implementation of enhancements to training and operating procedures for crew renting such craft.

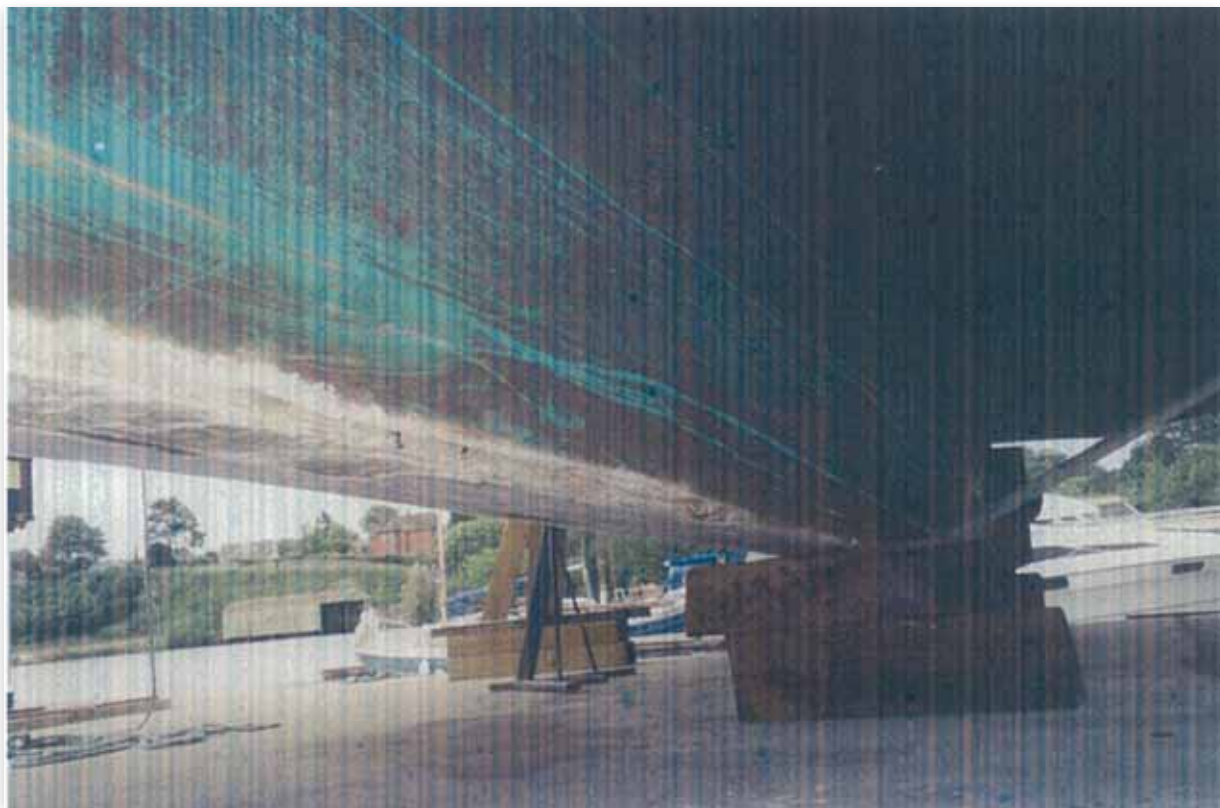
7. LIST OF APPENDICES

7.1 Photographs of the vessel.

7.2 Test Results.

APPENDIX 7.1

Appendix 7.1 Photographs



Appendix 7.2 Test Results

TEST HOUSE CERTIFICATE NUMBER 12174
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Date: 08 January 2007

Client : Marine Casualty Investigation Board
Address : Lesson Lane, Dublin 2, Ireland
Sample Description : Glass Composite core
Sample Method : Determined by client – Circular core
Batch/ref. Number : none
Date Received : 02 January 2007
Date Tested : 06-07 January 2007
Test Required : Loss by ignition - Generally to BS2782 Part 10 Method 1002
Note: Humidity in the drying chamber is not monitored and all ignition is conducted in a muffle furnace.
Ignition Temperature: 625+/-20°C
Order Number : PO10007
Quotation Number : Q061981
JCST Method : TMP 34 Excluding fibre volume

Note1: These results relate only to the material supplied and the specimens tested.

Note 2 A1 sample under minimum weight so included for completeness but not used in calculations. Samples cut progressive from one side. Vertically through sample

RESULTS

JCST Ref	Thickness/Width /length (mm)	Residue All (%)	Residue glass* (%)	Ignition Loss (%)
12174/A1	15.25mm/3.7mm/26mm	38.4	20.1	61.6
12174/A2	15.74mm/3.3mm/39mm	37.9	17.7	62.1
12174/A3	15.73mm/3.5mm/47mm	38.0	18.8	62.0
12174/A4	15.87mm/3.5mm/51mm	37.8	18.6	62.2
12174/A5	15.36mm/3.5mm/53mm	37.5	17.6	62.5
12174/A6	Fell apart during cutting into 7 bits	37.2	19.7	62.8
	Mean	37.7	18.5	62.3
	SDn-1	0.33	0.86	0.33
	C of V	0.9	4.7	0.53

Notes3: The samples consisted of what appeared to be resin, glass and wood. Some effort has been employed to separate the two materials but the test method only relates to total residue. Glass is approximate*

End of Certificate

Signature: *K.D. James*

Uncertainty of measurement: +/- 1.0%

K.D. James
 Technical Manager
 For and on behalf of JCS Technology

Quality System Approved to ISO 9001:2000
 AJA Registrars Reg No 059-A Certificate Number AJA05/8373

Appendix 8.1 Correspondent: Waterways Ireland



Waterways Ireland

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Ms. Bridie Cullinane
Secretary
Marine Casualty Investigation Board
93 Lower Leeson Street
Dublin 2

Re: DRAFT Report of the investigation into the grounding and flooding of an Emerald Star Hire Cruiser on the Lough Derg on 1st July, 2006

Dear Ms. Cullinane,

I refer to the above Draft Report dated 27th June 2007 sent to my Chief Executive, Mr. John Martin, who in turn referred it to me for comment and direct reply.

Waterways Ireland, the largest of the North/South Implementation Bodies, is responsible for the management, maintenance, development and restoration of the inland navigable system throughout the island, principally for recreation purposes. It is currently responsible for the Barrow Navigation, the Erne System, the Grand Canal, the Lower Bann Navigation, the Royal Canal, the Shannon-Erne Waterway and the Shannon Navigation.

Following consultation with Waterways Ireland's Inspector of Navigation I wish to make the following comments in relation to the contents of the Draft Report, principally Recommendation 6.3.

Waterways Ireland will be happy to meet with the Maritime Safety Directorate to discuss the necessity to alter the existing Shannon Navigation buoyage system. This system has been in place for many years and has been continually upgraded since the early 1970's when the focus of the navigation changed from commercial use to cater principally for the hire boat industry and the recreational boater. Waterways Ireland keeps the system of aids to navigation under constant review and receives feedback from its principal customer, the recreational boater, on a regular basis. To date, no adverse reports have been received on the system of aids to navigation used. On a very

Appendix 8.1 cont. Correspondent: Waterways Ireland

practical level it is difficult to establish the exact benefits of changing from black to dark green, given that the majority of our customers, especially those who hire cruisers, would have no previous experience of an '*internationally recognised*' system. Only a small number of our customers would ever have ventured into estuarine waters, none of those being on hire cruisers as the hire companies do not allow it.

This recommendation would appear to have stemmed from Conclusion 5.2 of the Draft Report – '*It is likely that the skipper of the craft did not recognise that the black buoy was a navigation mark and may have left the black buoy to starboard*'. I am puzzled as to how this conclusion was arrived at given that Factual Information 2.1 states that '*The crew of this boat were foreign nationals and they were not possible to contact*' and the fifth paragraph of Findings 4.1 states that '*it could not be established if the skipper of the Emerald Star cruiser was unable to identify the buoy*'. I am concerned that Conclusion 5.2 coupled with Recommendation 6.3 implies, whilst allowing that it may not be intentional, that the Shannon Navigation marked buoy system was the cause of the grounding.

In conclusion, I trust that the above comments will clarify the points that you have raised in your Draft Report and assist in arriving at appropriate conclusions and recommendations in your Final Report

The Chief Executive has no objections to this letter forming part of the Appendices of the Final Report.

Yours sincerely,


Brian D'Arcy
Director of Operations

20 July 2007

Appendix 8.2 MCIB RESPONSE to letter from Waterways Ireland dated 20th July 2007

The MCIB notes the content of this letter and would make the following comments:

Due to the delay in reporting the incident, the hirers of the Emerald Star cruiser involved in this incident had left the scene before the MCIB Investigator arrived. The Investigator was informed by the Emerald Star Staff and by members of the Killaloe/Ballina Search & Rescue that the skipper said he did not recognise the black buoy as a navigation mark.

On a practical level, a bright green buoy has a far higher visibility factor than a black barrel buoy against a very dark water background. Red and green are the internationally recognised colours for port and starboard respectively on every vessel and aircraft including inland waterways cruisers. This is particularly important in the light of the overseas promotion of the use of the inland waterways system as a holiday destination.

The MCIB acknowledges that Waterways Ireland, as a North/South Implementation Body, is responsible for the inland navigable system throughout the Island but notes that two different buoyage systems of navigation are in use - one in Northern Ireland and one in the Republic. Consequently the MCIB reiterates Recommendation 6.3.