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**REPORT OF INVESTIGATION
INTO
FIRE ABOARD ANGLING BOAT
"JEM" AT
CORK HARBOUR
ON
21st JULY 2011.**

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/204
(No.13 of 2011)**

Report MCIB/204 published by The Marine Casualty Investigation Board
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1. SYNOPSIS

- 1.1 Three Anglers went fishing in Cork Harbour on 21st July 2011. A fire occurred after trouble with both main and auxiliary propulsion engines. All three were rescued and the boat sank.

2. FACTUAL INFORMATION

2.1 Description of the Boat

The boat is a Glass-fibre Reinforced Plastic (GRP) angling boat with buoyancy built in. She is arranged as a half-decker with a sealed fore-deck ahead of an enclosed wheelhouse. An inboard diesel engine drives a propeller shaft and an auxiliary petrol outboard is mounted on a lifting-bracket fixed to the transom. There is little information available about the boat.



Name: "Jem"
 Boat type: GRP Smuggler 21
 Length: 6.4m (est)
 Beam: 2.1m (est)
 Main Engine: Nissan Diesel Marinised rated at 30hp
 Auxiliary Outboard: Johnson outboard rated at 15hp

- 2.1.1 The cockpit arrangement of this boat comprises an open area aft that drains into a bilge and broad skeg beneath the main engine. The skeg extends aft to accommodate a propeller shaft and stern tube. The walking areas of the cockpit are fitted with timber floors and extend from a full width space abaft the wheelhouse door via walkway on either side of the engine box to a wide space in the stern where sealed buoyancy/seating is built in to port and starboard.
- 2.1.2 The Nissan inboard diesel was marinised with seawater cooled heat exchanger and a jabsco cooling water pump when fitted in c.2005. The diesel fuel tank was located in the wheelhouse at a high level above the gunwale on the starboard side. A spare plastic container of diesel was stored on the wheelhouse floor to port.

2.1.3 The Johnson outboard was mounted on a lifting outboard bracket fixed to the transom. The engine was securely bolted onto the wooden pad of the lifting bracket. The petrol fuel tank was mounted on top of the transom and secured to the handrail. The fuel tank was connected to the outboard by a flexible fuel hose & quick release clip.

2.2 Personnel Aboard

Mr. Jerry O’Sullivan, Owner
Mr. Jerry Walsh
Mr. Alan O’Mahony

2.3 Weather Conditions

The wind at the time of the incident was blowing light to moderate from the North North West direction. Weather was clear and dry during daylight.

2.4 Tidal Conditions

High water was predicted to occur at 22:18 hrs. and the tide was flooding in a northerly direction. There were areas on the water where, due to the action of wind against tide, the sea was choppy.

2.5 Location

The fire started close to Fort Carlisle at the entrance to Cork Harbour, approximate location of 51.48.43N 08.16.00W. The vessel and occupants drifted to a point about 1,500mtrs northward where the rescue was completed. (51.49.31N 08.16.24W).

3. EVENTS PRIOR TO THE INCIDENT

- 3.1 The anglers departed Aghada pier at 18:00 hrs. on 21st July 2011 using the main engine for propulsion.
- 3.2 All three were wearing PFDs.
- 3.3 They fished in the area of the Oil Refinery Jetty for a short time with the engine at idle speed before proceeding to an area near Roches Point.
- 3.4 While fishing at Roches Point it was noticed that the cooling water from the idling diesel engine was steaming a little and that the engine temperature was rising. It was decided to stop the main engine and use the auxiliary outboard.
- 3.5 They proceeded, under auxiliary outboard power, to an area close-by where there were signs of fish and later decided to drift with the incoming tide with engines stopped.

4. THE INCIDENT

- 4.1 At 20:00 hrs. the anglers took note of their position close to Fort Carlisle and watched their drift rate until 20:20 hrs.
- 4.2 The seaway was choppy and their drifting progress was slow so they decided to start the outboard engine and move northwards to calmer waters.
- 4.3 The outboard was running for about one minute with the boat underway when the wooden pad on the outboard bracket broke away and the outboard fell into the water. It remained tethered to the boat by the flexible fuel line and continued to run for a short time before stopping.
- 4.4 The engine was retrieved aboard using a rope and laid on the cockpit floor. The flexible petrol hose had separated from its connecting clip used to secure the hose to the outboard engine.
- 4.5 The boat was being tossed around by the choppy sea so they decided to start the main engine and go to shallow water where they could anchor and assess the situation.
- 4.6 The main engine started and after going ahead for 20 - 30 metres the main engine started to over-speed. The rpm continued to increase after the engine was turned off with the fuel lever at minimum. At an extreme over-speed rpm the engine stopped with a bang and smoke came from beneath the engine box.
- 4.7 After a short silence a fire could be heard burning under the engine cover before blowing flames and smoke up from the starboard side.
- 4.8 This prompted Mr. Jerry Walsh, who was standing at that side, to jump overboard. His PFD inflated correctly and he swam clear from where he could see the fire and smoke growing rapidly.
- 4.9 Mr. Alan O' Mahony, who was on the port side of the boat, jumped overboard shortly after and had some difficulty operating his manual PFD. He came to the side of the boat where he was assisted by the Owner, Mr. Jerry O'Sullivan, who remained aboard and made his way to the foredeck.
- 4.10 A Mayday Relay was broadcast by the yacht "*Kilteaky*", that was close to the incident, at 20:27 hrs. (local time) and Crosshaven Lifeboat was immediately tasked.
- 4.11 As the fire spread Mr. O'Sullivan inflated his PFD manually and entered the water at the bow.
- 4.12 Mr. Walsh and Mr. O'Sullivan were taken aboard a motor boat called "*Dominator*" and taken to Crosshaven. Mr. Walsh was taken aboard a motorboat called "*Stugots*" and transferred to the Crosshaven lifeboat and taken to Crosshaven.

5. EVENTS FOLLOWING THE INCIDENT

- 5.1 All three survivors were taken to the Crosshaven Lifeboat station where they were warmed and underwent medical checks.
- 5.2 Crosshaven lifeboat returned and kept watch on the burning boat.
- 5.3 L.E. "Aisling", while on patrol, had responded to the Mayday at best speed and arrived on scene at 21:21 hrs. She was requested to extinguish the fire.
- 5.4 At 21:46 hrs. L.E. "Aisling" reported the vessel had sunk at position 51.49.716N 08.16.095W.

6. CONCLUSIONS

- 6.1 It was fortunate that all three anglers wore the required PFD. Some difficulty was caused in this emergency situation when one PFD was a manual inflation type.
- 6.2 The description of the outboard bracket provided by those aboard suggest that it was of substantial construction and suitable for this engine. It had been fitted for some years and had always carried a similar sized engine. The outboard was clamped to the timber pad and through bolts were also fitted. The through bolts may have given rise to weakening of the timber pad over time without external signs of decay.
- 6.3 When the outboard engine fell off it was suspended by the flexible fuel hose. This hose was connected to the outboard engine by a clip which incorporated a non-return valve. This hose was severely stressed while the engine was swinging and pulling below.
- 6.4 When the engine was retrieved aboard with a rope it was laid on the floor of the boat. The petrol tank was located at the handrail above and petrol flowed out of the tank through the open-ended and damaged hose and into the bilge of the boat.
- 6.5 When the main engine was started its air intake drew in petrol fumes from the bilge below with the combustion air and caused the engine to accelerate and over-speed.
- 6.6 When the throttle was reduced to idle and the clutch was disengaged the petrol fumes available were sufficient to allow the unloaded engine to run away to self-destruction.
- 6.7 The heat generated in the engine failure was sufficient to ignite the petrol and set the boat ablaze.
- 6.8 Emergency Services and vessels in the area were quick to respond to the developing emergency.

7. RECOMMENDATIONS

- 7.1 The use of PFDs should be continually promoted in all sectors of boating.
- 7.2 Boat owners must be reminded to check the condition of equipment such as outboard brackets from time to time to ensure they remain fit for service.

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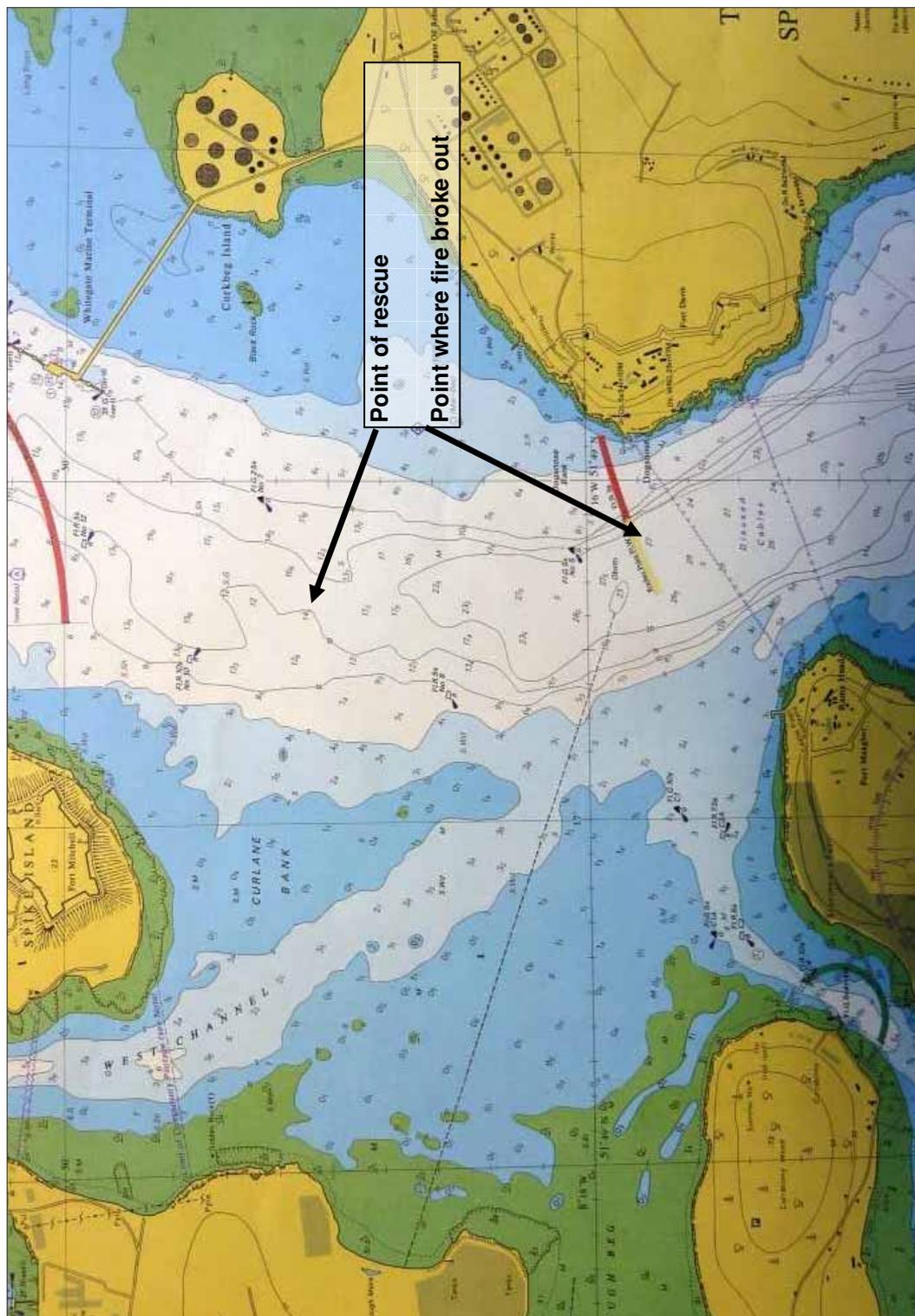
Appendix 8.1 Jem ablaze in Cork Harbour.



"Jem" ablaze after the rescue.

APPENDIX 8.2

Appendix 8.2 Chart of Cork Harbour.



Lower area of Cork Harbour.

Appendix 8.3 Met Éireann Weather Report.



MET ÉIREANN
The Irish Meteorological Service

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Dublin 9, Ireland.

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Ms Eve Reddin
Marine Casualty Investigation Board
Leeson Lane
Dublin 2

10/7/2011

Our Ref. WS 3018/2C_14234
Your Ref. MCIB 204

Re: Estimate of weather conditions in the Cork Harbour area at Latitude 51° 48'N and Longitude 8°16'W, on the 21st July 2011, between 18 hours and midnight, local time.

Dear Ms Reddin,

Please find enclosed the above report, as requested.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Evelyn Murphy'.

Evelyn Murphy B.Sc. M.Sc. Meteorologist
(Research & Applications Div)
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Email: evelyn.murphy@met.ie

Appendix 8.3 Met Éireann Weather Report.



MET ÉIREANN
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10/7/2011

Our Ref. WS 3018/2C_14234
Your Ref. MCIB 204

Estimate of weather conditions in the Cork Harbour area at Latitude 51° 48'N and Longitude 8°16'W, on the 21st July 2011, between 18 hours and midnight, local time.

General Situation: A slack northerly airflow covered Ireland as an area of High Pressure moved eastwards over the Country from the Atlantic.

Details

Winds: Light to Moderate, Force 2 to 4, from a north-north-west direction

Weather: Dry, a few sunny spells at first but mainly rather cloudy

Visibility; excellent, greater than 30 km

Waves: Smooth/wavelets

Temperatures: air temperatures fell from about 16°C to 13°C during the period and sea temperatures were about 14°C throughout.

Evelyn Murphy B.Sc. M.Sc. Meteorologist
Research & Applications Division
Met Éireann

Appendix 8.3 Met Éireann Weather Report.



MET ÉIREANN
The Irish Meteorological Service

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

Beaufort Scale of Wind					
Force	Description	Speed*		Specification -sea	Wave height** (metres)
		knots	km/hr		
0	Calm	<1	<1	Sea like mirror	
1	Light air	1-3	1-5	Ripples	0.1 (0.1)
2	Light breeze	4-6	6-11	Small wavelets	0.2 (0.3)
3	Gentle breeze	7-10	12-19	Large wavelets, crests begin to break	0.6 (1)
4	Moderate breeze	11-16	20-28	Small waves becoming longer, frequent white horses	1 (1.5)
5	Fresh breeze	17-21	29-38	Moderate waves, many white horses, chance of spray	2 (2.5)
6	Strong breeze	22-27	39-49	Large waves, white foam crests, probably some spray	3 (4)
7	Near gale	28-33	50-61	Sea heaps up, streaks of white foam	4 (5.5)
8	Gale	34-40	62-74	Moderately high waves of greater length	5.5 (7.5)
9	Strong gale	41-47	75-88	High waves, dense streaks of foam, spray may reduce visibility	7 (10)
10	Storm	48-55	89-102	Very high waves, long overhanging crests, visibility affected	9 (12.5)
11	Violent storm	56-63	103-117	Exceptionally high waves, long white foam patches cover sea	11.5 (16)
12	Hurricane	64+	117 & over	Air filled with foam and spray, sea completely white	14 (-)

*Speed = mean speed at a standard height of 10 metres.
**Wave height is only intended as a guide to what may be expected in the open sea.
Bracketed figures indicate the probable maximum wave height.

Wave Heights / State of Sea

The wave height is the vertical distance between the crest and the preceding or following trough. The table below gives a description of the wave system associated with a range of significant wave heights.

Sea State (Descriptive)	Significant Wave height in meters
Calm	0 – 0.1
Smooth(Wavelets)	0.1 – 0.5
Slight	0.5 – 1.25
Moderate	1.25 – 2.5
Rough	2.5 – 4
Very rough	4 – 6
High	6 – 9
Very high	9 – 14
Phenomenal	Over 14

Individual waves in the wave train will have heights in excess of the significant height. The highest wave of all will have a height about twice the significant height.

Visibility

Descriptions of visibility mean the following:

Visibility (Descriptive)	Visibility in nautical miles (kilometres)
Good	More than 5 nm (> 9 km)
Moderate	2 – 5 nm (4 – 9 km)
Poor	0.5 – 2 nm (1 – 4 km)
Fog	Less than 0.5 nm (< 1km)

Appendix 8.3 Met Éireann Weather Report.

Map of Ireland with Headlands, coastal stations and offshore Buoys



http://www.met.ie/marine/marine_map.asp

9. CORRESPONDENCE RECEIVED

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Note: The address and contact details of the individual respondent has been obscured for privacy reasons.

Ms Eve Reddin
Secretariat
Marine Casualty Investigation Board
Leeson Lane
Dublin 2

12th October 2011

Dear Ms Reddin,

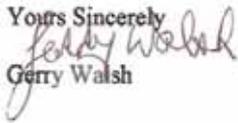
I have read the draft report into the fire & sinking of the fishing boat "Jem" and I believe it to be accurate.

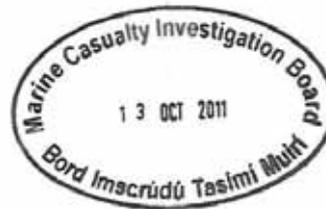
I wish to congratulate all those who rendered assistance on that evening of July 21st last. The yacht "Kilteaky" which was 400 yards from our stern for sending the may day message. To the crew of "Dominator" & "Stugots" who traveled at speed to get to us and pulled us from the sea and to the RNLI crew who looked after us in Crosshaven.

I would like to pay particular tribute to a Mr Paddy O Donovan of Cobh who was out on his Kayak and who paddled a long distance from White Bay to where we were rescued. I would like to say that we were very lucky and I cannot emphasise enough that our life jackets played such an important role in our safe recovery. I intend to always advise of their absolute need to be worn by everybody whilst on the water.

I wish to point out that the other two men Mr Alan O Mahony and owner of the boat Mr Gerry O Sullivan are in agreement with my comments.

Yours Sincerely


Gerry Walsh



MCIB RESPONSE

The Board notes the contents of this correspondence.

L.É. AISLING
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21 SEP 2011

P23/NAVIGATION/SAR

Ms Eve Reddin
Secretariat
Marine Casualty Investigation Board
Leeson Lane
Dublin 2

**OFFICER COMMANDING L.E. AISLING OBSERVATIONS I.R.O.
DRAFT REPORT OF THE INVESTIGATION INTO FIRE ONBOARD ANGLING BOAT
"JEM" ON 21ST JULY 2011**

Ref MCIB Draft Report of the investigation into fire onboard angling boat "Jem" on 21st July 2011.

1. I have no observations of consequence from reading the report.
2. There is a single correction in the form of a 'typo' in that the ship's name is misspelled as *LE Aishling* instead of the correct spelling L.E. AISLING.
3. The report is a most interesting read.

Yours sincerely,

**B MATHEWS
LIEUTENANT COMMANDER
OFFICER COMMANDING L.É. AISLING**



MCIB RESPONSE

The Board notes the contents of this correspondence and has made the necessary amendments.



Ms Eve Reddin
Secretariat
Marine Casualty Investigation Board
Leeson Lane
Dublin 2

14 September 2011

**Re: Draft Report of the Investigation into fire aboard angling boat "Jem"
At Cork Harbour on 21st July 2011**

Dear Ms Reddin

No obs.

Yours sincerely

A handwritten signature in black ink, appearing to read "Eugene Clonan", written over a horizontal line.

Eugene Clonan
Assistant Director
Irish Coast Guard
Department of Transport
Leeson Lane
Dublin 2

MCIB RESPONSE

The Board notes the contents of this correspondence.

