

Leeson Lane, Dublin 2. Telephone: 01-6782460.

Fax: 01-6783129. email: info@mcib.ie www.mcib.ie

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REPORT

OF THE INVESTIGATION

INTO THE FIRE ON BOARD

AND SUBSEQUENT SINKING

OF THE FISHING VESSEL MFV

"GISMONDE"

ON 24th AUGUST 2007

REPORT No. MCIB/148



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		PAGE
1.	SYNOPSIS	4
2.	FACTUAL INFORMATION	5
3.	EVENTS PRIOR TO THE INCIDENT	7
4.	THE INCIDENT	9
5.	EVENTS FOLLOWING THE INCIDENT	11
6.	CONCLUSIONS	12
7.	RECOMMENDATIONS	15
8.	LIST OF CORRESPONDENCE	16

SYNOPSIS

1. SYNOPSIS

- 1.1 The MFV "Gismonde" a wooden fishing vessel left Dunmore East on 24th August 2007 with three crew and one employee of the Marine Institute on board. Whilst fishing later on that day a fire started in the wheelhouse and quickly took hold of the vessel.
- **1.2** The crew abandoned ship to the liferaft and were picked up shortly afterwards by another fishing vessel in the area. They were airlifted to hospital in Waterford and treated for shock and smoke inhalation.
- **1.3** There were no injuries and no loss of life. The vessel burned out and sank.



2. FACTUAL INFORMATION

2.1 Vessel Particulars

Name MFV "Gismonde"

Length Registered 49.10 feet (14.96 metres)
Length overall 50.85 feet (15.5 metres)
Breadth 19.75 feet (6.01 metres)

Year Built 1989 in France

Construction Wood, fishing vessel. Oak on oak carvel planking.

Fitted with wheelhouse and shelterdeck of grp/wood

construction.

Type of rig Stern trawl.

2.2 Machinery

Main Engine Caterpillar, Six cylinder, 261.3 kW.

Electrical system 24 volt direct current - provided with inverter for

various 230 volt alternating current appliances.

Trawl gear Electro hydraulic winches. Hydraulic power

controlled by electric solenoids.

2.3 Safety Equipment

Life raft One 4 man stowed aft of wheelhouse on shelter deck

top Serviced 25 April 2007.

Lifejackets 4 provided and stowed in Skippers cabin,

wheelhouse, galley and main cabin.

Personal lifejackets 3 provided, one for each crew member.

Lifebuoys 2

Distress signals 12 parachute red rockets

Portable Fire Extinquishers 2 x 9 litre foam, 2 x 5 Kg. dry powder.

Fire bucket

Fixed fire fighting Provided for Engine room. 5 kg CO2

installation

EPIRB 1 provided

2.4 Crew Skipper

M... C - - ... C+ -

Mr. Sean Stafford Holder of Fishing Vessel Second Hand

Limited Certificate of Competency.

Mate

Mr. Colm Schweppe No formal training. Approximately 7 years experience

fishing.

Crew member

Mr. Algis Garlavicius No formal training. Approximately 3 years experience

fishing.

Supernumerary Fisheries Technician

Mr. Michael McCauliffe Holder of Fishing Vessel Second Hand Limited

Certificate of Competency.

2.5 Description of MFV "Gismonde".

MFV "Gismonde" was a French built timber fishing vessel first registered in Ireland in 1994. Ownership transferred to the current owner in 2000 and following an independent survey in that year a number of improvement and repair items were attended to.

The vessel was constructed of oak planking on oak framing and divided into a number of compartments below the main deck:

Steering compartment

Crew cabin

Engine room

Fish hold

Net store

A shelter deck was fitted above the main deck extending from abaft the wheelhouse to the stem. The shelter deck was constructed of plywood and glass reinforced plastic (grp). The galley and messroom were below the wheelhouse on the main deck. The engine room was located almost directly below the wheelhouse and accessed from a door on the main deck. The engine exhaust ran up to atmosphere aft of the wheelhouse.

The vessel was equipped with gear for stern trawling and was fitted with 'rubber' nets suitable for bottom trawling. At the time of the incident the vessel was targeting prawns.



3. EVENTS PRIOR TO THE INCIDENT

- 3.1 A condition survey was carried out on MFV "Gismonde" by a marine surveyor engaged in private practice prior to the current owners purchasing the vessel who noted a number of items requiring attention. A subsequent survey was carried out a year later by the same surveyor and most of the items were verified complete. However an inoperative engine room fan had not been repaired. At this time the electrical system on board was described by the surveyor, in his report, as 'generally in a poor/fair condition'.
- 3.2 In the first report the owners were advised that the Caterpillar engine fitted to the vessel required an adequate supply of air for acceptable operation. The same surveyor noted shrinkage of engine room framing which he attributed to heat in the engine room.
- 3.3 The insulation around the lower part of the engine exhaust had been replaced at some time by the current owners but they could not recollect replacing the upper insulation.
- 3.4 MFV "Gismonde" was taken out of water at Howth in 2006 for painting and minor repairs. At this time the existing 5 kg halon fixed fire extinguishing system for the engine room was removed and replaced with a CO2 system consisting of a single 5 kg cylinder. A four person liferaft was also fitted to the vessel and the manual emergency hand fire pump was replaced. Following the docking MFV "Gismonde" returned to Dunmore East where she was based.
- 3.5 A condition survey was carried out on the vessel by another marine surveyor engaged in private practice in January 2006. A number of items were listed for attention and a surveyor from the same company returned in May 2006 to complete a Declaration of Compliance with the Code of Practice for the Design Construction and Equipment of Small Fishing Vessels of less than 15 m length overall.
- 3.6 In July 2007 some electronic work was carried out on a video plotter and at this time the electrical installation in the wheelhouse was described as 'not great' but generally fairly typical for a vessel of this type.
- 3.7 On 23rd August 2007 the skipper of MFV "Gismonde" was approached by a Fisheries Assessment Technician of the Marine Institute with a request to be taken on board for a trip, to carry out checks and gather information on the 'discards' or 'by catch'. The skipper agreed to have him onboard and he joined the vessel later that evening along with the other two crew members. He brought his own safety and work equipment on board, including an inflatable 275 kN lifejacket and personal locator beacon or PLB. He had been on board this vessel before to carry out sampling of the by catch.
- **3.8** Discards or by catch are undersize fish and fish of the wrong species inadvertently caught when a vessel is targeting a particular species.

- 3.9 Marine Institute staff are carried as supernumerary staff on board fishing vessels on a goodwill basis there is no remuneration for the skipper or owner. The vessels are selected by the Marine Institute dependant on the area in which they are going to fish. MFV "Gismonde" was intending to fish for prawns off the South Wales coast.
- 3.10 All the crew and the supernumerary had been given familiarisation training on board MFV "Gismonde" when they joined the vessel for the first time. This meant that it had been carried out some time ago and a drill was not carried out before MFV "Gismonde" left Dunmore East on this occasion.
- **3.11** The crew started storing the vessel for the forthcoming trip at about 23.00 hrs. and had completed by 00.30 hrs. on the 24th August 2007 and sailed from Dunmore East.
- **3.12** The skipper took the first watch until 01.30 hrs. and handed over to the mate with instructions to call the crewman at 04.00 hrs to take the watch and then for the skipper to be called again at 06.00 hrs.
- 3.13 The skipper took the watch again at 06.00 hrs. calling the crew some time later for shooting the fishing gear. The fishing gear was shot away at 07.30 hrs. in a position approximately 40 miles off the South Wales coast



4. THE INCIDENT

- 4.1 Whilst on watch alone in the wheelhouse the skipper noticed a smell of burning which he recognised as being similar to hot or burning electrical equipment. He checked the fuse boards in the wheelhouse and finding nothing untoward he felt that the engine room was the most likely source of the burning smell. He went below to check around and in particular to check the battery box located midships, starboard side on the main deck.
- **4.2** Having established that the cause of the burning smell was not coming from the engine room or the batteries the skipper returned to the wheelhouse to find flames coming from a panel at the aft end of the wheelhouse and the space filling up with smoke.
- **4.3** He got one of the 9 litre foam fire extinguishers from the engine room entrance and discharged it into the flames but was unable to attack the seat of the fire because it was obscured by the panelling.
- 4.4 Realising that the fire was escalating the skipper went below to rouse the crew and to alert them to the situation, shouting 'fire-fire'. He instructed them to muster on the aft end of the main deck with lifejackets and to prepare the liferaft for launching. The liferaft was located on the starboard aft side of the vessel and on top of the shelterdeck. The lifejackets were located in the skippers cabin on the port side of the main deck, in the galley, the wheelhouse and the crew cabin.
- **4.5** The crew and supernumerary, realising the seriousness of the situation, dressed quickly and came up on deck. The supernumerary had a personal locator beacon (PLB) with him in the cabin and when he reached the deck and saw the situation he activated it.
- **4.6** He did not have a lifejacket on at this time as his own lifejacket was stowed in his box of equipment forward and under the shelter deck. With the aid of a crewman he retrieved the lifejacket and donned it. Both men noticed that the underside of the shelter deck was filling up with thick smoke.
- **4.7** Returning to the wheelhouse the Skipper took another fire extinguisher, a 5 kg dry powder extinguisher, from the galley, and discharged it into the fire but this had no significant effect on the fire and the smoke and flames continued to increase.
- **4.8** The skipper went to the forward end of the wheelhouse and sent out a MAYDAY message on VHF Channel 16. He was unable to use the GMDSS radio set, as it was located towards the aft end of the wheelhouse and in way of the fire.
- 4.9 The MAYDAY message was picked up by Milford Haven Coastguard in Wales at 09.13 hrs UTC (about 10.13 hrs ships time) and acknowledged back to MFV "Gismonde". The skipper managed to give an approximate position of the vessel to the coastguard, from memory, and Milford Haven CG advised that a helicopter had

been tasked to the scene from Waterford with an arrival time of 35 minutes. The position of MFV "Gismonde" was approximately 51.30.4 N 006.07.17 W off the South Wales coast.

- **4.10** The skipper returned to the main deck and grabbed the deck wash hose to fight the fire. This was not working at full pressure because the engine revolutions were reduced and was ineffective against the fire. The skipper reported that around this time there was heavy thick black smoke in the wheelhouse. He heard what he described as a 'whoosh' and the fire then spread rapidly to the other parts of the vessel. The two men who had gone forward to collect a lifejacket also reported this whoosh.
- **4.11** The skipper retrieved the EPIRB from its holder at the aft end of the wheelhouse and placed it on top of the shelterdeck ready for use, but did not activate it. The supernumerary advised the skipper that he had already activated his own personal locator beacon. The skipper left the vessel's EPIRB on the shelterdeck top and turned his attention to the abandon ship operation.
- **4.12** The skipper and mate lifted the liferaft from the top of the shelterdeck to the main deck and launched it. By this time the smoke and flames were increasing rapidly through the shelterdeck and superstructure of the vessel.
- **4.13** The liferaft was put in to the water and the release mechanism activated. The skipper reported that the painter seemed to be very long but that once the raft was activated it inflated correctly and upright. All four men were able to climb into the liferaft without entering the water and cut the painter using a knife taken from MFV "Gismonde".
- **4.14** They attempted to paddle away from the burning vessel using their hands, not realising that there were paddles provided in the liferaft.

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EVENTS AFTER THE INCIDENT

5. EVENTS AFTER THE INCIDENT

- 5.1 A fishing vessel nearby, the "Ocean Pearl", picked up the MAYDAY message from MFV "Gismonde" and alerted MRCC Dublin via Rosslare CG Radio that they were in a position about one mile from MFV "Gismonde" and would proceed to the scene after hauling their fishing gear. They confirmed the position as 51.30 N 0006.008 W.
- **5.2** Hauling the gear took about 10 minutes and they reported to MRCC that a liferaft had been launched from MFV "Gismonde". Ocean Pearl had all four men from the MFV "Gismonde" on board by about 10.40 hrs. local time and reported to Rosslare Coast Guard that the men were suffering from smoke inhalation.
- 5.3 Shortly after this Milford Haven Coast Guard reported that they had a hit on a Personal Locater Beacon that was transmitting. The PLB was registered to Mr Michael McAuliffe and they sought confirmation that the transmission was related to the incident on board MFV "Gismonde" and requested that it be turned off.
- **5.4** The four crew were airlifted from "Ocean Pearl" shortly after this by the helicopter tasked from Waterford and brought to Ardkeen Hospital for treatment.
- **5.5** All four men were treated for smoke inhalation and released later that day.
- **5.6** MFV "Gismonde" subsequently burned to the waterline and sank. It was monitored by a vessel from the Royal Navy, HMS Mersey.

6. CONCLUSIONS

- **6.1** MFV "Gismonde" burned out and sank rendering it impossible to carry out an investigation on board to determine the exact cause of the fire.
- 6.2 In the opion of the MCIB the most likely cause of the fire was an electrical fault from cabling at the aft end of the wheelhouse. There were two radio sets located here, however fire as a result of a hot exhaust coming into contact with part of the wheelhouse structure cannot be ruled out. The owners of MFV "Gismonde" stated that all the wheelhouse equipment was only two to three years old.
- 6.3 The engine room fan was not operational. Engine room fans not only provide sufficient combustion air to the engine room but also ensure air changes in the space. Air changes are required for cooling, removal of stale air and combustion gas leakage. The cooling effect of air changes may help to prevent premature aging of cables and similar items.
- **6.4** As MFV "Gismonde" was 18 years old the insulation on the cabling would have started to age and would have been especially vulnerable in way of the funnel where it might have been exposed to heat which would age it prematurely.
- 6.5 The shelter deck of MFV "Gismonde" was constructed of plywood covered with fibreglass and ignited readily under the circumstances. The description of the fire's propagation from the skipper is typical in terms of a fire that is initially starved of sufficient oxygen to burn freely. This type of fire burns with thick, toxic, fuel rich smoke and a dark orange flame. The fire will continue to burn using whatever oxygen is available until another source of oxygen is introduced. This can be from somewhere such as an open door, a broken window or a draught of wind as the vessel turns. When the new source of oxygen is introduced to the fire the already hot, gaseous smoke ignites rapidly and burns freely creating the 'whooshing' sound that the crew heard, as it draws in more air and expands. The hot gaseous smoke, which will have spread to many parts of the vessel, is now ignited or may cause ignition of other flammable materials and the fire will take hold away from the original source and often in several places at the same time.
- 6.6 The skipper had to go below to alert the crew to the situation in the wheelhouse, as there was no means of communication between the wheelhouse and the cabin. Had there been a bell or talkback system fitted he may have been able to summon assistance without ever leaving the wheelhouse and may have been in a position to tackle the fire when it was first noticed. There was no requirement for such a system to be fitted to this vessel. However the skipper's actions in alerting the crew and instructing them to abandon ship was timely in preventing loss of life or injury. A delay in alerting the crew to the situation could have resulted in a very different outcome.
- **6.7** Although MFV "Gismonde" had been surveyed and issued with a Declaration of Compliance with the Code of Practice for the Design Construction and Equipment of Small Fishing Vessels of less than 15 m length overall the vessel was, in fact,



- greater than 15 metres overall length and was not required to comply with the Code of Practice. It was required to comply with the applicable Statutory Instruments. The provision of lifesaving equipment and fire fighting equipment stated in the declaration substantially complied with the applicable legislation.
- **6.8** Whilst a liferaft was provided it was not a SOLAS or MED approved liferaft as required by the legislation. This did not affect the outcome of the incident.
- 6.9 The crew were not instructed, trained and drilled in the use of the lifesaving and fire fighting equipment on the vessel as required by the Merchant Shipping (Musters) (Fishing Vessels) Regulations, 1999. These require that the crew on this size of vessel are trained monthly and whenever a new crewmember joins the vessel. The crew were, however, trained on first joining the vessel, and the failure to comply strictly with the Regulations did not affect the outcome of the incident or the orderly evacuation of the vessel. It is recognised that the Skipper and the Supernumery were fully trained in these areas.
- 6.10 The two crewmembers were required to have undertaken B.I.M. Basic Safety Training in accordance with the Fishing Vessel (Basic Safety Training) Regulations, 2001. The failure to comply with these Regulations did not affect the outcome of the incident, however if training had been completed the crew may have been made aware that paddles and a knife were provided in the raft. Pointed sharp objects should not be brought into liferafts due to the risk of puncturing the inflated tubes or the floor. The Skipper and the Supernumery were aware of the location of the paddles but believed that the first objective was to get as far away from the burning wreck as quickly as possible.
- **6.11** The skipper did not activate the EPIRB when he took it out of the cradle and it is likely that it was consumed by the fire. It did not activate at any time during the incident or later on
- **6.12** The Master instructed the Supernumery to activate his Personnel Location Beacon (PLB). Milford Haven Coastguard had to establish positively that the PLB alert from Michael McCauliffe was related to the incident on the MFV "Gismonde".
- **6.13** Halon fire extinguishing systems are no longer permitted. Replacement of halon for CO2 is not simply a matter of replacing the cylinder of gas. The method of operation and the quantity of gas required are significantly different. In this instance the owner engaged a company to carry out this work, however it was not carried out correctly.
- **6.14** The fixed fire fighting system fitted in the engine room was inadequate for the size of the engine room and type of vessel. The records show that the approximate volume of the engine room was 41 m3. To achieve the recommended volume of free gas to flood 60% of the engine room volume, 44 kg of CO2 would be required.
- **6.15** The vessel was manned in accordance with the regulations.

6.16 During the course of the investigation a query was raised to the Investigator as to whether or not Mr. McCauliffe was a passenger on board MFV "Gismonde". Mr. McCauliffe was carried onboard the MFV "Gismonde" as a supernumerary with the goodwill of the owner and skipper. He did not contribute to the fishing operations, nor take a share of the proceeds of the catch, he was however, being carried onboard in the course of his work.



7. RECOMMENDATIONS

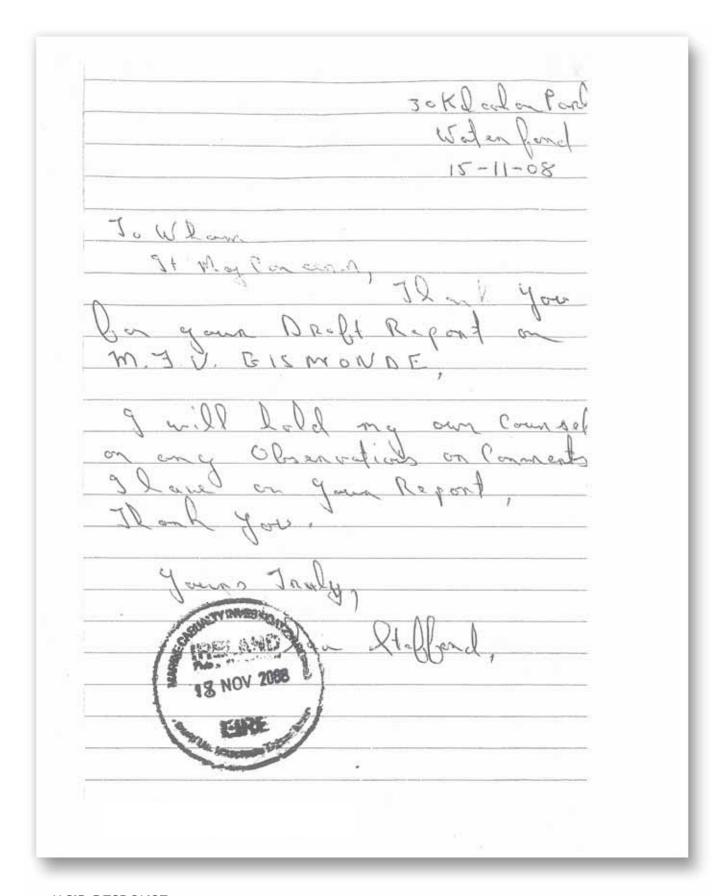
- 7.1 The value of regular and routine training in the use of a vessel's fire fighting and life saving appliances cannot be overstressed. In this incident the skipper's familiarisation training of the crew paid off. There is sufficient regulation and information already in place regarding training on board fishing vessels, however there does not appear to be systematic enforcement of the legislation by the State. The State is recommended to review the enforcement of the relevant legislation.
- 7.2 The Marine Institute and other interested parties are recommended to seek legal clarification on the status of supernumeraries carried on board fishing vessels in the course of their duties with regard to the provisions contained in the Merchant Shipping Act 1992 relating to the carriage of passengers.
- **7.3** PLB's are widely available, however there is no provision in Ireland for registration or licensing of PLB's except in connection with a vessel for which a Radio Licence has been issued. The State is recommended to determine whether there is a need for PLB's to be registered, licensed or otherwise controlled.
- 7.4 Whenever there is an emergency situation on board a vessel the Master or Skipper of the vessel should remain in command at all times. Communications with the rescue services should be under the control of the Master or Skipper. Masters and Skippers should alert the rescue services or summon help by whatever means is available to them and should be encouraged to make use of the EPIRB registered to the vessel as a means of summoning assistance rather than PLB's as there may be a delay whilst the validity of a PLB alert is verified before tasking help to the vessel.
- **7.5** Owners of fishing vessels and other craft are recommended to carry out regular visual checks of cabling and to ensure that all cable runs and connections are secure.
- 7.6 Owners of fishing vessels and other craft are recommended to carry out routine 'earth checks' and 'megger tests' on cables and, where appropriate, equipment. Earth faults should be cleared promptly, especially on systems having a voltage to earth of greater than 55v
- **7.7** Skippers and owners are reminded again that equipment fitted to a vessel for effective operation of the machinery, such as engine room fans, should be kept in working order at all times.
- 7.8 During the completion of this investigation the Merchant Shipping (Safety of Fishing Vessels)(15-24 metres) Regulations came into force. These regulations provide for the survey and inspection of electrical installations and for general emergency alarm systems to be fitted. Additionally, they require any work carried out on Fishing Vessels to be approved.

LIST OF CORRESPONDENCE

8. LIST OF CORRESPONDENCE

		Page
8.1	Mr. Sean Stafford MCIB Response	17 17
8.2	Mr. Michael Mc Auliffe MCIB Response	18 19
8.3	Mr. Chris Reynolds MCIB Response	20 20





MCIB RESPONSE

The MCIB notes the content of this response.



CORRESPONDENCE

Marine Institute
Rinville
Oranmore
Galway
Tel: +353 91 387 200
Fax: +353 91 387 201
Email: institute mail@marine.ie



To whom it may concern.

Firstly thank you for the copy of the draft before publishing. I gave the draft an intensive read through and it's evident that the investigator might have misinterpreted some of the information given to him by witnesses.

Under no circumstances was the PLB activated without the Skippers approval. I have been at sea for most of my life and I am well aware that the master has full control at all times regardless of the situation. The EPIRP unique to the vessel was taken out of its cradle and left on the shelterdeck. The crew were extremely lucky to get the life raft to the stern for deployment given that its position was close to the EIPRB. It was a choice between them and the latter wasn't an option. The master instructed me to activate the PLB, so he would not endanger anybody's life by sending them up to the top of the shelterdeck again. He had previously issued a mayday and the transmission was received with recognition from the vessel closes to us. The master thought at the time that the PLB activation would be an extra insurance and it would verify our geographical position. Every person there that day was put at ease knowing this little device was transmitting a signal every few seconds. Validating and updating our position. This created a calming effect and re-established organization. We were unaware that a delay was caused when PLB's are activated and I do think that its imperative that manufactures and the legislators come to an agreement on registration and administration. However it's important to note that the PLB's (McMurdo PLB Fastfind) purchased by the Marine Institute were registered with the EPIRB Registry at MCA, Falmouth. The registration details included the owner, in this case Michael McAuliffe, with my next of kin details and several points of contact within The Marine Institute. My position on board the vessel was verified by my line manager when she was contacted by the coastguard.

I do think that the investigator is forgetting that the situation was handled extremely well by the master and he should be commended for his actions. In paragraph 6.9 and 6.10 of the conclusions it is noted that two of the crew had no formal training in lifesaving or Firefighting, the paragraphs forget to highlight the fact that the Master and Supernumerary were more than proficient in these areas and I do think the successful outcome can be attributed to this fact. It also points out that paddles were not sourced. The fundamental reason for that was when a successful departure from the stricken vessel was made, the crew and I just wanted to get away as fast as we could, so the last two people in the raft started to paddle with their hands giving no consideration to the time that it would take to find and deploy paddles. It didn't take no time to exit from the burning vessel taking into account that the vessel



Marine Institute
Rinville
Oranmore
Galway
Tel: +353 91 387 200
Fax: +353 91 387 201
Email: institute mail@marine.ie



was still underway. It also has to be stated that the knife used to cut the painter was subsequently discarded. We were fully aware that a knife was in the raft as part of the equipment but the consensus at the time was better to be looking at it than for it. We were effectively tied on to a time bomb and if immediate action wasn't taken, it was inevitable that we were going to be seriously harmed from the fumes from the burning plastic and timber.

Please find the information to be honest, accurate and to best of my knowledge and if you or your company's representatives have any other questions please don't hesitate to contact me. I am going to sea on a survey onboard our research ship "MF Celtic Explorer" on the 13th of November and will return on the 1st of December. You can email me at michael.mcauliffe@marine.ie if your query is urgent, or please contact Ms Catherine Quigley Johnston (HR Manager) at the Marine Institute on 091 738200.

Yours sincerely Michael Mc Auliffe

Wichen HAulle.

Work mob 087-2297631 Other mob 086-3826771

MCIB RESPONSE

The MCIB notes the content of this response and has amended the report where necessary. The MCIB recognises that the Skipper of the MFV "Gismonde" handled the incident in a professional and efficient manner.

CORRESPONDENCE

Head Office

Transport House, Kildare Street, Dublin 2, Imland.

Priomh-Oifig

Teach lompair, Sraid Chill Dara, Baile Atha Cliath 2, Éire.

+353 1 6707444 1890 443311 +353 1 6709633

www.transport.ie

An Roinn Iompair

Department of Transport

30th October 2008

John G. O'Donnell, B.L., Chairman, MCIB

MCIB Draft report 'MFV Gismonde'

Dear Mr. O' Donnell,

With regard to para 7.3 of the Draft report in regard to PLB's the Coast Guard recognises the difficulty that unregistered PLB's present to the rescue service. Significant advancements have been made in recent years in taking the 'search' out of search and rescue. Reliable access to an electronic 24/7 up to date database of locator beacons by Marine Rescue Coordination staff is of considerable assistance.

Yours sincerely,

Chris Reynolds,

Director,

Irish Coast Guard,

Department of Transport,

Leeson Lane,

Dublin 2.

Ph: +35316782000 Fax: +35316620930

ChrisReynolds@transport.ie

Irish Coast Guard

Coast Guard HQ, Leeson Lane, Dublin 2.

MCIB RESPONSE

The MCIB notes the content of this response.

