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REPORT OF INVESTIGATION INTO THE MFV "CASSIE" AT INVER BAY, CO. DONEGAL ON 3rd DECEMBER 2007

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

REPORT No. MCIB/153

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1. SYNOPSIS

(Note: All times are GMT)

1.1 At 12.27 hrs. on Monday 3rd December 2007, the Irish Coast Guard Marine Rescue Sub Centre at Malin Head, Co. Donegal received a 999 call by mobile telephone from a local fisherman stating that he had sighted a red flare in the water near Doorin Point. A search and rescue operation was instigated.

1.2 The following units were alerted:

	Time of Alert	Time Tasked
SAR Helicopter R118 from Sligo	12.32 hrs.	12.32 hrs.
Bundoran Inshore Lifeboat	12.33 hrs.	12.33 hrs.
Killybegs Coast Guard	12.39 hrs.	12.39 hrs.
Aranmore Lifeboat	12.59 hrs.	13.01 hrs.
A PAN broadcast was sent on Channel 16 at	12.32 hrs.	

1.3 At 12.58 hrs. the SAR helicopter was on scene and commenced a search of the area.

1.4 At 13.28 hrs. the helicopter crew sighted two casualties in the water.

1.5 By 13.39 hrs. both casualties had been winched onboard the helicopter which proceeded directly to Sligo Hospital. The two casualties, Mr. Liam Kennedy and his son Mr. Conor Kennedy, were given C.P.R. en route to the hospital and treated on arrival.

1.6 There was no response to treatment and Mr. Liam Kennedy was pronounced dead at 17.40 hrs. on 3rd December 2007. Mr. Conor Kennedy was pronounced dead at 18.25 hrs. on 3rd December 2007 in the Intensive Care Unit.

1.7 The subsequent Autopsy Reports for Messrs. Liam and Conor Kennedy concluded that the cause of death for both men was due to hypothermia, due to cold salt-water immersion.

2. FACTUAL INFORMATION

2.1 Names of the deceased:

Mr. Liam Kennedy
Co. Donegal

Mr. Conor Kennedy
Co. Donegal

2.2 Owners of the MFV "Cassie":

Mr. Liam Kennedy and Mr. Damien Kennedy both of Co. Donegal.

2.3 Details of craft involved in incident:

Name of boat:	MFV "Cassie". A clinker built open wooden boat with larch planking on oak frames. Built by Denis Gallagher, Boat builders, Magheroarty, Gortahork, Co. Donegal.
Year of build:	1995
Length:	6.4 metres
Breadth:	2.08 metres
Depth:	0.71 metres

The vessel was inspected by a panel Surveyor under the Code of Practice for the Design, Construction and Equipment of Small Fishing Vessels of less than 15 metre Length overall. A Declaration of Compliance was issued on the 23rd day of August 2005 and is valid to the 22nd day of August 2009.

At the time of the survey of the MFV "Cassie" all the items for compliance with the Code of Practice for 15 metre and under fishing vessels were recorded as being in place including the following:

Lifejackets	2
Lifebuoys	2 (one with 18 metre line)
Personal Flotation Devices	2
Distress Signals	6 Red Star Signals

Anchor and Cable
Means of recovering persons from the water (MOB recovery)
Radio Equipment for A1 Sea Area - Waterproof VHF handset
Radio Equipment for all Sea Areas as applicable for under 12 metre vessel - Manual EPIRB
Sound Signal

Note: The craft and engine were lost and no part was recovered in this incident.

2.4 Details of Engine:
15 Horse Power Honda outboard.

2.5 Details of Fishing Equipment, Personal Clothing and Life Saving Equipment carried:

At the outset of the fishing trip that day, to fish shrimp pots, both men were wearing oilskin jackets and trousers and Wellington boots. Mr. Liam Kennedy wore a buoyancy aid jacket under his yellow oilskin jacket and a woolly cap. He carried a mobile phone in his trouser pocket and a Personal Locator Beacon - PLB (hand-held EPIRB) in the inner pocket of the buoyancy aid jacket. Mr. Conor Kennedy wore a Personal Flotation Device - PFD (inflatable lifejacket) of 150 Newton buoyancy (150 N) and also wore a tracksuit top.

2.6 Details of location and area of fishing trip:

Inver Port from where the two fishermen embarked for the fishing trip lies at the head of Inver Bay and is sheltered by a drying pier. There is a good anchorage for small craft south of the pier. Inver Bay is on the north side of Donegal Bay and is entered between St. John's Point to the West (54° 34'N 8° 28'W) and Doorin Point (6 miles ENE). Killybegs Harbour lies to the West at a distance of approximately 8 miles.

Copies of extracts from Irish Coast Pilot giving more detail on Inver Bay, Inver Road and Inver Port are included in Appendix 8.3. The chartlet reproduced in the Appendix 8.1 shows the area in question plus the relevant locations of sightings, boats in the area and location of casualties.

3. EVENTS PRIOR TO THE INCIDENT

3.1 Around 09.00 hrs. on the morning of 3rd December 2007, Messrs. Liam and Conor Kennedy commenced preparations to go shrimp potting in their open wooden boat MFV "Cassie". It was their intention to shift the fishing gear to deeper water as bad weather was forecast for the following day and the weather for the 3rd December was said to be the best for the week in question. They went to the pier sometime around 10.00 hrs., or a little after, to commence fishing operations in the vicinity of Doorin.

4. THE INCIDENT

4.1 There were no witnesses to the incident although there were at least three other local fishermen in the area who were out around the same time as Messrs. Liam and Conor Kennedy. The first indication that anything was amiss was when one of the other fishermen became concerned that he could not see the MFV "Cassie" and went to investigate from a position on land. He sighted one, then another red flare, in the water off Doorin Point.

4.2 This fisherman had gone out in his boat around 09.30 hrs. on the morning of 3rd December 2007 to haul shrimp pots in his boat. The boat, the "St. Bridget", was launched from a trailer into the water at Inver Bay. The weather was wind westerly (S.W.), fresh and showery and good visibility. See Appendices 8.4 to 8.10. The fisherman along with his brother was hauling shrimp pots in Inver Bay by the coast off Doorin.

4.3 At around 11.00 hrs. it got more showery with the wind increasing and a big swell on the water. The brothers decided, as it was getting rougher and more difficult to raise pots, to call it a day and go back to Creevin on the east side of Inver Bay. They were aware that Mr. Liam Kennedy was also out shrimp potting and saw Mr. Liam Kennedy's boat several times at 1/2 to 3/4 of a mile to the south. Around 11.30 hrs. in a very heavy shower, it was noted that Mr. Liam Kennedy's boat was heading north as if to return to Inver Port.

4.4 At around 12.00 hrs. the fishermen on "St. Bridget" landed at Creevin on the east side of Inver Bay and took off their gear. The men looked to see if they could still sight the MFV "Cassie" heading for Inver Port pier. As there was no sign of the boat they became concerned and decided to drive down to Doorin Point to investigate it's whereabouts. Just before 12.30 hrs., arriving at Doorin and looking out between the headland and a rock outcrop known as the Eagle's Nest, a red flare was spotted in the water, a red glow with smoke about 200 to 300 metres off shore. A second flare went off immediately after the first.

5. EVENTS FOLLOWING THE INCIDENT

5.1 The fisherman at Doorin Point, on seeing the flares raised the alarm by dialling 999. He was put through to the Irish Coast Guard and reported what he had seen and was told to stay at the location. He with his brother then walked a short distance across the headland to the shore in order to get a better view of the area out over Donegal Bay. They had a pair of binoculars with them. The local weather conditions at the scene were reported by the Irish Coast Guard as being very bad - gale force winds with squalls. See Appendices 8.4 to 8.10.

5.2 The initial action taken by the Irish Coast Guard was to task the Search and Rescue Helicopter R118 based at Sligo, the Bundoran Inshore Lifeboat, the Killybegs Coast Guard and the Aranmore Lifeboat and to issue a Pan broadcast to any vessels in the area.

5.3 The Bundoran Inshore Lifeboat advised the Irish Coast Guard that it was unsafe at that time to launch due to heavy breaking swell and severe squalls off Bundoran Pier and informed them that the helicopter was en route. Later when the helicopter had asked for other vessels assistance, the Bundoran Inshore Lifeboat did launch as the squalls had eased and there were more gaps in the breaking swell. The boat speed was down to 8 or 9 knots and at that speed the estimated transit time to incident location was approximately 45 mins.

5.4 The Killybegs Coast Guard unit did not launch due to the conditions and were requested to send a shore team to Doorin to liase with the witness. The SAR helicopter from Sligo prepared immediately and arrived on the scene at 12.58 hrs. that is, 26 mins. after the initial alert and hovered above the headland at Doorin Point making visual contact with the witness. The winch-man was lowered to this location and shown the position where the flares had been sighted and the likely position of the casualties, taking the drift into consideration. A fishing boat was sighted further up from the headland on the east side but this turned out to be one of the other boats that were out at the same time as MFV "Cassie". Another fishing boat came out to the scene and joined the search after a mobile phone call from the witness.

5.5 At 13.20 hrs. the SAR helicopter reported locating a semi submerged boat with a blue and white hull. The bow section only was above the water. The position was recorded as N5435.42 W00817.85 about a mile south off Doorin Point. At 13.28 hrs. the helicopter crew made a visual sighting of the casualties about half a mile distant at position N5435.33 W00817.02. The witness saw the winch-man being lowered to the surface and recovering the two casualties to the helicopter. The witness had earlier noted that the water temperature as recorded by the "Garmin" on his boat was 44.5 deg. F., 6.9 deg. C.

5.6 Details of helicopter Search and Rescue Operation:
The SAR Helicopter, a Sikorsky S61 code R118, was called by the Irish Coast Guard

at 12.32 hrs. and arrived on scene at Inver Bay at 12.58 hrs. There were four persons on board, the two pilots, a winch operator and a winch-man. The winch-man operated the forward-looking infrared camera from the tail section. The two fishermen on the headland at Doorin Point were spotted and the winch-man was lowered to their position to be shown the area where the flares were spotted.

The search resumed and the winch operator and pilots spotted the bow of a small boat. The spot was marked with a buoyant smoke marker and the search tracked the smoke line. The seas were choppy. The winch operator then spotted the casualties from the right hand door. The winch-man was lowered to their position. One of the casualties, Mr. Liam Kennedy had a lifebuoy ring around him, that is, he was face down towards the water with his head protruding from the ring. The second casualty, Mr. Conor Kennedy was wearing a PFD (inflatable lifejacket) leaning backwards with his head supported out of the water by the PFD (inflated lifejacket) though there was some water splashing over.

The two casualties were together, perhaps only a foot apart, and appeared to be either tied together or entwined together in the 20 feet length of 12 mm diameter lifebuoy rope. The winch-man went back up to request a boat to come in, if possible, being anxious that the casualty in the lifebuoy might sink. Within seconds the winch-man went back down and retrieved the casualty in the inflatable lifejacket. Some rope came up with the first casualty and also the lifebuoy became detached from the second casualty.

The rope was cut off at the door in order to get the casualty into the helicopter. The winch-man went straight back down and retrieved the second casualty who had remained afloat. Both casualties were now in the helicopter which proceeded directly to Sligo Hospital. C.P.R. was carried out en route to the hospital where two ambulances were waiting at the Helipad. The casualties were spotted at around 13.28 hrs. and the helicopter left for the hospital at 13.39 hrs. arriving there at 13.48 hrs.

It was noted by the helicopter crew that the casualties in the helicopter had clothing as follows:

Mr. Liam Kennedy wore a yellow oilskin jacket with buoyancy aid jacket under the oilskin. In his hand attached by a small strap was a hand held emergency locator.

Mr. Conor Kennedy was wearing an oilskin jacket over oilskin trousers, a tracksuit top and a lifejacket. (Noted to be well inflated).

5.7 Details from other Witness Accounts:

Another fishing boat had set out from Inver Pier at 08.30 hrs. on the morning of 3rd December 2007. There was no one else around and the boat MFV "Cassie" was tied at the pier.

Weather was said to be not too bad with a very big swell at Doorin Head. The wind had started to freshen. The location for hauling in this fisherman's shrimp pots was round Doorin Point on the Donegal Bay side. The weather was deteriorating all the time and wind continued to get up. This owner decided to move further into the shelter of the land and lie-to, to see if the wind eased. When in more sheltered waters the owner spotted a red or orange glow out by Doorin Point direction which he thought was very strange. He didn't know what it was. A little after that the squall abated but there was still a big swell. On looking up, he could see a helicopter above and thought someone must have contacted them to rescue him. It headed South West towards Doorin Point. The owner then headed back to Port Inver and saw another boatman who informed him they were looking for Mr. Liam Kennedy. Shortly after that he could see the helicopter winching something out of the water.

Another fisherman, a brother of Mr. Liam Kennedy also went out fishing that morning. Mr. Liam Kennedy had gone out before him but he had been in Mr. Liam Kennedy's house that morning and later chatted to them both, that is Messrs. Liam and Conor Kennedy at the pier. He noted that his brother Mr. Liam Kennedy was wearing a woolly cap, oilskin trousers and jacket and a buoyancy aid jacket under the oilskin and Wellington boots. Mr. Conor Kennedy had a set of blue and yellow oilskins. The tide at the time was low about a quarter of the way in at 09.30 hrs. The weather was good enough at the time, wind westerly and not too strong with good visibility. His last words to the pair were "I'll chat to you later".

This fisherman's boat was an 18ft. GRP and he went out around 10.00 hrs. on his own, shrimp potting just around the other side of the pier operating along the shoreline . Sometime around midday or perhaps as late as 13.20 hrs. he received a mobile call to say a flare had been sighted around Doorin. He attempted to 'phone Mr. Liam Kennedy but couldn't get through trying 4 or 5 times. He decided to come back to the pier. Before the receipt of the call a squally shower occurred but he was in a relatively sheltered position as the wind was blowing from the west and he was in the lee.

Several others had gathered at the pier wondering what was going on because of the flare sighting so he went to Mr. Liam Kennedy's house with 3 or 4 others and at that stage saw the helicopter over at Doorin Head. Sometime later he received word that Messrs. Liam and Conor Kennedy were found and were fine and on their way by helicopter to Sligo hospital. He went back to the pier to ensure his boat was properly tied up. The fisherman who had been out earlier around the back of Doorin came in and said it was a bad day in the water and that he had seen a red light and signalled the direction to the helicopter.

6. CONCLUSIONS

6.1 The investigation into the exact cause of this tragic occurrence could not be conclusive as there were no witnesses to the incident. An examination of the boat and engine and equipment carried in the boat was not possible as none of these items were recovered with the exception of the one lifebuoy ring. The two fishermen were recovered from the sea and the autopsy report concluded they had died from hypothermia and not from drowning.

6.2 It is understood that although the last sighting was at 11.30 hrs., a mobile phone call to Mr. Liam Kennedy was made sometime around 11.45 hrs. The call was answered and there was no indication of distress at that time and everything was understood to be normal. The timeline therefore can be narrowed down for the possible length of time of immersion in the water. From the time of the last communication around 11.45 hrs. to the time of recovery into the helicopter at 13.39 hrs., it is likely that the two men were in the water for approximately two hours. The minimum possible time of immersion could be from the time of flare sighting at 12.30 hrs. to the time of recovery into the helicopter at 13.39 hrs. that is just over one hour. From a Graph of Survival Time (without immersion suit) against temperature plotted for the 12 months of the year, in December the maximum survival time at 7 deg. C would be about 2.5 hrs. and the minimum time of survival about 50 mins. (See Graph of Survival Time against Temperature at Appendix 8.11).

6.3 Mr. Liam Kennedy was holding a Personal Locator Beacon (hand-held EPIRP) when he was taken into the helicopter. This was recovered for investigation, as there was no evidence that any signal had been picked up from the PLB.

6.4 The boat was surveyed in 2005 by a Panel Surveyor and was issued with a Document of Compliance. The boat owner was very experienced and had very good local knowledge of the area. He held a diver qualification for twenty years, held a VHF license and had been fishing out of Inver for his entire working life. Items of safety equipment said to be with the boat at the time of the survey in 2005 i.e. two lifejackets, a VHF radio and a second lifebuoy were never recovered. It is possible that had the distress flares carried been parachute rocket flares the alarm may have been raised earlier.

6.5 The full report into the test of the PLB type ACR AquaFix 406 (model 201 PLB) is included in the Appendix 8.19. Chapter 9 of the Code of Practice for vessels under 15 metres LOA details the Radio Equipment required for all Fishing Vessels. 9.5.1 (b) of the code requires the carriage of a satellite Emergency Position-Indicating Radio Beacon (satellite EPIRB), which shall be (in the case of under 12 metre vessels).

(i) Capable of transmitting a distress alert either through the polar orbiting satellite service operating in the 406 MHz and 121.5 MHz bands or the 1.6 GHz band;
(ii) Installed in a readily accessible position;

(iii) Ready to be manually released and capable of being carried by one person into a survival craft;
(iv) Capable of floating free if the vessel sinks and of being automatically activated when afloat; or
(v) Capable of being activated manually.

Note: In the case of an over 12 metre vessel, the requirements above are exactly the same except that the word "or" in (iv) is replaced by "and" i.e. and capable of being activated manually.

The PLB in question is an ACR AquaFix 406 (model 201 PLB). It is manually activated only. It has two buttons on the front cover. One has a battery symbol labelled "TEST" and the second button is labelled "GPS". To activate the PLB in a distress situation, the two buttons labelled "battery" and "GPS" must be pushed simultaneously for one second. The PLB is normally carried in a plastic holder. It can be activated when in the holder by lifting a plastic flap and pressing the two buttons as above or it can be removed from the holder and activated again by pressing the two buttons as above. The PLB in the casualty's hand was not in the plastic holder.

6.6 Physical Testing:

The PLB from the casualty was removed to a secure location for testing. The unit was placed in a Faraday cage and tested three times. A GMDSS test box was used to pick up emissions. At each test, the unit beeped three times and the LED activated. The result was positive for the three tests and the correct ID code transmitted. The unit was also tested with the antenna folded in the stored position and the test was positive.

6.7 Live Testing:

For the live test the following organisations were contacted:-
MCC Mission Control Centre, Kinloss, Scotland
Irish Air Traffic Control Services via Irish Aviation Authority
Irish Marine Rescue Co-ordination Centre, Dublin
Irish Air Corps, Baldonnell.

The PLB was taken to the test location at the appointed time held in the operator's hand and activated at a height of about 1.6 metres. MCC Kinloss reported to MRCC Dublin that the equipment under test operated and the correct ID code transmitted.

In summary the beacon was correctly detected and would have triggered a distress procedure. The PLB is in good operational condition and the tests carried out have positive results. The report concluded that the beacon was operational and there is a high probability that if activated during the incident an alert would have been acted on. The "Off" switch would have had to be operated for the battery to be still functioning for testing.

6.8 Distress Flares:

From the observations of the witnesses at Doorin Point, the flares were seen in the water or from the water surface. Two flares were sighted. It appears that the flares sighted were hand flares. The copy of an invoice from a supplier indicates that 6 hand flares were supplied to the owner of the MFV "Cassie" in 2005. Distress flares were included in an application for grant for safety items to BIM. The application for grant under the heading "Distress Flares" does not differentiate between hand-held or Rocket type. The total cost however, for the 6 Distress Flares indicates that it would have been the cost of hand flares that were indicated in the application for grant as quoted by the supplier.

The requirement for Distress Signals in the Code of Practice for small fishing vessels of less than 15 metres length is as follows:

Length overall less than 12 metre – 6 Red Star Signals
Length overall 12 metre or more – 12 Parachute Distress Rocket Signals
For the MFV "Cassie" therefore the requirement is for 6 Red Star Signals.

The Merchant Shipping (Life-Saving Appliances) Rules, 1993 defines the specifications for Red Star Signals and Parachute Rocket Signals and Hand Flares as follows: -

Each Red Star Signal shall be capable of emitting two or more red stars at or near the top of the rocket trajectory at a minimum height of 45 metres. The burning time shall not be less than 5 seconds. Each star shall have a luminous intensity of not less than 5000 candela.

A Parachute rocket flare shall burn for a minimum of 40 seconds and reach an altitude of at least 300 metres and have a descent rate of not more than 5 metres per second. The luminous intensity shall be not less than 30000 candela.

A hand flare shall be capable of burning with an intensity not less than 15000 candela and have a burning period of not less than one minute.

7. RECOMMENDATIONS

7.1 It is recommended that the requirements in the Code of Practice for 6 Red Star Distress Flares for under 12 metre vessels be amended to 6 Rocket parachute Flares. The former are not now readily available and the specification of the rocket flares is much superior to that of Red Star Signals. In fact the main suppliers state that they normally supply rocket flares when red star signals are requested. In the case of the MFV "Cassie" it appears that only hand flares were carried. These can be seen by other boat users or persons on the shore if they happen to be in the vicinity but are lost from view if there is a headland in the way or the shore is deserted or even in particularly heavy seas and windy conditions. A rocket flare can be seen immediately from a great range and above geographical obstructions and weather conditions.

An alternative for consideration is for the pack of flares to be consistent with that of categories of Passenger Boat, that is 4 Rocket Flares, 4 Hand Flares and 2 Floating Smoke Signals. Other Administrations require a mixture of Distress Signals for small fishing vessels.

7.2 During survey for the Document of Compliance it must be positively confirmed that the Distress Flares carried meet with the specified requirements. The Inspection Panel responsible for the issue of the DOC should be reminded to check that the Flares carried are the correct type. Hand flares may be carried but in addition to the required rocket propelled flares.

When an application for grant is made to Bord Iascaigh Mhara for eligible safety items, the list requested should be checked and verified by the Officer responsible, that the item is as required by the Code of Practice. It is recommended that the form for eligible safety items, under the heading Distress Flares, be amended to indicate whether the item requested is Rocket Flare, Hand Flare or Floating Smoke Flare. Individual fishermen are also responsible for ensuring they have the mandatory requirements.

7.3 Before every intended fishing trip it is vital that local weather conditions are checked and observed for the particular locality where a fishing trip is to be undertaken. In this instance, Inver Bay is quite sheltered but south of the bay in Donegal Bay, it is exposed to the elements. For all Irish Coastal Waters, Sea Area Forecasts can be obtained by visiting the website www.met.ie or by telephoning weather dial Sea Area Forecasts on 1550 123 855.

7.4 Appropriate clothing should be worn with regard to the season and ambient temperature conditions in an open boat and not necessarily just for fishing, e.g. wear thermal underclothing and or wet or dry suits. The cold water temperatures experienced during winter greatly hasten the onset of hypothermia should an accident and immersion in water occur. It is worth noting that there is a 40% grant available from B.I.M. for the purchase of Immersion suits.

7.5 When going out on any fishing trip it is a requirement that Personal Flotation Devices are worn at all times and, in addition, SOLAS Lifejackets shall be carried for each person on board at all times. A buoyancy aid is not a lifejacket and does not support the head out of the water should the wearer lose consciousness. PFDs for offshore use should be a minimum of 150 Newton buoyancy (150 N) and should carry the CE mark and or the Marine Equipment Directive MED Approval Wheel Mark. Fitting straps should be made tight with preferably a crotch strap to help keep it in place. It is important that an approved dealer regularly services these every year. Ideally the PFD should be a SOLAS approved type with MED Approval Wheel Mark.

7.6 It was noted that during the investigation that the lifejacket had not been serviced. However, the PFD/lifejacket functioned correctly. The MCIB recommends that the Minister draws attention to Marine Notices No. 7 of 2002, No. 36 of 2005, No. 18 of 2006 and No. 23 of 2007 which give guidance on the selection and maintenance of Personal Flotation Devices on board Fishing Vessels and Pleasure Craft.

7.7 The VHF unit carried on an open boat should be a fully waterproofed type ideally with the Marine Equipment Directive MED Approval Wheel Mark.

7.8 The nearest Irish Coast Guard remote transmit receive station is at Cashelgar and approximately 12 nautical miles distant from the scene of the incident. Where practicable, it is better to have a fixed VHF installation. This is more readily achievable on an open boat with a small cabin or wheelhouse. One solution however, on an open boat without an enclosure is to erect an aerial into which a cable to the hand held set can be connected and disconnected quickly in emergency. An aerial will give much better coverage. It is a requirement that a listening watch is kept on Channel 16. In this incident a Pan broadcast was made on Channel 16. Fishermen are reminded that the VHF radio should always be switched to listening to Channel 16.

7.9 While it is a requirement for vessels over 12 metres length to carry a SOLAS liferaft, it is a recommendation only for vessels under 12 metres operating less than 5 miles from a safe haven to carry a liferaft. These may be non-SOLAS type. It is recommended consideration be given to requiring that the carriage of a small liferaft is made mandatory for fishing vessels under 12 metres. In the event of capsize or sinking the provision of a liferaft can make all the difference to the chances of survival.

7.10 Where possible when going out fishing, establish and maintain contact with other fishermen in the area. Let each other know their respective intentions and local conditions in their respective areas. The local Coast Guard station should be informed of the intention to go out and the intended time of return. Check operation of the VHF radio on every occasion as well as all the other safety equipment.

7.11 The PLB carried by one casualty does not appear to have been activated, in that no distress alert was received. This is a manually operated device only. On test it worked and had good battery capacity. Other types of EPIRB can be operated either automatically or manually and for the fishing vessels over 12 metres length are required to be of the float free type achieved by automatic activation of a hydrostatic release unit and capable of either manual or automatic operation, that is operate when afloat after release. On an open boat difficulties arise as to where to locate a float free type but this could be overcome by fitting the unit on a mast. The hydrostatic release unit is designed to release within a depth of 4 metres. It has the advantage however, that it can be manually released from storage and of automatic activation when afloat. It is recommended that all EPIRBS fitted are of the float free type and capable of both manual and automatic operation.

7.12 The Document of Compliance issued to the owners of Fishing Vessels under 15 years is valid for 4 years subject to an Intermediate Declaration from the owner after two years. Fishermen should be reminded of this requirement at the time of inspection for the Declaration of Compliance. It is recommended that the Intermediate Declaration Form be amended to include the relevant addresses to which the form is to be sent. At present neither the Code of Practice nor the Document of Compliance states where the completed Intermediate Declaration is to be returned.

8. LIST OF APPENDICES

Appendix 8.1 Extract from Chartlet No. 2702 showing area where incident occurred.

Appendix 8.2 Satellite Image of Donegal Bay.

Appendix 8.3 Extract from Irish Coast Pilot.

(immediately above the town) completely sheltered from wind and current.

Inver Bay

12.179

1 Inver Bay, entered between Saint John's Point (54°34'N 8°28'W) and Doorin Point (6 miles ENE), affords an anchorage off the NW shore in Ballybodonnell Bay (12.184) and for smaller vessels, in Inver Road (12.185), at the head of the bay.

There are no anchorages on the SE side of the bay. For a temporary anchorage near the entrance see 12.182.

2 There is least shelter with winds between S by W and SW by W whence there is a fetch of sea of 10 to 14 miles. A gale from between these two points causes a considerable sea but it does not usually continue long from this quarter before veering.

Caution. Small craft boating should note that the shores of the bay are mostly foul.

12.180

1 **Useful marks:**

Ruins of the coastguard station (54°36'·9N 8°21'·6W) are conspicuous.

Sentry Hill, 62 m high (4 cables N of the ruined coastguard station), rounded on its W side, is prominent.

Kilmacreddan House (1¾ miles NE of Sentry Hill), large and white, standing amidst plantations on rising ground, is very easily identified.

Chart 2792 plan of Killybeg Harbour, 2702

Anchorages

12.181

1 A small bight (1 mile NE of Saint John's Point) between Rinnanane (54°34'·7N 8°26'·1W) and Killultan Point (3½ cables NE) affords good shelter for small craft in depths up to 4 m.

Black Rock, which is steep-to, lies in the middle of the entrance. The bight should be entered between Black Rock and Killultan Point (2 cables N) through a channel with a least depth of 4·6 m.

Small craft may lie sheltered, inside the rock, in a depth of about 4 m.

12.182

1 **Cassan Sound** (1½ miles NE of Saint John's Point) is an open anchorage well sheltered from winds between N and W. It affords a temporary anchorage, in depths of 12 m.

For small craft the recommended berth is in a depth of 3·5 m between the end of a small breakwater and the shore N of it. There is a slip which is convenient for landing.

Caution. If a swell comes in the anchorage can become dangerous.

Chart 2702

12.183

1 **Landing places.** Between Cassan Sound and Ballybodonnell Bay (about 4 miles NE) landing can be made at:

Ballysaggart Pier (3 miles NE of Saint John's Point).

Ballycederlan, a small village (7½ cables farther NNE) where there is good landing close N of Ballycederlan Point.

Ballybodonnell Bay

12.184

1 Ballybodonnell Bay (54°37'N 8°20'W) entered about 5 miles NE of Saint John's Point, affords a good anchorage.

In the approach from S, Menamny Rock (6½ cables SSW of the ruined coastguard station) lies 2½ cables offshore; the rock is steep-to on its E side.

The N shore of the bay is foul being encumbered by Whillins Ledge, a rocky shoal with depths of less than 3 m over it, which extends 5 cables offshore. Whillins Rock, composed of large blocks, lies on the inner end of the ledge about 5 cables NE of its extremity.

2 **Clearing marks:** The line of bearing 238° of Saint John's Mount (12.126) open SE of Ballysaggart Point (2½ miles NE), on which Ballysaggart Pier is charted, passes close SE of Menamny Rock. The alignment (046°) of the spire of Inver Church (54°39'·2N 8°16'·3W) and the N sand hill of Drumbeg Point (5 cables SW) passes SE of Whillins Ledge and Whillins Rock.

Anchorage may be obtained, in depths of 11 m to 17 m, E of Sentry Hill (12.180), as shown on the chart, about 3 cables offshore.

Inver Road

12.185

1 Inver Road, lying 1 mile SW of Inver Church (54°39'N 8°16'W) at the head of Inver Bay, affords a safe anchorage for small vessels, though without a convenient landing nearby.

Eany Water, flowing into the head of the bay, is accessible to boats at half tide.

Directions. Inver Road is approached through the middle of Inver Bay keeping clear of the dangers which extend up to 5 cables from the shore.

2 **Clearing marks.** The clearing marks for Whillins Ledge (12.184) also pass SE of Rock of the Port.

The line of bearing 040° of Gortwood Brae (2½ miles NNE of Doorin Point), open NW of Buncronan Point (7 cables SW), passes NW of the following (with positions relative to Doorin Point):

Rotten Rock (4½ cables NW), which dries, lying at the outer end of Lackboy Reef.

Creevins Patches (8 cables N), which dry.

3 **Caution.** It is inadvisable, when rounding Doorin Point, to approach it within 5 cables or into depths less than 22 m.

Anchorage. The recommended berth, in a depth of 7 m, mud, is on the alignment (046°) of Inver Church and Drumbeg N sandhill, abreast the highest part of the red cliff, 18 m high (5 cables E of Kilmacreddan House) (12.180), partially sheltered by Rock of the Port.

Inver Port

12.186

1 Inver Port (3 cables ESE of Kilmacreddan House), near the head of Inver Bay, is sheltered by a drying pier. There is a good anchorage for small craft S of the pier.

Directions. The following directions have been recommended. Strangers are advised not to approach at night as local lights on the pier are confusing.

The port should be approached from S keeping the pierhead in line with the left hand end of a prominent short sandstone wall above the road and close W of a green roofed bungalow. This line leads inside Rock of the Port.

Appendix 8.4 Met Eireann Weather Report
For the sea area off Doorin Head 3.12.07 between 00.00 hrs. and 24.00 hrs.

MET EIREANN
The Irish Meteorological Service

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

Weather Report for sea area off Doorin Head, Co. Donegal on 3rd December 2007 between 0000 hours and 2400 hours Local Time.

General Meteorological Situation: A strong, unstable northwesterly airflow persisted for the first half of the period, with showers becoming organised and enhanced within troughs of low pressure; later, a ridge developed and showers died out but a warm front approached at the end of the period.

From 0000 to 0600 hours (Local Time):
Winds(Beaufort): Northwest 4 or 5, gust 6 or 7 later.
Weather: Fair at first; showers moving in from the Atlantic, becoming organised into a trough line later.
Visibility: Good becoming moderate, possibly poor, in showers.
Sea state: Rough to very rough.

From 0600 to 1200 hours (Local Time):
Winds(Beaufort): Northwest to west 5 or 6, gust 7 or gale 8.
Weather: Frequent heavy showers following passage of trough line.
Visibility: Good becoming moderate, possibly poor, in showers.
Sea state: Rough to very rough.

From 1200 to 1800 hours (Local Time):
Winds(Beaufort): Northwest 5 or 6, gust 7 to gale 8; later 4 or 5 gust 6
Weather: Isolated showers; mainly fair later.
Visibility: Mostly good
Sea state: Rough to very rough.

From 1800 to 2400 hours (Local Time):
Winds(Beaufort): Northwest to west 5, soon backing south 2 to 4.
Weather: Outbreaks of rain and drizzle developing.
Visibility: Good becoming moderate later.
Sea state: Rough to very rough.

Note :- Conditions at the location were derived by interpolation from the observations at Malin Head, Belmullet and Buoy M4, with reference to analysis charts and radar imagery.

Appendix 8.5 Met Eireann Sea Area Forecasts

MET éireann

WeatherDial Fax Product Code 0021

General Forecasting Division

Fax : 1570 131 838

Sea Area Forecast

WEATHERDIAL

Sea Area Forecast until 1800 Monday 03 December 2007
Issued at 1730 Sunday 02 December 2007

1. **Gale warning: In operation**
Small craft warning: In operation

2. **Meteorological situation at 1500:** A depression of 977 hPa, in the north Irish Sea, is moving eastwards. A westerly airflow over Ireland will veer west to northwest.

3. **Forecast for coasts from:** Carlingford Lough to Roches Point to Slyne Head and the Irish Sea south of the Isle of Man

Wind: West gale force 8 to strong gale force 9, with stronger gusts. Veering west to northwest and moderating force 6 or 7 early tonight. Gradually moderating force 4 to 6 tomorrow.

Forecast for coasts from: Slyne Head to Malin Head to Carlingford Lough and the Irish Sea north of the Isle of Man

Wind: West to northwest force 4 to 5, increasing force 5 to 7 early tonight. Gradually moderating force 4 to 6 tomorrow.

Weather for all sea areas: Blustery heavy showers becoming more scattered tomorrow.

Visibility for all sea areas: Moderate to poor in showers. Otherwise good.

3a. Warning of heavy swell: on all Atlantic coasts.

4. **Outlook for a further 24 hours until 1800 Tuesday 04 December 2007:** Winds becoming moderate westerly for a time later tomorrow. Then backing south to southwest and increasing gale to strong gale force on Tuesday. Rain or drizzle spreading from the Atlantic and becoming patchy.

Appendix 8.5 Met Eireann Sea Area Forecasts

Warning of heavy Atlantic swell: NIL

Text of Gale Warning issued at 1630 hrs, Sunday 2-12-07
Westerly gales or strong gales will continue this evening on coasts from Carlingford Lough to Roches Point to Slyne Head and on the Irish Sea south of the Isle of Man.

Text of Small Craft Warning issued 1630 hrs, Sunday 2-12-07
West to northwest winds will reach force 6 overnight and tomorrow morning on all coasts of Ireland.

Coastal Reports	at 4 PM Sunday 2 December 2007
Malin Head	West-Northwest, 16 Knots, Cloudy, 32 Miles, 983, Rising
Buoy M5	West, 31 Knots, Gust 49 Knots, The visibility at Tuskar Lighthouse is over 10 Miles, 989, Steady
Roche's Pt (Automatic)	West, 26 Knots, Gust 38 Knots, over 10 Miles, 991, Steady
Valentia	West, 33 Knots, Gust 46 Knots, Rain shower, 2 Miles, 993, Rising slowly
Belmullet	North-Northwest, 17 Knots, Rain shower, 8 Miles, 987, Rising rapidly
Dublin Airport	West, 29 Knots, Gust 43 Knots, Recent rain shower, 10 Miles, 982, Rising slowly
Buoy M1 53° 8'N, 11° 12'W	NOT AVAILABLE,
Buoy M2 53° 29'N, 5° 26'W	West, 37 Knots, Gust 48 Knots, WAVE HT 02.9 m, 980, Falling slowly
Buoy M3 51° 13'N, 10° 33'W	West, 33 Knots, Gust 53 Knots, WAVE HT 07.7 m, 995, Rising slowly
Buoy M4 55° 0'N 10° 0'W	West-Northwest, 19 Knots, WAVE HT 04.1 m, 985, Rising
Buoy M5 51° 41'N 6° 42'W	West, 31 Knots, Gust 49 Knots, WAVE HT 03.4 m, 989, Steady
Buoy M6 53° 4'N 15° 56'W	West-Northwest, 36 Knots, Gust 57 Knots, WAVE HT 09.5 m, 993, Rising

Disclaimer: buoy locations are approximate and are not for navigational purposes

Sea Crossings	State of sea until 1600 Tuesday 04 December 2007
Dublin - Holyhead	Generally rough, but very rough at first.
Rosslare - South Wales	Very rough, decreasing rough
Cork - South Wales	Very rough, but occasionally high today and tonight
Rosslare - France	Mostly high
Cork - France	Mostly high

Next update before 0100 Monday 03 December 2007
A detailed forecast may be obtained by dialling *Weatherdial* on 1550 123 855.
Calls cost € 0.95 per minute (Incl. VAT).

Appendix 8.5 Met Eireann Sea Area Forecasts

MET éireann

WeatherDial Fax Product Code 0021

General Forecasting Division

Fax : 1570 131 838

Sea Area Forecast

WEATHERDIAL

Sea Area Forecast until 2400 Monday 03 December 2007
Issued at 2400 Sunday 02 December 2007

1. Gale warning: in operation
Small craft warning: in operation

2. Meteorological situation at 2100: A strong, unstable northwest airflow covers Ireland with a low center over Britain moving away eastwards. A weak ridge will move eastwards over Ireland during Monday afternoon with a warm front following later.

3. Forecast for coasts from: Roches Point to Loop Head to Malin Head

Wind: West to northwest force 6 or 7 and gusty but occasionally gale 8 south of Loop Head for a time tonight. Decreasing force 4 or 5 for a time Monday afternoon, later backing southerly and increasing force 5 or 6.

Weather: Occasional heavy showers becoming more scattered during Monday but rain later.

Visibility: Moderate to poor in rain or showers otherwise good

Forecast for coasts from: Malin Head to Howth head to Roches Point and the Irish Sea.

Wind: Northwest force 6 or 7 and gusty, decreasing westerly force 4 to 6 for a time tomorrow evening.

Weather: Scattered showers

Visibility: Moderate locally poor in showers but mostly good

3a. Warning of heavy swell: on all Atlantic coasts

4. Outlook for a further 24 hours until 2400 Tuesday 04 December 2007: Winds becoming south to southwest increasing gale or strong gale force scattered outbreaks of rain and drizzle spreading east, heavier rain later.

Appendix 8.5 Met Eireann Sea Area Forecasts

Warning of heavy Atlantic swell: on all Atlantic coasts

Text of Gale Warning
Northwest winds will occasionally reach gale force for a time overnight on coasts from Roches Point to Valentia to Loop Head

Text of Small Craft Warning
Northwest winds of force 6 or 7 and gusty overnight on coasts from Loop Head to Fair Head to Roches Point.

Coastal Reports	at 11 PM Sunday 2 December 2007
Malin Head	West-Northwest, 22 Knots, Fine, 26 Miles, 994, Rising rapidly
Buoy M5	Northwest, 19 Knots, Gust 31 Knots, The visibility at Tuskar Lighthouse is Greater than 10 Miles, 997, Rising rapidly
Roche's Pt (Automatic)	West-Northwest, 12 Knots, Greater than 10 Miles, 999, N/A
Valentia	Northwest, 13 Knots, Gust 29 Knots, Fair, 10 Miles, 1002, Rising rapidly
Belmullet	North-Northwest, 08 Knots, Cloudy, 16 Miles, 998, Rising rapidly
Dublin Airport	West, 15 Knots, Fine, 16 Miles, 995, Rising rapidly
Buoy M1 53° 8'N, 11° 12'W	NOT AVAILABLE,
Buoy M2 53° 29'N, 5° 26'W	West-Northwest, 24 Knots, WAVE HT 01.9 m, 992, Rising rapidly
Buoy M3 51° 13'N, 10° 33'W	West-Northwest, 27 Knots, Gust 42 Knots, WAVE HT 08.4 m, 1003, Rising rapidly
Buoy M4 55° 0'N 10° 0'W	North-Northwest, 18 Knots, WAVE HT 04.5 m, 997, Rising rapidly
Buoy M5 51° 41'N 6° 42'W	Northwest, 19 Knots, Gust 31 Knots, WAVE HT 03.1 m, 997, Rising rapidly
Buoy M6 53° 4'N 15° 56'W	West-Northwest, 26 Knots, Gust 36 Knots, WAVE HT 07.2 m, 1006, Rising

Disclaimer: buoy locations are approximate and are not for navigational purposes

Sea Crossings	State of sea until 2400 Tuesday 04 December 2007
Dublin - Holyhead	Rough
Rosslare - South Wales	Rough
Cork - South Wales	Very rough, possible decreasing rough for a time late Monday
Rosslare - France	Mostly high, possibly decreasing very rough for a time early Monday night.
Cork - France	Mostly high, possibly decreasing very rough for a time early Monday night.

Next update before 0700 Monday 03 December 2007
A detailed forecast may be obtained by dialling ***Weatherdial*** on 1550 123 855.
Calls cost € 0.95 per minute (Incl. VAT).

Appendix 8.5 Met Eireann Sea Area Forecasts

MET éireann

WeatherDial Fax Product Code 0021

General Forecasting Division

Fax : 1570 131 838

Sea Area Forecast

WEATHERDIAL

Sea Area Forecast until 0600 Tuesday 04 December 2007
Issued at 0600 Monday 03 December 2007

1. Gale warning: nil
Small craft warning: in operation

2. Meteorological situation at 0300: A strong, unstable west to northwest airflow covers Ireland. A weak ridge will move eastwards over Ireland this afternoon with a warm front following early tonight.

3. Forecast for coasts from: Roches Point to Slyne Head to Malin Head

Wind: West veering west to northwest force 5 to 7 and gusty. Decreasing west to southwest force 4 or 5 for a time this afternoon, later backing southerly and increasing force 5 to 7, veering south to southwest overnight force 7 or gale 8 by this time tomorrow.

Weather: Occasional heavy showers, becoming more isolated this afternoon but rain and drizzle developing this evening.

Visibility: Moderate to poor in rain or showers otherwise good

Forecast for coasts from: Malin Head to Howth head to Roches Point and the Irish Sea.

Wind: West to northwest force 6 or 7 and gusty, decreasing westerly force 4 to 6 for a time this evening. Increasing Southerly force 5 to 7 overnight

Weather: Scattered showers dying away later today. Rain and drizzle developing tonight

Visibility: Moderate locally poor in showers but mostly good today, becoming moderate to poor later.

3a. Warning of heavy swell: on all Atlantic coasts

4. Outlook for a further 24 hours until 0600hrs Wednesday 05 December 2007: South to southwest gales or strong gales on all coasts with scattered outbreaks of rain and drizzle, risk local fog, heavier rain later.

Appendix 8.5 Met Eireann Sea Area Forecasts

Warning of heavy Atlantic swell: on all Atlantic coasts

Text of Gale Warning
NIL

Text of Small Craft Warning
West to northwest winds will reach force 6 or 7 and gusty for a time today on all coasts.

Coastal Reports	at 5 AM Monday 3 December 2007
Malin Head	West, 15 Knots, Cloudy, 26 Miles, 998, Rising slowly
Buoy M5	West, 23 Knots, The visibility at Tuskar Lighthouse is Greater than 10 Miles, 1005, Rising rapidly
Roche's Pt (Automatic)	West, 09 Knots, Greater than 10 Miles, 1006.
Valentia	West-Northwest, 22 Knots, Gust 32 Knots, Recent rain shower, 10 Miles, 1008, Rising
Belmullet	West, 11 Knots, Gust 34 Knots, Recent rain shower, 12 Miles, 1002, Rising slowly
Dublin Airport	West, 14 Knots, Fine, 16 Miles, 1002, Rising
Buoy M1 53° 8'N, 11° 12'W	NOT AVAILABLE,
Buoy M2 53° 29'N, 5° 26'W	West-Northwest, 24 Knots, WAVE HT 01.7 m, 1000, Rising
Buoy M3 51° 13'N, 10° 33'W	West-Northwest, 24 Knots, Gust 34 Knots, WAVE HT 06.1 m, 1010, Rising slowly
Buoy M4 55° 0'N 10° 0'W	West-Northwest, 22 Knots, Gust 33 Knots, WAVE HT 06.8 m, 1000, Rising slowly
Buoy M5 51° 41'N 6° 42'W	West, 23 Knots, WAVE HT 02.5 m, 1005, Rising rapidly
Buoy M6 53° 4'N 15° 56'W	West-Northwest, 23 Knots, Gust 33 Knots, WAVE HT 05.5 m, 1008, Rising slowly

Disclaimer: buoy locations are approximate and are not for navigational purposes

Sea Crossings	State of sea until 0600 Wednesday 05 December 2007
Dublin - Holyhead	Rough, increasing very rough Tuesday night
Rosslare - South Wales	Rough increasing very rough Tuesday night
Cork - South Wales	Very rough, possible decreasing rough for a time late Monday
Rosslare - France	Mostly high, possibly decreasing very rough for a time early tonight.
Cork - France	Mostly high, possibly decreasing very rough for a time early tonight.

Next update before 1300 Monday, 03 December 2007
A detailed forecast may be obtained by dialling ***Weatherdial*** on 1550 123 855.
Calls cost € 0.95 per minute (Incl. VAT).

Appendix 8.5 Met Eireann Sea Area Forecasts

MET éireann

WeatherDial Fax Product Code 0021

General Forecasting Division

Fax : 1570 131 838

Sea Area Forecast

WEATHERDIAL

Sea Area Forecast until 1200 Tuesday 04 December 2007
Issued at 1200 Monday 03 December 2007

1. Gale warning: in operation
Small craft warning: in operation

2. Meteorological situation at 0900: An unstable west to northwest airflow covers Ireland. A weak ridge will move eastwards over Ireland this afternoon with a warm front following early tonight.

3. Forecast for coasts from: Roches Point to Erris Head to Fair Head

Wind: West to northwest force 5 to 7 and gusty. Decreasing force 4 or 5 for a time this evening and backing southerly. Increasing force 7 or gale force 8 overnight, and occasionally reaching strong gale force 9 tomorrow morning.

Weather: Showers dying out, but rain and drizzle developing this evening and overnight. Risk of some fog tomorrow.

Visibility: Mostly good today, becoming moderate to poor later.

Forecast for coasts from: Fair Head to Wicklow head to Roches Point and the Irish Sea.

Wind: West to northwest force 6 or 7 and gusty, decreasing westerly force 4 or 5 for a time later this evening. Backing southwest to south tonight and increasing overnight force 5 to 7, occasionally reaching gale force 8 tomorrow morning.

Weather: Scattered showers dying away this afternoon. Scattered outbreaks of rain and drizzle developing tonight. Mainly dry tomorrow.

Visibility: Mostly good but moderate at times in any rain or drizzle.

3a. Warning of heavy swell: continuing for a time today on Atlantic coasts.

4. Outlook for a further 24 hours until 1200hrs Wednesday 05 December 2007: South to southwest gales or strong gales on all coasts, with rain becoming widespread by tomorrow night. Showers following later as winds veer southwest, strong to gale force.

Appendix 8.5 Met Eireann Sea Area Forecasts

Warning of heavy Atlantic swell: continuing for a time today on Atlantic coasts

Text of Gale Warning
South to southwest winds will increase to gale force tonight on Irish Coastal waters from Roches Point to Erris Head to Fair Head, and extending remaining coasts and the Irish Sea tomorrow.

Text of Small Craft Warning
West to northwest winds will reach force 6 or higher for a time today on all coasts.

Coastal Reports	**at 12 Noon Monday 3 December 2007**
Malin Head	West-Northwest, 19 Knots, Recent rain shower, 16 Miles, 999, Rising slowly
Buoy M5	West, 23 Knots, The visibility at Tuskar Lighthouse is Greater than 10 Miles, 1007, Steady
Roche's Pt (Automatic)	West, 15 Knots, Greater than 10 Miles, 1009, Steady
Valentia	West-Northwest, 15 Knots, Gust 30 Knots, Recent rain shower, 11 Miles, 1011, Rising slowly
Belmullet	West, 23 Knots, Gust 44 Knots, Recent rain shower, 12 Miles, 1004, Rising slowly
Dublin Airport	West, 20 Knots, Gust 32 Knots, Fine, 21 Miles, 1003, Steady
Buoy M1 53° 8'N, 11° 12'W	NOT AVAILABLE,
Buoy M2 53° 29'N, 5° 26'W	NOT AVAILABLE,
Buoy M3 51° 13'N, 10° 33'W	West, 25 Knots, Gust 36 Knots, WAVE HT 04.9 m, 1012, Rising slowly
Buoy M4 55° 0'N 10° 0'W	West-Northwest, 25 Knots, Gust 42 Knots, WAVE HT 05.8 m, 1001, Rising slowly
Buoy M5 51° 41'N 6° 42'W	West, 23 Knots, WAVE HT 02.3 m, 1007, Steady
Buoy M6 53° 4'N 15° 56'W	West, 16 Knots, WAVE HT 04.9 m, 1010, Rising slowly

Disclaimer: buoy locations are approximate and are not for navigational purposes

Sea Crossings	**State of sea until 1200 Wednesday 05 December 2007**
Dublin - Holyhead	Moderate to rough increasing rough to very rough
Rosslare - South Wales	Moderate to rough increasing very rough Tuesday night
Cork - South Wales	Moderate to rough increasing very rough
Rosslare - France	Very rough locally high
Cork - France	Very rough locally high

Next update before 1900 Monday, 03 December 2007
A detailed forecast may be obtained by dialling ***Weatherdial*** on 1550 123 855.
Calls cost € 0.95 per minute (Incl. VAT).

Appendix 8.5 Met Eireann Sea Area Forecasts

WeatherDial Fax Product Code 0021

General Forecasting Division

Fax : 1570 131 838

Sea Area Forecast

MET éireann

WEATHERDIAL

Sea Area Forecast until 1800 Tuesday 04 December 2007
Issued at 1700 Monday 03 December 2007

1. Gale warning: in operation
Small craft warning: In operation

2. Meteorological situation at 1700: A unstable westerly airflow over the area is beginning to stabilise as a warm front approaches from the southwest. The front will cross the country tonight with a strong to gale force south to southwest airflow following.

3. Forecast for coasts from: Roches Point to Erris Head to Malin Head

Wind: West to northwest force 4 to 6 and gusty. Decreasing west to southwest force 3 to 4 this evening. Backing and then increasing south to southwest force 7 to gale force 8 overnight and gale force 8 to strong gale force 9 during the day.

Forecast for coasts from: Malin Head to Howth Head to Roches Point and for the Irish Sea.

Wind: West to northwest force 5 or 6 and gusty. Decreasing west to southwest force 3 to 4 tonight. Backing and then increasing south to southwest force 5 to 7 overnight. Increasing south to southwest force 7 to gale force 8 during Tuesday.

Weather for all sea areas: Remaining showers dying out. Outbreaks of rain and drizzle, with mist and fog patches, gradually spreading from the southwest and west this evening and overnight.

Visibility for all sea areas: Mostly good at first becoming moderate to poor in rain, drizzle mist or fog.

4. Outlook for a further 24 hours until 1800 Wednesday 05 December 2007: Gale force south to southwest winds becoming westerly. Widespread persistent rain developing but clearing to showers during Tuesday night.

Appendix 8.5 Met Eireann Sea Area Forecasts

Warning of heavy Atlantic swell: NIL

Text of Gale Warning
South to southwest gales developing overnight on coasts from Roches Point to Erris Head to Malin Head and extending to remaining coasts and Irish Sea during Tuesday

Text of Small Craft Warning
West to northwest winds will reach force 6 for a time this evening on coasts from Malin Head to Howth Head to Roches Point.

Coastal Reports	at 4 PM Monday 3 December 2007
Malin Head	Northwest, 21 Knots, Rain shower, 9 Miles, 1003, Rising
Buoy M5	West, 23 Knots, Gust 35 Knots, 1009, Rising slowly. The visibility at Tuskar Lighthouse is Greater than 10 Miles
Roche's Pt (Automatic)	West, 11 Knots, Greater than 10 Miles, 1010, Steady
Valentia	West-Northwest, 12 Knots, Fair, 13 Miles, 1011, Rising slowly
Belmullet	West-Northwest, 12 Knots, Cloudy, 16 Miles, 1007, Rising
Dublin Airport	West, 19 Knots, Gust 32 Knots, Rain shower, 6 Miles, 1004, Rising slowly
Buoy M1 53° 8'N, 11° 12'W	NOT AVAILABLE,
Buoy M2 53° 29'N, 5° 26'W	West, 26 Knots, Gust 38 Knots, WAVE HT 01.8 m, 1002, Steady
Buoy M3 51° 13'N, 10° 33'W	West, 20 Knots, WAVE HT 05.2 m, 1011, Falling slowly
Buoy M4 55° 0'N 10° 0'W	West-Northwest, 18 Knots, WAVE HT 04.7 m, 1006, Rising
Buoy M5 51° 41'N 6° 42'W	West, 23 Knots, Gust 35 Knots, WAVE HT 02.2 m, 1009, Rising slowly
Buoy M6 53° 4'N 15° 56'W	South, 13 Knots, WAVE HT 04.0 m, 1006, Falling

Disclaimer: buoy locations are approximate and are not for navigational purposes

Sea Crossings	State of sea until 1800 Wednesday 05 December 2007
Dublin - Holyhead	Moderate to rough increasing rough
Rosslare - South Wales	Moderate to rough increasing rough to very rough
Cork - South Wales	Moderate to rough increasing very rough
Rosslare - France	Very rough increasing high
Cork - France	Very rough increasing high

Next update before 0100 Tuesday 04 December 2007
A detailed forecast may be obtained by dialling *Weatherdial* on 1550 123 855.
Calls cost € 0.95 per minute (Incl. VAT).

Appendix 8.5 Met Eireann Sea Area Forecasts

MET éireann

WeatherDial Fax Product Code 0021

General Forecasting Division

Fax : 1570 131 838

Sea Area Forecast

WEATHERDIAL

Sea Area Forecast until 2400 Tuesday 04 December 2007
Issued at 2330 Monday 03 December 2007

1. Gale warning: In operation
Small craft warning: see gale warning

2. Meteorological situation at 2100: A warm front will move eastwards across Ireland overnight, followed by a very strong south to southwest airflow. A cold front will follow later Tuesday.

3. Forecast for coasts from: Mizen Head to Erris Head to Malin Head

Wind: South-southwest force 3 to 4, increasing force 6 to gale force 8 by dawn. Further increasing gale force 8 to strong gale force 9 during the day.

Forecast for coasts from: Malin Head to Howth Head to Mizen Head and the Irish Sea

Wind: West to northwest force 2 to 4, backing south to southwest and increasing force 4 to 6 by dawn. Further increasing force 7 to gale force 8 during the day, possibly reaching strong gale force 9 later.

Weather for all sea areas: Occasional rain, drizzle and mist, turning more persistent later Tuesday. Risk of fog on Atlantic coasts.

Visibility for all sea areas: Becoming moderate, locally poor in fog.

3a. Warning of heavy swell: on all Atlantic coasts.

4. Outlook for a further 24 hours until 2400 Wednesday 05 December 2007: South to southwest gales veering west to southwest. Rain quickly clearing to showers.

Appendix 8.5 Met Eireann Sea Area Forecasts

Warning of heavy Atlantic swell: NIL

Text of Gale Warning issued at 2240 hrs, Monday 3-12-07
South to southwest gales or strong gales will develop on Tuesday on all Irish coastal waters and on the Irish Sea.

Text of Small Craft Warning
See gale warning.

Coastal Reports	at 11 PM Monday 3 December 2007
Malin Head	South, 07 Knots, Cloudy, 37 Miles, 1007, Rising slowly
Buoy M5	West-Southwest, 12 Knots, The visibility at Tuskar Lighthouse is over 10 Miles, 1012, Rising slowly
Roche's Pt (Automatic)	Southwest, 05 Knots, over 10 Miles, 1012, Steady
Valentia	South, 10 Knots, Light drizzle, 3 Miles, 1010, Falling slowly
Belmullet	South-Southeast, 14 Knots, Rain/drizzle, 4 Miles, 1006, Falling slowly
Dublin Airport	West-Southwest, 08 Knots, Cloudy, 13 Miles, 1010, Rising slowly
Buoy M1 53° 8'N, 11° 12'W	NOT AVAILABLE,
Buoy M2 53° 29'N, 5° 26'W	West, 14 Knots, WAVE HT 01.2 m, 1010, Rising slowly
Buoy M3 51° 13'N, 10° 33'W	Southwest, 18 Knots, WAVE HT 03.5 m, 1011, Falling slowly
Buoy M4 55° 0'N 10° 0'W	South, 19 Knots, WAVE HT 04.1 m, 1004, Falling slowly
Buoy M5 51° 41'N 6° 42'W	West-Southwest, 12 Knots, WAVE HT 01.7 m, 1012, Rising slowly
Buoy M6 53° 4'N 15° 56'W	South-Southwest, 27 Knots, Gust 37 Knots, WAVE HT 03.7 m, 999, Falling

Disclaimer: buoy locations are approximate and are not for navigational purposes

Sea Crossings	State of sea until 2200 Wednesday 05 December 2007
Dublin - Holyhead	Moderate to rough increasing rough
Rosslare - South Wales	Moderate to rough increasing rough to very rough
Cork - South Wales	Moderate to rough increasing very rough
Rosslare - France	Very rough increasing high
Cork - France	Very rough increasing high

Next update before 0700 Tuesday 04 December 2007
A detailed forecast may be obtained by dialling ***Weatherdial*** on 1550 123 855.
Calls cost € 0.95 per minute (Incl. VAT).

Appendix 8.6 Gale Warning Issued at 12.00 hrs. on 3.12.07.

Met Éireann

General Forecasting Division

Fax: (01)8064275 Tel: (01)8064255

Web:www.met.ie E-mail: forecasts@met.ie

Gale Warning

The following Gale Warning has been issued by Met Éireann at 12:00 hours on 03-Dec-2007

South to southwest winds will increase to gale force tonight on Irish Coastal waters from Roches Point to Erris Head to Fair Head, and extending remaining coasts and the Irish Sea tomorrow.

Appendix 8.7 Small Craft Warning Issued at 12.38 hrs. on 3.12.07.

Met Éireann

General Forecasting Division

Fax (01)8064275 Tel: (01)8064255

Web:www.met.ie E-mail: forecasts@met.ie

Small Craft Warning

Issued at 12:38 Monday, 3 Dec 2007

Small Craft warning issued by Met Éireann at 05:00 hours on 03-Dec-2007 should be withdrawn and the following substituted :

Quote
The following Small Craft Warning has been issued by Met Éireann at 12:00 hours on 03-Dec-2007

West to northwest winds will reach force 6 or higher for a time today on all coasts.

Appendix 8.8 Nearby Observations from Offshore Weather Buoy M4 on 3.12.07.

Nearby observations from offshore weather buoy M4 (station number 62093) position 55.0 N 10.0 W on 3rd December 2007.

Time GMT	Wind Direction	Wind Speed (knots)	Highest Gust (knots)	Wave Height (meters)
00	320	17	24	4.8
01	300	15	24	5.3
02	310	11	21	6.0
03	250	14	24	5.6
04	270	19	29	6.0
05	290	22	33	6.7
06	280	25	36	5.5
07	270	30	44	5.9
08	270	27	37	5.5
09	260	27	36	5.8
10	260	26	40	5.1
11	270	30	39	5.4
12	300	25	42	5.8
13	320	21	34	4.9
14	300	21	29	5.2
15	310	20	29	5.1
16	290	18	26	4.7
17	300	12	20	4.5
18	320	8	18	4.7
19	260	8	15	4.4
20	230	9	15	4.5
21	210	11	16	4.3
22	200	9	25	4.6
23	180	19	24	4.1

Appendix 8.9 Appendix to Marine Weather Report.

Appendix to Marine Weather Report

Please note that the information in this Marine Weather Report is derived by extrapolation from reports of the offshore weather buoys, from Met Éireann's nearby synoptic land stations, archived weather charts, satellite and radar images and wave model data. The sea conditions as stated in this report are for open sea and may be considerably different near the shore due to coastal effects and tidal currents.

UTC Universal Time Coordinate = Greenwich Meantime
Summer Time = UTC + 1 hour (April – October)
Wind strength in Beaufort force (see table below)
Sea state descriptive terms (see table below)

MET ÉIREANN SEA AREA FORECAST TERMINOLOGY

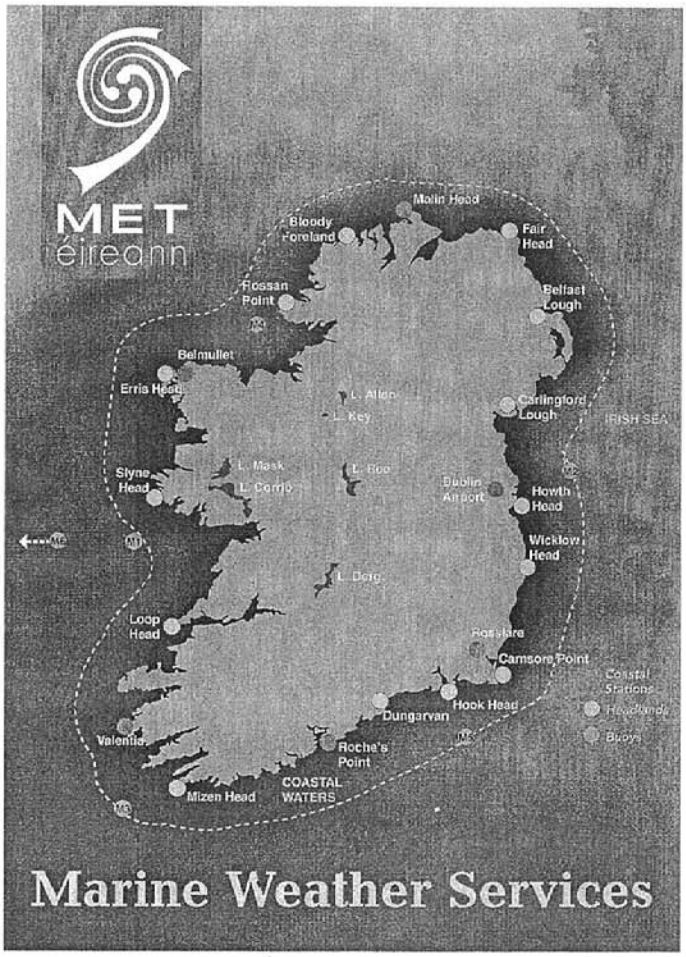


Fig 1. Headlands, coastal stations & buoy location as used in Met Éireann Sea Area Forecast

Appendix 8.9 Appendix to Marine Weather Report.

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. 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.

Descriptive terms	Height in meters
Calm	0 – 0.1
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

Beaufort Scale of Wind

No.	Description	Speed* (knots)	Specification – AT SEA	Wave height** (metres)
0	Calm	< 1	Sea like mirror	-
1	Light air	1-3	Ripples	0.1 (0.1)
2	Light breeze	4-6	Small wavelets	0.2 (0.3)
3	Gentle breeze	7-10	Large wavelets, crests begin to break	0.6 (1)
4	Moderate ..	11-16	Small waves becoming longer, frequent white horses	1 (1.5)
5	Fresh breeze	17-21	Moderate waves, many white horses, chance of spray	2 (2.5)
6	Strong breeze	22-27	Large waves, white foam crests, probably some spray	3 (4)
7	Near gale	28-33	Sea heaves up, streaks of white foam	4 (5.5)
8	Gale	34-40	Moderately high waves of greater length	5.5 (7.5)
9	Strong gale	41-47	High waves, dense streaks of foam, spray may reduce visibility	7 (10)
10	Storm	48-55	Very high waves, long overhanging crests, visibility affected	9 (12.5)
11	Violent storm	56-63	Exceptionally high waves, long white foam patches cover sea	11.5 (16)
12	Hurricane	64+	Air filled with foam and spray, sea completely white	14 (-)

*Speed = mean speed at a standard height of 10 metres. 1 knot = 1 nautical mile (1.85km) per hour.
**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.

On land, there are different specifications for the Beaufort Scale.

No.		Speed (km/h)	Specification – ON LAND
0	Calm	< 1	Calm; smoke rises vertically
1	Light air	1-5	Wind direction shown by smoke but not wind vanes
2	Light breeze	6-11	Leaves rustle, vanes move
3	Gentle ..	12-19	Leaves & twigs in motion; flags fly
4	Moderate ..	20-28	Raises dust & paper; branches move
5	Fresh ..	29-38	Small trees sway; crested waves on inland waters
6	Strong ..	39-49	Large branches move; whistling in wires; umbrellas difficult to use
7	Near gale	50-61	Trees in motion; walking against wind inconvenient
8	Gale	62-74	Breaks off twigs; generally impedes progress
9	Strong gale	75-88	Slight structural damage
10	Storm	89-102	Trees uprooted, considerable structural damage; rarely occurs inland
11	Violent storm	103-117	Very rare; widespread damage
12	Hurricane	118+	

Appendix 8.9 Appendix to Marine Weather Report.

The Sea Area Forecast issued by Met Éireann contains the following standard elements:

Meteorological or General Situation: A description of the meteorological situation over Ireland at the stated time and of adjacent weather systems, e.g. depressions, anticyclones or frontal troughs, which are expected to have an influence on the forecast areas during the following 24 hours. Explanation of some terms used here are:

- Imminent: within 6 hours, Soon: between 6 and 12 hours Later: between 12 and 24 hours.
- The speed of movement of pressure and frontal systems is described as follows: Slowly: up to 15 knots. Steadily: 15 to 25 knots. Rather quickly: 25 to 35 knots. Rapidly: 35 to 45 knots. Very Rapidly: greater than 45knots.

The general forecast follows for coastal waters and the Irish Sea, it describes the expected conditions for:

- **Wind**: The wind strength is given in Beaufort Force and wind direction using the 16-point compass.
- **Weather**: The following are some terms used in the Forecast and coastal reports:-
  - Fine: Dry, mainly sunny day. Clear after dark.
  - Fair: Dry, good sunny or clear spells(cloud no more than 3 - 5 okta of medium or low cloud or 6 - 8 okta of high cloud).
  - Cloudy: 6 - 8 okta of low or medium cloud.
  - Mist: Visibility restricted by water droplets.
  - Haze: Visibility restricted by dust or smoke.
  - Other terms such as rain or hail shower are self explanatory.
- **Visibility**: descriptions of visibility mean the following:-
  - Good: more than 5 nautical miles (9km)
  - Moderate: 2 - 5 nm (4 - 9 km)
  - Poor: 0.5 to 2 nm (4km)
  - Fog: less than 0.5 nm (1,000m)
- **Swell Warnings**: when significant swell height of greater than 4 metres is expected.
- **Outlook**: A brief outlook is given for the 24 hours following the period covered by the forecast.

Gale Warnings

- Gale warnings are issued by Met Éireann for Irish coastal waters, which are extending 30 miles out from the coastline, and the Irish Sea or part thereof.
- Gale Warnings are issued if winds of Beaufort Force 8 are expected.
- Strong Gale Warnings are issued if winds of Beaufort Force 9 or frequent gusts of at least 52 knots are expected.
- Storm Force Warnings are issued if Beaufort Force 10 or frequent gusts of at least 61 knots are expected.
- Violent Storm Force Warnings are issued if Beaufort Force 11 or frequent gusts of at least 69 knots are expected.
- Hurricane Force Warnings are issued if winds of greater than 64 knots are expected.

Small Craft Warnings
Small Craft Warnings are issued if winds of Beaufort Force 6 (min. mean of 22 knots) are expected up to 10 Nautical miles offshore.

Appendix 8.9 Appendix to Marine Weather Report.

Coastal Reports from the following stations:

Malin Head, Dublin Airport, Rosslare (ceased after 1 July 2007), Roches Point Automatic, Valentia, Belmullet and the following buoys:

BUOY	Degree Decimal Minutes (GPS)	Degree Minutes Seconds (DMS)	Decimal Degrees GIS applications	General Location
M1 62090	53 07.6 N 11 12 W	53° 7' 36" N 11° 12' 0" W	53.127 -11.200	Off the Galway coast Approximately 40 nautical miles (60 km) westsouthwest of Slyne Head
M2 62091	53 28.8 N 5 25.5 W	53° 28' 48" N 5° 25' 30" W	53.480 -5.425	Irish Sea approximately 20 nautical miles (37Km) east of Howth Head
M3 62092	51 13 N 10 33 W	51° 13' 0" N 10° 33' 0" W	51.217 -10.550	Off the Kerry coast Approximately 30 nautical miles (56km) southwest of Mizen Head
M4 62093	55 0 N 10 0 W	55° 0' 0" N 10° 0' 0" W	55.000 -10.000	Off the Donegal coast Approximately 45 nautical miles (83 km) West northwest of Rossan Point
M5 62094	51 41.4 N 6 42.24 W	51° 41' 24" N 6° 42' 14" W	51.690 -6.704	Off the south Wexford coast Approximately 30 nautical miles (56 km) south of Hook Head
M6 62095	53 03.6 N 15 55.8 W	53° 3' 36" N 15° 55' 48 " W	53.060 -15.930	Deep Atlantic Approximately 210 nautical miles (389 km) west southwest of Slyne Head

Caution: These are the designated locations of the buoys for which statutory sanction was approved, hence buoy locations are approximate and are not for navigational purposes. All vessels are requested to give the buoys a wide berth of at least 1 nautical mile.

The coastal reports include:

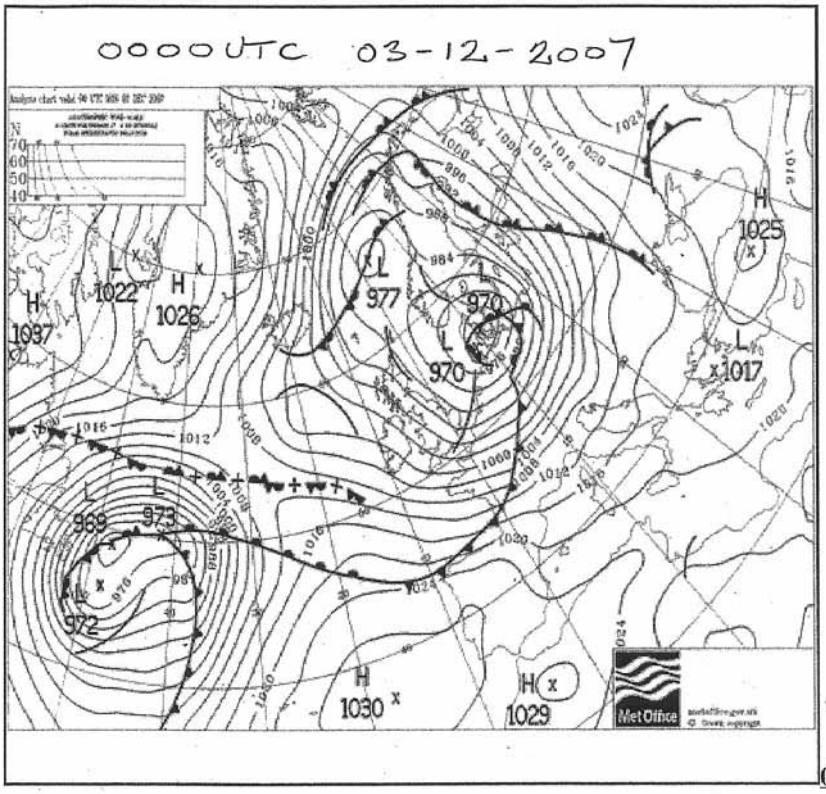
(a) wind direction on the 16 point compass and speed in knots
(b) weather
(c) visibility in nautical miles and tenths of,
(d) pressure in hectopascals (millibars)
(e) pressure tendency, which describes the change in pressure over the past 3 hours, according to this scale:
0.0 - 0.4hPa = steady
0.5 - 1.9hPa = rising/falling slowly
2.0 - 3.4 hPa = rising/ falling
3.5 - 5.9 hPa = rising or falling rapidly
6.0hPa or greater = rising or falling very rapidly

Appendix 8.10 Weather Analysis Charts.

Archive of ASXX Analysis

Top Level HOME

DATE: 2007/12/03
Up one level



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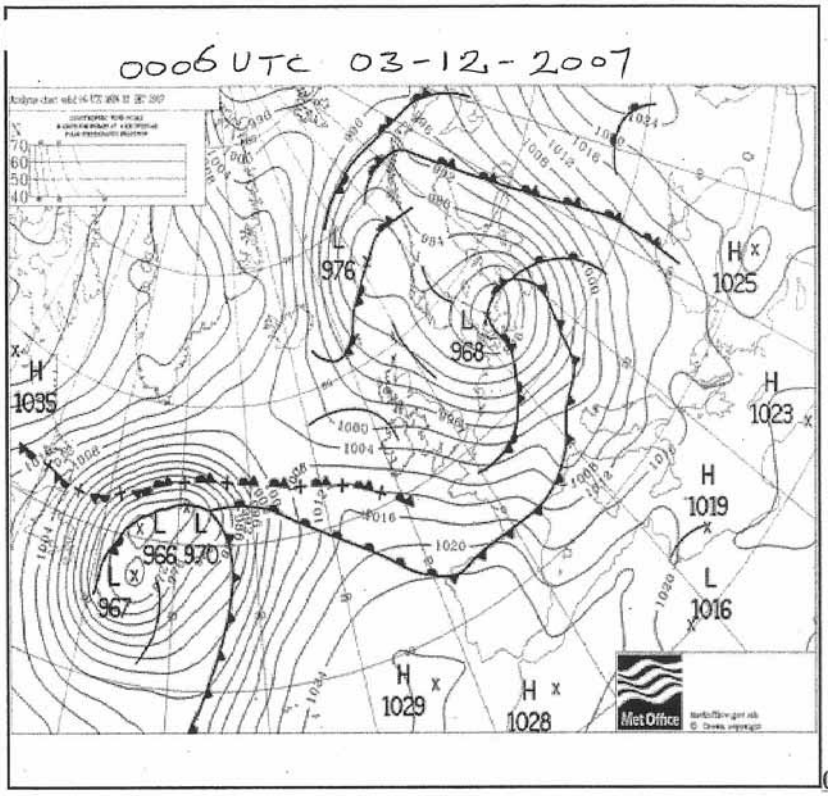
http://gfd/cafoweb/ukmo-arch.php?path=2007/12/03&level=3 11/06/2008

Appendix 8.10 Weather Analysis Charts.



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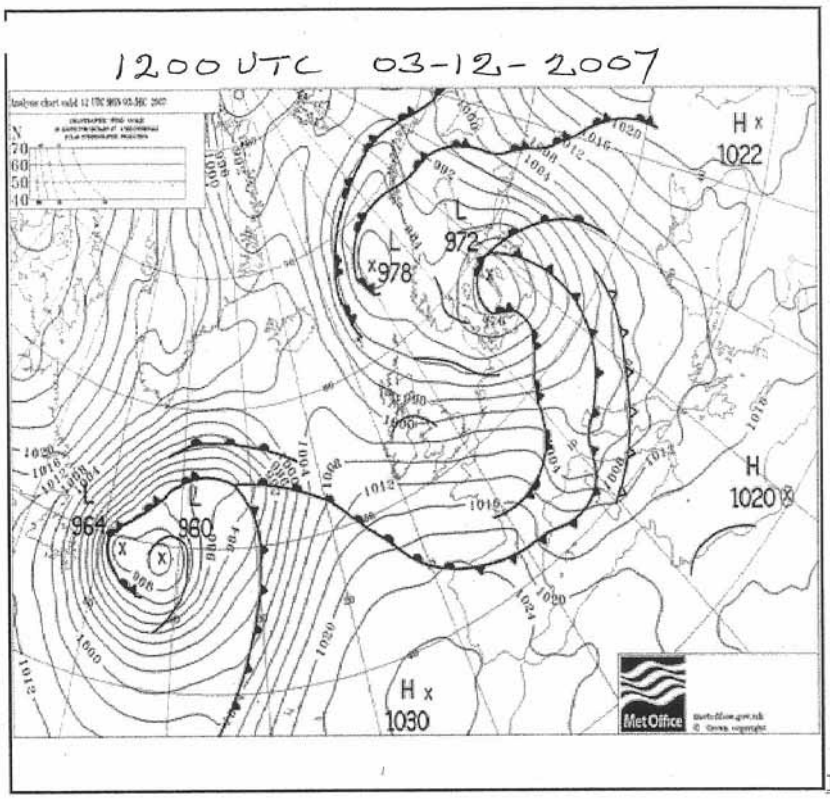
Appendix 8.10 Weather Analysis Charts.



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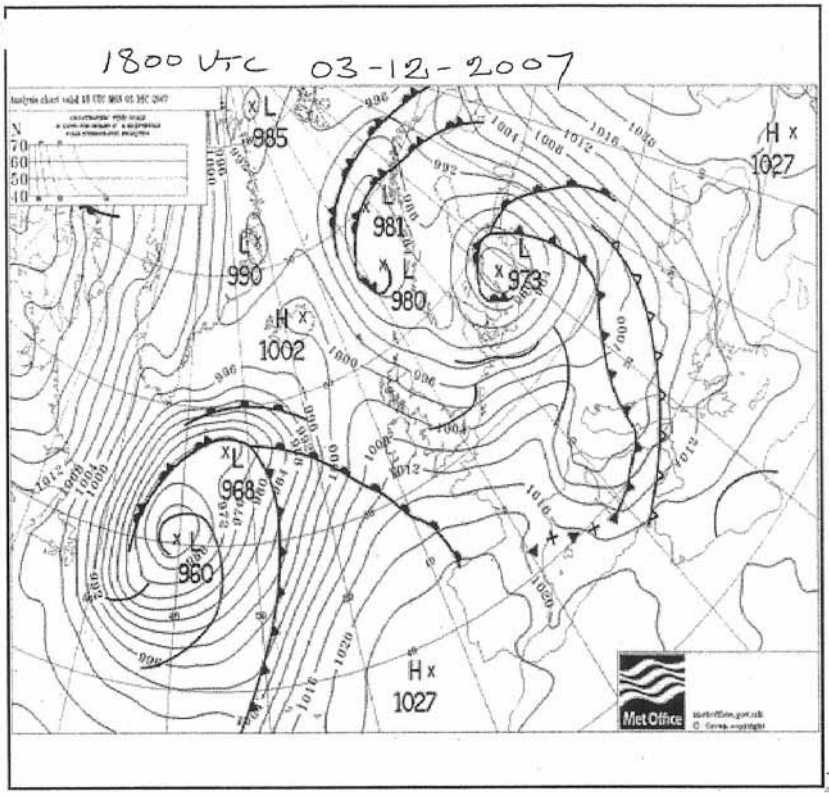
http://gfd/cafoweb/ukmo-arch.php?path=2007/12/03&level=3 11/06/2008

Appendix 8.10 Weather Analysis Charts.



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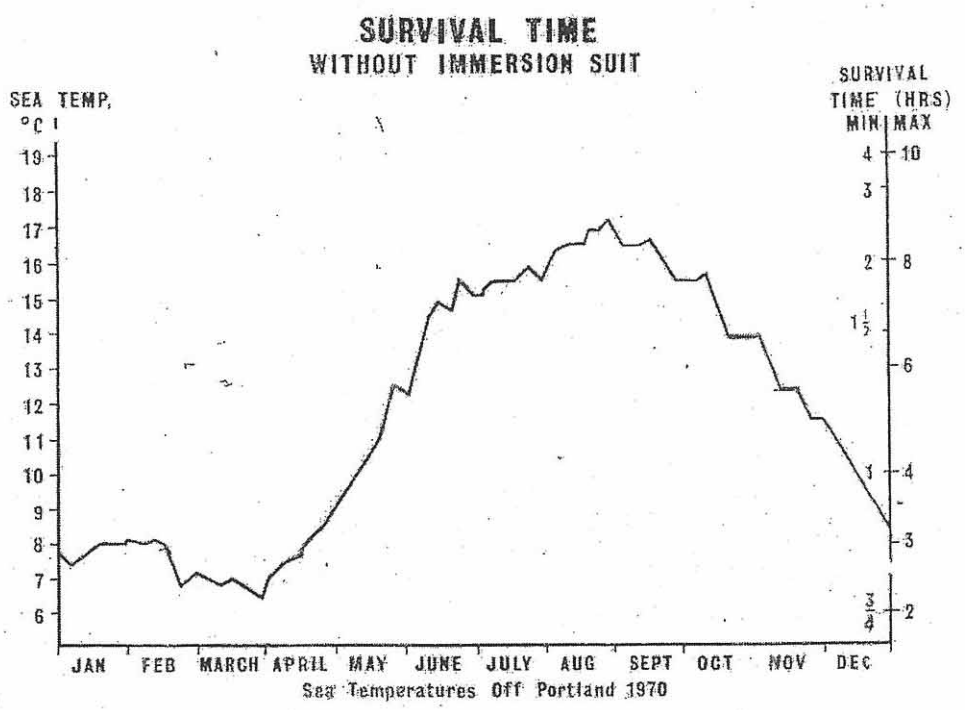
Appendix 8.11 Graph of Survival Time against Temperature.



Appendix 8.12 Application for Grant of Safety Items.

FISHING FLEET DEVELOPMENT MEASURE

PROMOTING VESSEL SAFETY

APPLICANT

Must be registered owner of the vessel

Name: LIAM + DAMIEN KENNEDY Date of Birth (dd/mm/yy): __/__/__ Male ☑ Female ☐

Address: CO. DONEGAL

Tel: (Home) (Mob.) Fax: — E-mail address: —

VESSEL

Name of Vessel: LASSIE Port of Registry: PORT, INVER

Registration No:* Registered Length (m): 6.40

Fleet segment: Beamer ☐ Pelagic ☐ Bivalve ☐ Polyvalent ☐ POT LICENCE

**Copies of Fishing Licence and Certificate of Registry issued by the Department of the Marine & Natural Resources to be attached.*

PROPOSED FUNDING

Total Cost of Items: € 150.—

Own Funds (60%): €

Combined BIM/EU Grant (40%): €

CHECKLIST

To be submitted with application form:

- ☐ Copy of Fishing Licence
- ☐ Copy of Certificate of Registry
- ☑ Supplier's Price Quotations

Signature:

Date:

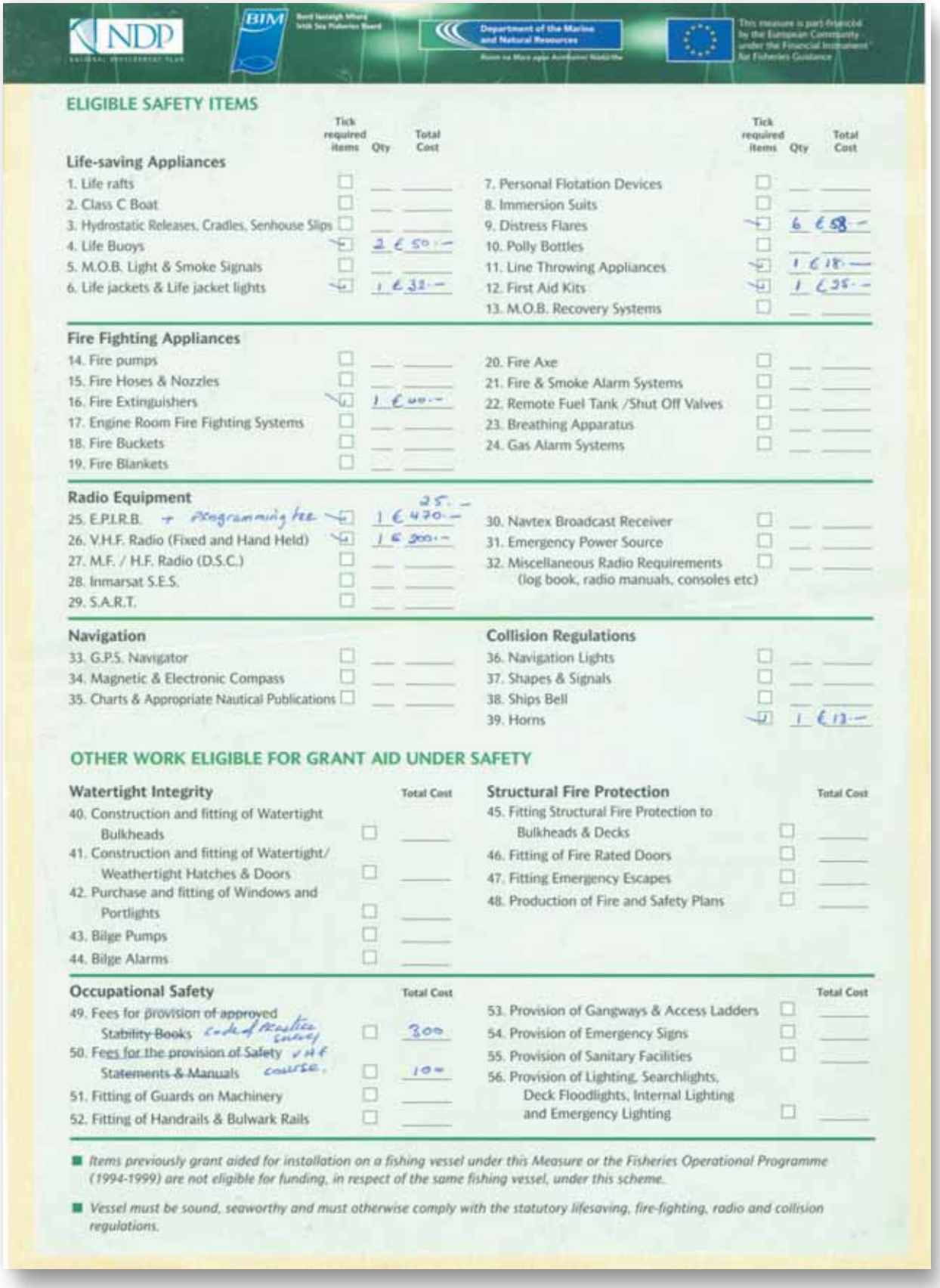
SEE OVER FOR ELIGIBLE SAFETY ITEMS LIST

Send completed application forms to:

Fisheries Development Division, BIM, P.O. Box 12, Crofton Road, Dun Laoghaire, Co. Dublin.

Tel: 01-2144100, Fax: 01-2300564, E-mail: fleet@bim.ie, Web: www.bim.ie

Appendix 8.12 Application for Grant of Safety Items.



NDP

BIM — Bord Iascaigh Mhara / Irish Sea Fisheries Board

Department of the Marine and Natural Resources — Roinn na Mara agus Acmhainní Nádúrtha

This measure is part-financed by the European Community under the Financial Instrument for Fisheries Guidance

ELIGIBLE SAFETY ITEMS

	Tick required items	Qty	Total Cost
Life-saving Appliances			
1. Life rafts	☐		
2. Class C Boat	☐		
3. Hydrostatic Releases, Cradles, Senhouse Slips	☐		
4. Life Buoys	☑	2	€50.-
5. M.O.B. Light & Smoke Signals	☐		
6. Life jackets & Life jacket lights	☑	1	€32.-
7. Personal Flotation Devices	☐		
8. Immersion Suits	☐		
9. Distress Flares	☑	6	€58.-
10. Polly Bottles	☐		
11. Line Throwing Appliances	☑	1	€18.-
12. First Aid Kits	☑	1	€25.-
13. M.O.B. Recovery Systems	☐		
Fire Fighting Appliances			
14. Fire pumps	☐		
15. Fire Hoses & Nozzles	☐		
16. Fire Extinguishers	☑	1	€40.-
17. Engine Room Fire Fighting Systems	☐		
18. Fire Buckets	☐		
19. Fire Blankets	☐		
20. Fire Axe	☐		
21. Fire & Smoke Alarm Systems	☐		
22. Remote Fuel Tank /Shut Off Valves	☐		
23. Breathing Apparatus	☐		
24. Gas Alarm Systems	☐		
Radio Equipment			
25. E.P.I.R.B. + Programming fee	☑	1	€470.- + €25.-
26. V.H.F. Radio (Fixed and Hand Held)	☑	1	€200.-
27. M.F. / H.F. Radio (D.S.C.)	☐		
28. Inmarsat S.E.S.	☐		
29. S.A.R.T.	☐		
30. Navtex Broadcast Receiver	☐		
31. Emergency Power Source	☐		
32. Miscellaneous Radio Requirements (log book, radio manuals, consoles etc)	☐		
Navigation			
33. G.P.S. Navigator	☐		
34. Magnetic & Electronic Compass	☐		
35. Charts & Appropriate Nautical Publications	☐		
Collision Regulations			
36. Navigation Lights	☐		
37. Shapes & Signals	☐		
38. Ships Bell	☐		
39. Horns	☑	1	€13.-

OTHER WORK ELIGIBLE FOR GRANT AID UNDER SAFETY

		Total Cost
Watertight Integrity		
40. Construction and fitting of Watertight Bulkheads	☐	
41. Construction and fitting of Watertight/ Weathertight Hatches & Doors	☐	
42. Purchase and fitting of Windows and Portlights	☐	
43. Bilge Pumps	☐	
44. Bilge Alarms	☐	
Structural Fire Protection		
45. Fitting Structural Fire Protection to Bulkheads & Decks	☐	
46. Fitting of Fire Rated Doors	☐	
47. Fitting Emergency Escapes	☐	
48. Production of Fire and Safety Plans	☐	
Occupational Safety		
49. Fees for provision of ~~approved~~ Stability Books Code of Practice Survey	☐	300
50. Fees for the provision of Safety Statements & Manuals VHF course.	☐	100
51. Fitting of Guards on Machinery	☐	
52. Fitting of Handrails & Bulwark Rails	☐	
53. Provision of Gangways & Access Ladders	☐	
54. Provision of Emergency Signs	☐	
55. Provision of Sanitary Facilities	☐	
56. Provision of Lighting, Searchlights, Deck Floodlights, Internal Lighting and Emergency Lighting	☐	

- *Items previously grant aided for installation on a fishing vessel under this Measure or the Fisheries Operational Programme (1994-1999) are not eligible for funding, in respect of the same fishing vessel, under this scheme.*
- *Vessel must be sound, seaworthy and must otherwise comply with the statutory lifesaving, fire-fighting, radio and collision regulations.*

Appendix 8.13 Annex H - SAR Helicopter Mission Report

ANNEX H

SAR HELICOPTER MISSION REPORT

From: SAR SLIGO

TO:	MRSC Malin	Fax: (074) 9370221
INFO:	MRCC DUBLIN	Fax: (01) 6620795
Sligo SAR Mission Report No: 111/07		Date:3/12/07

1 a	Sligo S61N RESCUE R118				
b	P1: Duthie	P2: Wood	WOp: Fagan		WMn: Ward
2	Subject of SAR action (search, Medevac etc)		Search for missing boat		
3 a	Time alerted: 12.30		3b	Departure time:12.42 (14.06)	
c	On task time:12.56		3d	Off task time:13.36	
e	Arrival time at base: 13.48 (14.12)		3f	Total flying time:1.2	
4 a	Type of search		Visual and Flir		
b	Coordinates of area searched		N5435.42 W00817.85 position of boat / N5435.33 W00817.02 position of survivors		
c	Position of incident: Lat and Long (essential) Place name (desirable)		N5435.33 W00817.02 1 mile south of Doorin point		
d	How casualty first located by S61		/ visual /		
e	Time casualty first located by S61		13.30		
f	Range when casualty first located by S61		.5 mile		
g	Radio/PLB/visual distress signals by casualty		N/a		
5 a	On-Scene Coordinator		R118		
b	Other cooperating units		Malin HeadC/G and local fishing boats		
6 a	Details of casualties/survivors		2 male		
b	Lives saved		Male 2		
c	Persons assisted		Male 2		
d	Equipment expended		Smoke pot, 1E size O2, 2 OPA airways, suction tubing, 1 ambulance blanket and 1 trauma sheers.		
7	Report on incident and actions: Tasked by Malin Head C/G for missing boat after sighted flares 1 mile south of Doorin point. The boat was located almost submerged with just the front above the surface, We then continued our search for the survivors who were located approx 1mile ESE of the boat. The two casualties were recovered from the water and were unresponsive. We immediately comenced CPR on both of them and proceeded to Sligo Hospital. When we landed on the aircraft shut down and ambulance staff assisted in CPR until the casualties could be taken out and brought into the hospital. We then returned to Base.				
8	On-scene conditions (delete incorrect options at 8a, 8c, 8e and 8f) :				
a	Day /		8b	Wind velocity:300/40kts	
c	Vis: <1000m / 1000m – 2nm / 2-5nm / >5nm		8d	Cloud base:ovc 1500ft	
e	Sea state: Rough		8f	Sea swell / Medium	

9 a	Alert 0730 – 2100: launch within 15 min? *	yes	Either 9a or 9b must read N/A
b	Alert 2100 - 0730: launch within 45 min? *		
c	Reason if 15/45 min reaction not achieved *		
d	Mission aborted by aircraft technical failure on start up or before rescue? Give reason *		
10	Proforma completed by:	Ger Fagan	

11	MRCC Comments:

Appendix 8.14 Extract from Document of Compliance (Code of Practice Declaration of Compliance).

Design, Construction and Equipment of
Small Fishing Vessels of less than 15 m Length overall

Code of Practice
Declaration of Compliance

To be completed by an Authorised Person

Declarations on page v to be signed by the Authorised Person and Owner

Name of Vessel	Fishing Letters & Number	Official Number	Port of Registry
CASSIE	SO112 P		
Overall Length (less than 15 metres)	**Breadth**	**Depth**	**Date keel laid**
6.40	2.08	0.71	1995
Engine Make & Model			**Engine Power (kW)**
HONDA 15 OUTBOARD			11.19

Name & Address of Owner	LIAM AND DAMIEN KENNEDY, CO. DONEGAL

Description of vessel
CLINKER WOODEN OPEN PUNT.

Description of operational area
DONEGAL BAY

Appendix 8.14 Extract from Document of Compliance (Code of Practice Declaration of Compliance).

Chapter 5 Fire Protection, Detection & Extinction

5.1	**Fire Safety**					
#5.1.1	Machinery space capable of being closed down? NONE					Yes / No N/A
*5.1.2	Fire Prevention - comply?					Yes / No
*5.1.3	Cleanliness and Pollution Prevention - comply?					Yes / No
*5.1.4	Open-Flame Gas Appliances - comply? NONE					Yes / No N/A
*5.1.5	Gas Detection - comply? NONE					Yes / No N/A
5.2	**Fire Fighting Appliances**					
#5.2.1	Are extinguishers of an approved type					Yes / No
#5.2.2 ⋮ #5.2.5	Portable Extinguishers			Serviced Date		05/05
		Engine room	Type	Rating		Nº
		Other spaces	Type POWDER	Rating 13A 93		Nº 1
			Fire buckets			Nº 6
#5.2.6	Remote controls for fuel tank valves	Yes / No	Number	OUTBOARD		N/A
			Location	OUTBOARD		N/A
#5.2.6	Are means of closing skylights, doorways etc to machinery and cargo spaces adequate? NONE					Yes / No N/A

Chapter 6 Protection of Crew

6.1	**Protection of Personnel**	
*6.1.2	Bulwarks, Guard Rails and Handrails - comply?	Yes / No
*6.1.4	Surface of Working Decks - comply?	Yes / No
#6.1.5	Personal Protective Equipment - comply?	Yes / No
#6.2	Medical Stores - comply?	Yes / No
*6.3	Securing of Heavy Items or Equipment and Fishing Gear etc - comply?	Yes / No

Chapter 7 Life-Saving Appliances

#7.1	Are all items of LSA of an approved type					Yes / No
#7.2	Have relevant items of LSA been serviced					Yes / No
#7.3	1 Lifejacket for every person on board			Yes / No	Nº: 2	
‡7.4	Liferafts sufficient for 100% persons	Yes / No	Nº	Last Serviced	NONE	N/A
	Hydrostatic Release Unit (HRU)	Yes / No	Nº	Last Serviced	NONE	N/A
#7.5	Lifebuoys	Total N° of Lifebuoys			2	
		N° with 18m line			1	
		N° with combined light & smoke signal				
#7.6	1 Personal Floatation Devices (PFD) for every person on board			Yes / No	Nº: 2	
#7.8	Distress signals	6 red star	Yes / No	12 parachute rockets	Yes / No	
*7.9	Means for Recovering Persons from the Water				Yes / No	

Chapter 8 Manning, Training & Certification

#8.2 *8.8	Manning - comply?	Yes / No
*8.3	Standards of Competence - comply?	Yes / No
*8.5	Operation and Maintenance of Propulsion Machinery - comply?	Yes / No
#8.6	Operation of Radio Equipment - comply?	Yes / No
#8.7	Safety Training - comply?	Yes / No
	Is there a copy of the Code of Practice on board?	Yes / No

Appendix 8.15 Photos of Similar Boat.

Similar Boat Construction Detail.

Similar Boat Side Elevation.

Appendix 8.15 Photos of Similar Boat

Similar Boat showing Pot Hauler and Outboard.

Appendix 8.16 Photos from Location of Incident.

Looking out between Doorin Point and Eagle's Nest beyond which flares were sighted.

Looking West over Eagle's Nest Rock.

Appendix 8.16 Photos from Location of Incident.

View over Donegal Bay from Doorin where Casualties Sighted and winched into Helicopter.

Appendix 8.17 Photos of Personal Flotation Devices

Personal Flotation Device worn by Mr. Conor Kennedy.

Buoyancy Aid Jacket worn by Mr. Liam Kennedy.

Appendix 8.18 Photos of PLB Recovered from Incident.

PLB Recovered from Incident.

Back cover of PLB showing Instructions.

Appendix 8.18 Photos of PLB Recovered from Incident.

Similar PLB in Plastic Housing and Flap closed.

PLB with Flap open showing operating buttons. Test and GPS (Aerial in housed position).

Appendix 8.18 Photos of PLB Recovered from Incident.

PLB with Flap open and aerial in extended position.

PLB Removed from Housing.

Appendix 8.19 Report of PLB Test.

Report of a Personal Locator Beacon type "ACR AquaFix406 model 201 PLB" recovered from Donegal Bay.

Contents:

1

Appendix 8.19 Report of PLB Test.

1. Introduction.

1.1 The recovered PLB is an ACR AquaFix 406 (model 201 PLB); it was recovered from Donegal Bay by an Irish Coast Guard Helicopter on 3rd December 2007. The crew reported that one casualty was clutching the PLB on recovery from the water. The beacon has a wrist cord attached but this is only about 4 cm. in diameter and a normal adult could not loop it on to the wrist. The PLB is supplied with a holster to prevent inadvertent operation and this was not with the beacon. A portable flotation device is available with a specific pocket to hold this type of PLB, it is not known if the casualties used one.

1.2 Ship Radio Licence number LSR7606. Date of Issue 27th June 2005. Ship name "CASSIE" and radio callsign EI8093. The licence was technically approved for the operation of a VHF hand portable radio ICOM ICM31 and AquaFix TM 406 GPS (Global Positioning System) personal EPIRB (as stated in applicants handwriting) and a radio operator holding the short range Certificate of Competency was declared on the application.

1.3 EPIRB Emergency Position Indicating Radio Beacon and PLB Personal Locating Beacon Technical differences.

Currently two types of emergency beacon are available for use in the marine environment EPIRB Emergency Position Indicating Radio Beacon and PLB Personal Locator Beacon. Both transmit a 5 Watt digital burst of approximately 0.5 seconds duration approximately every 50 seconds. This period is randomly distributed between 47.5 to 52.5 seconds to prevent multiple beacon transmissions from interfering with each other. Both transmit an equivalent digital message. However, there are notable differences between the two types of beacons. EPIRB's are meant to be carried on and deployed from a marine vessel, a PLB however is intended to be carried by a person and deployed by an individual in distress.

The EPIRB is intended to be used only in a marine environment; PLB's may be used on land or in a marine environment, but are only tested during certification in a land environment. The PLB recovered was intended for use in a marine environment.

EPIRB's come in both automatically deployed or manually deployed models.

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Category I EPIRB's are activated either manually or automatically, by automatically is meant the ability for the beacon to be held in a bracket external to the vessels accommodation. From this position the EPIRB can float free from the vessel when the vessel sinks to a depth of 2 to 4 metres. Once in the water a mechanism automatically switches on the EPIRB and it operates for over 48 hours in the water. Category II EPIRB's are manual activation only units. Both categories of EPIRB's are designed to activate when they are immersed in water, regardless of the position of the manual switch.

EPIRB's must float with the antenna deployed and out of the water in the normal transmitting position. They are equipped with a strobe light that activates automatically when the beacon is switched on. All have a means to tether the EPIRB to a vessel or survival craft so they will float free while secured to the survival craft. They must operate for at least 48 hours at either -40°C to +55°C (Class 1) or -20°C to +55°C (Class 2). COSPAS-SARSAT Standards assume that the body of water in which the EPIRB is floating will serve as the ground plane for the antenna.

PLB's are generally smaller because they require smaller batteries, being required to operate for only 24 hours at either -40°C to +55°C (Class 1) or -20°C to +55°C (Class 2). They are not required to be equipped with a strobe light. All are currently equipped with a tether of some sort, although this may just be a wrist tether. Category 1 PLB's must be buoyant. Category 2 PLB's are not buoyant. Category 1 PLB's are not required to float in a transmitting position, they simply are required not to sink, the objective being solely to help prevent loss if dropped into the water. The PLB is manually activated only.

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2. Condition and Testing.

2.1 The beacon was stored in a secure locked room with limited access while in MRAU possession. Emission was prevented by the use of a Faraday cage.

The beacon was an ACR AquaFix 406 (201PLB) with GPS global positioning system interface and designated as a P EPIRB. If the GPS is to function then a cable from a separate GPS Global Positioning System receiver, must be connected and the position data is input via a cable attached to an infra red port on the PLB. The unit has two buttons marked battery and GPS, the test protocol is to activate the test button for longer than 1 second, the beacon fires in test mode, but the signal is encoded to prevent COSPAS SARSAT system activation. To activate the PLB in a distress situation the two buttons marked battery and GPS must be pushed simultaneously for 1 second, this is labelled on the unit i.e. "Push Test and GPS together for 1 second".

The unit under test has 3 marks, two for LED light emitting diodes, marked colour green "406 GPS" and Colour red "406". The final mark is for the infra red receiver colour blue "GPSI" Global Positioning System interface). There is a button marked "OFF", when this is pressed it stops the unit.

The battery replacement date is given as 09/2010. The unit has a printed label indicating "Liam Kennedy" code 9F5B0B0C364E8D1 Country Ireland Call Sign EI8093/1 Model PLB-201 P/N 2797.2 Aqua Fix. Another sticker indicates ACR number 3638 Model PLB 201 DOM June 2005 (Date of Manufacture).

The GPS function operates with a special cable leading from the GPS receiver and connecting close to the sensor marked GPSI, this is an infrared sensor, which reads the NEMA 0183 protocol to input the position into the PLB.

2.2 Physical Testing.

The unit antenna was extended for test. A faraday cage was used to prevent the pickup of the beacon by the COSPAS SARSAT constellation and LUT activation. MRCC Dublin were contacted and advised that the test was taking place. A "futronics GMDSS test box"

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was used to pick up emissions, the Calibration Certificate expires 8/2/2009. The test equipment was calibrated by Danphone of Denmark.

The unit was placed in the cage and the test protocol activated the unit was tested three times and the following data was picked up:

The unit beeps 3 times and the LED activates:

Test box output
Receive OK
9F5B0B0C364E8D1
250 EI8093
406 027.4 LVL 204
Aux Device 121.5 MHz.
Nat user definition Manual Activation only.
BIT 109-112 0000
User Protocol Radio Call sign

Second Test result:

The unit beeps 3 times and the LED activates:

Test box output
Receive OK

9F5B0B0C364E8D1
250 EI8093
406 027.4 LVL 200
Aux Device 121.5 MHz.
Nat user definition Manual Activation only
BIT 109-112 0000
User Protocol Radio Call sign

Result: All three attempts returned a positive result, two are detailed here.

Tested on 121.5 MHz. Aeronautical homing frequency.
Audio tone and morse code letter "P" identified on 121.5.

Test with antenna folded:

5

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The antenna was refolded back along the unit in the stored position and the test rerun. The results were again positive.

Test box output
Receive OK

9F5B0B0C364E8D1
250 EI8093
406 027.4 LVL 201
Aux Device 121.5 MHz.
Nat user definition Manual Activation only.
BIT 109-112 0000
User Protocol Radio Call sign

Tested on 121.5 MHz. Aeronautical homing frequency.
Audio tone and morse code letter "P" identified on 121.5.

The type approval regime's relating to this equipment are:
Cospas Sarsat type approval.
ETSI European Telecommunications Standards Institute EN Standards under the RTTE Directive EN 300 152.
MED Marine Equipment Directive Standards

The Unit is CE marked. The unit bears no Wheel mark to indicate MED approval or indication of COSPAS SARSAT Compliance TR01 TR07 or TR08 Approval Standards.

In Inspection of the COSPAS SARSAT website indicates that the beacon is accepted by COSPAS SARSAT and the database ID. ID 157-1 TAC number 157.

2.3 Live Testing.

The following Organisations were contacted and requested to participate in a live beacon test from location 5320N 00615W (Stephens Green Central Dublin) on the 16th January 2008. The MCC Mission Control Centre, Kinloss, Scotland, United Kingdom, handling Local User Terminal LUT services for the United Kingdom and Republic of Ireland. The Irish Air Traffic Control Services via the Irish Aviation Authority. Irish Marine Rescue Co-ordination Centre Dublin operated by the Irish Coast Guard and the Irish Air Corps Baldonnell, Co. Kildare.

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Due to the operation of the COSPAS SARSAT system two effective Doppler shift determined positions may be available on 406.028 MHz and therefore a worldwide MCC notification was necessary; MCC Kinloss handled this. The image position as opposed to the actual may be considerably geographically distant from the actual and indicate an emergency and the inappropriate allocation of search and rescue resources. The 121.5 MHz.AM amplitude modulated VHF transmission is live on aeronautical distress frequencies and therefore only in the most grave situations are tests allowed on this frequency, therefore Air Traffic Control Dublin requested that the testing be kept as close to 12.00 hrs. local time as possible.

At the appointed time 12.00 hrs. local time 16th January 2008 the beacon was taken to the location and activated at a height of approximately 1.6 metres, the PLB was held in the operator's hand, which was extended with the operator facing South. A receiver type "Icom R20" was used to monitor the 121.5 MHz. operated by a second engineer. The homing signal was detected and the morse letter P heard on the frequency 121.5 MHz.

MCC Kinloss reported to MRCC Dublin that the equipment under test operated at 16th January 2008 at 12:05:21 hrs.

Reference no. MCC Kinloss 0012066 Date 16th January 2008 Time 12:05:21 hrs. Channel TFN Entered by SD PC Name PC 002142. Reporting beacon Alert Detect Hex 9F5B0B0C364E8D1 C/S EI8093.

From MCC Kinloss: "Please find attached the history from your short test transmission between the times of 200801161200-1215 GMT/UTC. We estimate the beacon was active from 1200 - 1208/9 GMT/UTC."

More detail can be extracted (with reference to our own LUTs, only by interrogating our LEOLUT (2321) and GEOLUT. These data were provided from the UK LEOLUT (2321) & GEOLUT (2322) and from Turkey's GEOLUT (2713).

"The only pass that coincided with your transmission was from SARSAT 11 and that was out at about 25 deg W when adjacent with Dublin.

Significantly the pass stopped at 1203 GMT/UTC therefore the performance of the beacon looks good as only a couple of bursts

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would have been possible, insufficient time for a Doppler curve to be produced".

If a further test is required and there is no GPS/location protocol element active in the beacon, we can co-ordinate the test with a 'good' LEO satellite pass.

In summary the beacon is correctly detected and would have triggered a distress procedure. The statement of senior management at MCC Kinloss is as follows:

"Yes, I can confirm that if the Irish-coded beacon came up on our system, the operator would have sent the associated distress-alert message that would have automatically come up addressed to MRCC Dublin via the AFTN network, to MRCC Dublin. The UKMCC Operator would then have telephoned the MRCC to confirm delivery/receipt".

The beacon is operational. If the beacon is operational there is a high probability that if activated during the incident an alert would have been acted on. The winching into the helicopter would have provided a perfect propagation position. The off switch on the PLB would have had to be operated for the battery to be still functional for testing.

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3. Conclusions

The PLB Coded EI8093 is in good operational condition, the tests carried out have positive results. There are factors, which may have affected the beacon operation. The PLB indicates that the antenna must be extended for full signal emission. The human body can act to shield the PLB. This may block the signal from a satellite. The holster for the PLB was not recovered, this acts to prevent the PLB being inadvertently activated. The PLB having been removed from the holster may indicate that attempts were made to activate the PLB. If the beacon was active when the beacon holder was being winched into the helicopter this additional height would give very good propagation conditions for the 406 MHz. emission with a very high probability of a successful alert being picked up if the PLB had been activated. If the PLB had been activated the operation of the off button would have stopped battery drain.

The PLB does not activate if immersed in water current instruction in the SRC (Short Range Certificate) Radio Operator Course deals with EPIRB Emergency Position indicating radio beacon equipment, which does automatically operate in the water, one of the crew held this qualification given as SRC number 18994 on the ship radio licence application.

The Very High Frequency VHF hand held radio licensed to the vessel was never recovered. This unit an Icom M31 is indicated on the ship radio licence application and has a limited range. A fixed VHF radiotelephone as opposed to the Icom M31 handheld has a fixed antenna system, this increases the effective range giving an approximate range from the transmitter via line of sight coverage to the horizon, about 30 nautical miles, the effective range increases with height above water. This emission is in an omni-directional (all around pattern) and perpendicular to the vertical antenna. The fixed unit has a power output of 25 Watts. This full power output is automatically applied when the VHF Distress Channel 16 is selected. The Icom M31 power output is a maximum of 5 Watts output on Channel 16, range would probably be in the region of 4 to 5 miles dependant on the height it is operated at and propagation conditions at the time i.e. weather and geographic blind spots. The nearest Irish Coast Guard remote Transmit Receive station is at Cashelgar (54.22N 008.31W) identifier Donegal Bay Coast Guard Radio and approximately 12.1 nautical miles distant (approximately 13 land miles) from the area of the incident off St. John's Point. At this date

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the VHF handheld radio Icom M31 has not been recovered. The manufacturer claims that the unit can be immersed to 1 metre depth for 30 minutes and still operate. The unit is not Marine Equipment Directive MED approved but is approved and CE marked under the RTTE Directive to EN 301 178.

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4. Standards and References.

IMO GMDSS manual.

IMO Performance Standards for Radio Communications and Radio Navigational Equipment. In particular:

A.696(17)	Type approval of satellite emergency position-indicating radio beacons (EPIRBs) operating in the COSPAS-SARSAT system
A.810(19)	Float-free satellite emergency position-indicating radio beacons (EPIRB) operating on 406 MHz
A.662(16)	Float-free release and activation arrangements for emergency radio equipment
A.809(19)	Survival craft two-way VHF radiotelephone apparatus

Relevant MED Standards under EU Council Directive EU/96/98 EC.
Relevant ETSI Standards under the RTTE Directive R&TTE 1995/99/EC.
EN300225 VHF HH GMDSS EN300178 BHF HH non GMDSS EN300066 EPIRB

COSPAS SARSAT Handbook of regulations on 406MHz. and 121.5 MHz. Beacons, Oct. 2007.

Irish Maritime Legislation in particular:
S.I. 544 of 1998. FV (Radio Installations) Regulations, 1998.
S.I. 472 of 2002 FV (Radio Installations) (Amendment) Regulations, 2002.
S.I. 40 of 1999 FV (Radio Installations Survey) Regulations, 1999.

Irish Marine Notices. No. 25 of 2006. No. 8 of 2006 relating to EPIRB Equipment.

Irish Marine Notice No. 16 of 2004, Safety of Small Fishing Vessels less than 15m.

Irish Marine Notice No. 12 of 2004, Radio Operators Short Range Certificate of Competency.

Irish Marine Notice No. 4 of 2004, Fishing Vessel Legislation.

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Irish Marine Notice No. 15 of 1999, Radio Qualifications requirements under GMDSS.

Irish Marine Notice No. 22 of 1998, Radio Communication requirement for Fishing Vessels.

Irish Marine Notice No. 19 of 2003, Maritime Radio Operating Procedures on Small Craft.

9. LIST OF CORRESPONDENCE RECEIVED

Mr Neilly Kennedy
Port Inver,
Co Donegal
16/2/09

Dear Ms Walsh

Firstly I must opologize for my late response to you, but I am sure you understand how difficult it was for me to read the report off my brother + nephew. If its not to lale, I would like to add a piece to my statement which is in the part named (EVENTS FOLLOWING THE INCIDENT,) No,57, DETAILS FROM OTHER WITNESS ACCOUNTS, continued on page 10 ,its in the last paragraph, I have hilighted below the piece to be added . I have no other comments or observations to offer to the report.

Yours Faithfully
Neilly Kennedy

(Several others had gathered at the peir wondering what was going on because of the flare sighting so he went to Mr Liam Kennedys house witch 3 or 4 others and at that stage saw the helicopter over at Doorin Head. Sometime later he received word that Messrs Liam Conor Kennedy were found an were fine and on their way by helicopter to Sligo hospital. He went back to the peir to ensure his boat was properly tied up. The fisherman who had been out earlier around the back of Doorin came in and said it was a bad day in the water and that he had seen a red light and signalled the direction to the helicopter.)

MCIB RESPONSE
The MCIB notes the contents of this letter and has made necessary changes.

Inver village
Inver
Co Donegal

To whom it may concern

In relation to the Investigation into the death of a father and Son from the MFV "Cassie" at Inver Bay, Co Donegal on 3rd December 2007 I have no comments or observations to offer.

Yours sincerely
Joe Rose

MCIB RESPONSE
The MCIB notes the contents of this letter.

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Bord Iascaigh Mhara
Irish Sea Fisheries Board

February 2nd, 2009

Mr. John G O'Donnell
Chairman - MCIB
Marine Casualty Investigation Board
Lesson Lane
DUBLIN 2.

Dear Mr. O'Donnell,

Thank you for the copy of the Draft Report of the Investigation into the death of a Father and Son from the MFV "Cassie" at Inver Bay, Co. Donegal on 3rd December 2007, which I received together with your letter of January 21st 2009.

I have read the draft report carefully and note, in particular, the recommendations therein. For reasons of clarification, may I suggest that the reference to the lifejacket in recommendation 7.6 should be changed to read PFD/lifejacket as described in Marine Notice No. 36 of 2005.

While the events described in the draft report resulting in the loss of two lives are deeply tragic, I have no other comments or observations to make.

Yours sincerely,

Ray Murray
Marine Services Executive

National Fisheries College, Greencastle, Co. Donegal
Regional Fisheries Centre: Castletownbere, Co. Cork
Regional offices:
Killybegs, Co. Donegal; Galway; Howth, Co. Dublin
International offices:
Paris; France; Madrid; Spain.

MCIB RESPONSE

The MCIB notes the contents of this letter and has made necessary changes.

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Bord Iascaigh Mhara
Irish Sea Fisheries Board

January 26th, 2009

Mr John G O'Donnell
Chairman - MCIB
Marine Casualty Investigation Board
Leeson Lane
DUBLIN 2.

Dear John,

I am in receipt of your letter of January 21st, 2009 and the Draft Report of the Investigation into the death of a Father and Son from the MFV "Cassie" at Inver Bay, Co Donegal on December 3rd, 2007.

I have read this report carefully and noted, in particular, the recommendations therein. Whilst clearly the events in this case are deeply tragic, I do not wish to make any observations.

Yours faithfully

Michael Keatinge
Manager, Fisheries Development Division

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Regional Fisheries Centre: Castletownbere, Co. Cork
Regional offices:
Killybegs, Co. Donegal; Galway; Howth, Co. Dublin
International offices:
Paris; France; Madrid; Spain.

MCIB RESPONSE

The MCIB notes the contents of this letter.