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**REPORT INTO
THE INCIDENT INVOLVING
THE M.F.V. "CAROLE DENISE"
ON 21ST OCTOBER 2001.**

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

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1. SYNOPSIS.

- 1.1 On the morning of the 21st October 2001 an incident took place aboard the "Carole Denise" while out fishing off Portmarnock resulting in the death of a crewmember - Mr. Donal Moore.

2. FACTUAL INFORMATION

2.1 Particulars of the vessel.

The "Carole Denise" is a Fishing Vessel of steel construction. Her details are as follows:

Name:	Carole Denise
Official number:	401616
Port of Registry:	Dublin {D 593}
Register length:	10.9m
Breadth:	3.89m
Depth:	1.19m
Gross tonnage:	11.11 tons
Register tonnage:	5.95 tons
Engine:	Ford D Series diesel, 80.58 kW
Vessel built:	1977
Service speed:	About 8 knots
Registered Owner	The registered owner of the vessel at the time of the accident was Mr. Tony Beshoff.

2.3 Crew

Mr. Nicholas Moore	-	skipper
Mr. Donal Moore	-	crewman

2.4 Mr. Nicholas Moore was an experienced fisherman and the holder of a Second Hand (Limited) Certificate of Competency issued in 1985. He had about three months experience as Skipper on the "Carole Denise". Mr. Donal Moore was less experienced. The trip on which the accident occurred was only his second day serving as crewmember on the vessel. He had experience from other fishing vessels of a total of about three or four months.

2.5 Due to the fact that the vessel was less than 17 metres in length, no Certificate of Competency was required when fishing in the Limited Area, under the Fishing Vessels (Certification of Deck Officers and Engineer Officers) Regulations 1988, as amended.

Equipment on board

2.6 Hull

From the scope of the inspection allowable with the vessel in water, the hull externally was in a generally reasonable condition. The deck was in fair condition with the closure for hold in place. The wheelhouse was adequately constructed and contained sufficient navigational and control equipment to render the vessel suitable, from a navigational point of view, for the type of inshore fishing/razor fish dredging in which the vessel was engaged.

2.7 Emergency equipment

The vessel carried a 6 man Zodiac liferaft on the wheelhouse top which was marked serviced in 17/07/1998. The required service interval for liferafts is 12 months which means this one was overdue a service. However, there is no statutory rule or regulation requirement for a fishing vessel of this size to carry a liferaft.

2.8 Other lifesaving equipment comprised of two lifebuoys, three lifejackets and distress signal flares. These items satisfied the statutory requirements of the applicable Merchant Shipping (Life-saving Appliances) rules 1967.

2.9 Fire fighting appliances consisted of a hand fire pump (whale gusher), one extinguisher and one self-activating Halon extinguisher for the engine room. These would largely comply with the statutory requirements for a vessel of this size.

2.10 Complete derrick arrangement for razor dredging

The arrangement was not designed and constructed as a complete unit but rather is an assembly of individual components some pre-existing the conversion and some made to fit as conversion was being done.

2.11 The winch assembly is a two-drum unit powered by a single hydraulic motor. Due to the configuration of its clutches, it is suitable for powered usage in one direction only, i.e. it can be used to pull in but cannot be used for slacking out under power in a controlled manner.

2.12 Other equipment

A net hauler was fitted on the starboard side fore of midships. It was not used in razor fish recovery operations.

3. EVENTS PRIOR TO THE INCIDENT

- 3.1 On Sunday 21st of October 2001, Mr. Nicholas Moore and his brother Mr. Donal Moore boarded the "Carole Denise" at middle pier, Howth at approx. 1000 hrs. The vessel was prepared for departure and sailed out of Howth proceeding to a position about 500 metres off Portmarnock beach where they intended to dredge for razor fish. The weather was fine and sunny with light winds; sea state was calm (See weather report at Appendix 8.1).
- 3.2 At between 1015 and 1030 hours, they commenced fishing. During the shooting and recovery operations of the dredge, the skipper, Mr. Nicholas Moore, worked the hydraulic controls situated just aft of the wheelhouse while Mr. Donal Moore worked at the stern. It was necessary for the crewmember at the stern to manually manoeuvre the dredge over the transom when it was being deployed. This was due to the fact that the dredge did not completely clear the gunwale when lifted to the maximum permitted height. This height restriction was due to the lifting hook of the dredge coming up hard against the block of the A-frame (jib) - the jib being in its fully elevated position.
- 3.3 Two full operations consisting of deploying the dredge steaming ahead for approximately 40 minutes and then recovering the dredge was completed without incident. After each recovery, the contents of the dredge were emptied into fish boxes for the sorting of razor fish.

4. THE INCIDENT

- 4.1 On the third deployment of the dredge, while Mr. Donal Moore was attempting to clear the dredge over the gunwale, the tightening device for the luffing winch band brake reportedly failed allowing the jib to fall to its lowest (tethered) position thereby trapping Mr. Moore between a cross member of the jib and the transom gunwale.
- 4.2 On seeing this Mr. Nicholas Moore engaged the luffing winch clutch and pulled the jib back up. Mr. Donal Moore managed to get out from where he had been trapped and make his way forward to the wheelhouse. It was obvious to Mr. Nicholas Moore that he had sustained serious injury.

5. EVENTS FOLLOWING INCIDENT

- 5.1 The vessel returned immediately to Howth where the Emergency Services were waiting. Mr. Donal Moore was transported to hospital. He was pronounced dead on 21st October 2001 at Beaumont Hospital, Dublin 9.

6. CONCLUSIONS AND FINDINGS

6.1 Factors contributing to incident

A number of factors can be considered to have played a part in the accident:

- 6.1.1 The design of the lifting and recovery rig for the dredge;
- 6.1.2 The maintenance of the equipment comprising this rig;
- 6.1.3 The procedures adopted in the usage of the rig.

6.1.1 The design of the lifting and recovery rig for the dredge

Lifting derrick: (See Appendix 8.2)

It is understood that Mr. Leo Whelan of Clifden designed this unit but that it was manufactured and fitted, using local contractors in Howth, by the present owner, Mr. Tony Beshoff and Mr. Leo Whelan in 1998.

The unit consists of a rigid steel frame mounted on the aft deck, supporting the king post to which is attached the block used to lift the jib or A-frame. The jib is a separate steel structure secured to the deck and pivoted, at two points, just above the deck level. The jib has two blocks positions at its upper end, fitted on cross members of the A-frame, the lower of which is used for a lifting block for the dredge.

Winch unit: (See Appendix 8.2)

The winch unit is a hydraulically driven two-drum unit. One drum, the starboard one, is used for hoisting or lifting the dredge from the sea bottom. The other (port) drum is used for pulling the jib (A-frame) up to its vertical position (luffing winch). Both winch drums are fitted with clutches to engage and disengage the drum from the single hydraulic drive motor. Band brakes are fitted to hold each drum in position when it is disengaged from the hydraulic drive. Each brake has a hand operated screw mechanism to apply and release the brake.

Dredge: (See Appendix 8.2)

It is understood that the dredge was designed and built by Mr. Whelan in 1998. It is an elongated steel box-shaped structure; with wire mesh sides and bottom, open at the forward end. The dredge is dragged along the sea bottom and scoops the razor fish out of the sand into the open end. Feet with skids are fitted at the after (bottom) end to prevent it sinking into the sand. A hydraulically driven propeller is fitted at the forward (open) end and is used to help clear sand and debris from the dredge.

6.1.2 The maintenance of the equipment comprising this rig

The equipment was generally in a poor state of maintenance (photos 7&8). There was considerable rusting and wastage of surfaces particularly on the winch unit. Its brake bands had sufficient friction material but the brake drums and bands were contaminated with dirt, rust and a grease-like substance, and were therefore rendered much less effective. The brake applying mechanism for the luffing winch drum (for the jib) was found to be inoperable. The screw threads on both its brake band nut and the brake-tightening rod were badly worn and damaged.

Other maintenance problems:

- Poor lay up of the wire on the winch drums resulting in slack loops and possible binding of cable (photos 9&10).
- Incorrect or poor rigging of wire (outside of guides).
- Joins in wire again leading to poor lay up on the drums.
- Deterioration and stranding of the wire.
- Clutch engagement retaining pins not fitting into their holes (painted over).

6.1.3 The procedures adopted in the usage of the rig

There was a problem of the dredge not clearing the transom gunwale on deployment and it was necessary for a crewmember to manhandle the dredge over the transom. The lowering of the jib, after the dredge was successfully deployed over the transom, was controlled only by holding the luffing drum on the band brake and releasing the brake bit by bit.

The lifting rig seems to have been designed and constructed on an ad-hoc basis with insufficient consideration given to the safety of personnel using it. A number of faults were found with its construction that would normally lead to an increase risk of component failure. Among these were:

- The securing of the wire block to the derrick king post by welding its shackle directly to the post (photo 5).
- The welding of lifting gear chain links directly to the dredge structure (photo 6)
- The use of a winch unit which can only be used to pull in under hydraulic control - slacking out could only be done by de-clutching the winch and controlling its speed solely by the band brake.
- When being deployed, the dredge required manual manoeuvring over the transom gunwale putting the crewmember doing this job in a hazardous position immediately under the lifting jib.
- Following construction, there appears to have been no formal testing carried out to prove the rig was adequate and safe for its intended purpose.

6.1.4 SUMMARY

The fatal injuries sustained by Mr. Donal Moore were as a result of becoming trapped between the crane jib cross member and the transom bulwark when the jib descended. In his statement, Mr. Nicholas Moore stated that the brake mechanism failed on the luffing winch. This failure allowed the luffing winch to run free and resulted in the jib falling rapidly to the extent of its rope tethers. The physical evidence of the condition of the winch, when inspected after the accident, would support this explanation.

RECOMMENDATIONS

7. RECOMMENDATIONS

- 7.1 Marine Notice should be issued with regards to design, use and maintenance of lifting and winching gear on board commercial fishing vessels.
- 7.2 All fishing vessels having lifting equipment fitted should be subject to a stability assessment to ensure that the operation of the equipment does not pose a threat of swamping or capsize.

8. APPENDICES

8.1 Weather Report

8.2 Photographs of vessel.

8.1 Weather Report

Weather Report for the North Irish Sea area off Portmarnock On the 21st October 2001 Between 8 and 14 hours

General Situation

High Pressure over the Ireland. Fog was widespread overland overnight but cleared slowly during the late morning.

Details:

Winds: light variable in the morning Force 1 to 2, the winds increased to Force 2 to 3 after noon in a west to north-westerly direction.

Weather: dry, fog over land in the early morning, clearer out in the Irish Sea but cloud increased over the Irish Sea during the morning.

Visibility: poor in fog(close to shore in the early morning) otherwise good.

Waves: calm near shore to slight further into the Irish Sea.

Actual reports:

Dublin Airport on the 21st October 2001

Time:	wind direction	wind speed
8 hours:	270 degrees,	5 knots
9 hours:	270	5
10 hours:	270	7
11 hours:	280	6
12 hours:	270	8
13 hours:	270	8
14 hours:	260	9

Buoy M2 on the 21st October 2001 at:-

	Wind dir	wind speed	significant wave height
8 hours:	310 degrees,	7 knots	0.5 metres wave height
9 hours:	320	6	0.5
10 hours:	310	8 knots	0.5
11 hours:	310	7 knots	0.6
12 hours:	310	8	0.6
13 hours:	310	7	0.5
14 hours:	310	7	0.6

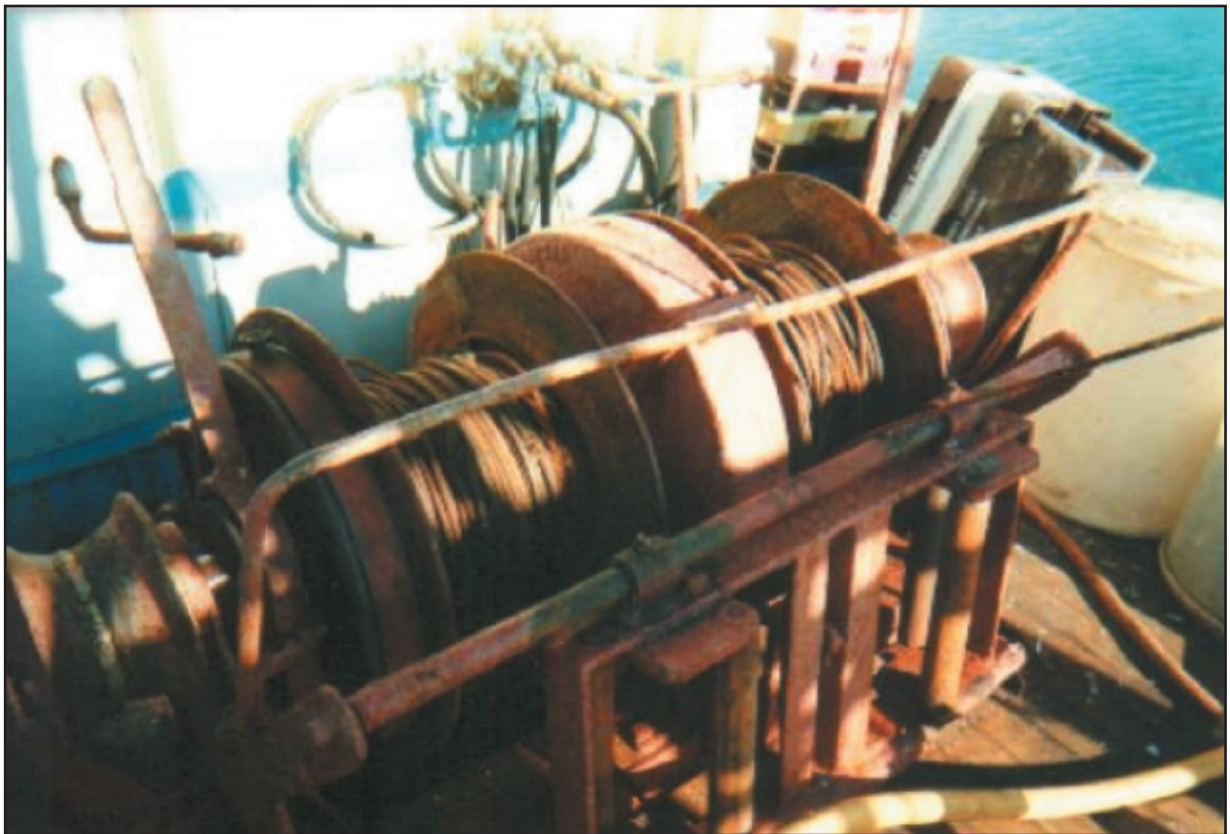
8.2 Photographs of vessel.



APPENDIX 8.2

CONTD.





APPENDIX 8.2

CONTD.

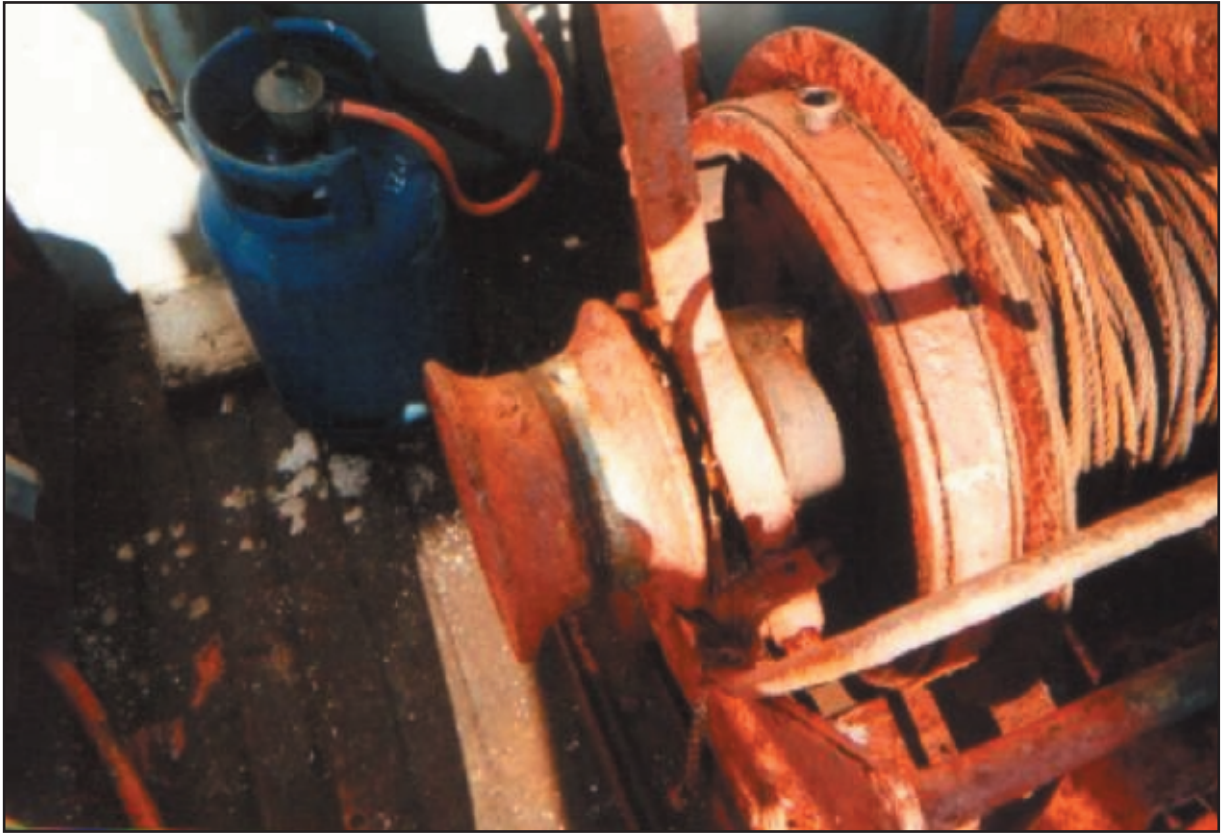




APPENDIX 8.2

CONTD.





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Irish Coast Guard
MCIB Response


Irish Coast Guard
GARDA CÓSTA na hÉIREANN



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

26th Nov. 2003.

Re MCIB 10 Draft Report on death on board IFV CAROL DENISE 21st Oct 2001.

Dear Mr Heron,

The Irish Coast Guard has not comment or observations to make concerning this report.

Yours sincerely,


Eamon Torbay
IRCG HQ

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MCIB RESPONSE

The MCIB notes the contents of this letter.

