

Sheriffdom of Tayside Central and Fife at Forfar
Determination
of
Sheriff Gregor Murray
following
Fatal Accident Inquiry
into the Death of Raymond Hector Davidson

B108/14

Forfar, 26 November 2014

The Sheriff, having considered the evidence and the submissions of the Procurator Fiscal Depute, determines for the purposes of s.6(1) of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976 that:-

- (i) At about 12.45 hours on 18 November 2009, at 56 degrees 26N and 002 degrees 25W, a point approximately eight miles south-east of Arbroath and one nautical mile west of the Bell Rock, an accident occurred on the Fishing Vessel *Optik* as a result of which Raymond Hector Davidson was pronounced dead at Ninewells Hospital, Dundee at approximately 16.30 hours that day.
- (ii) The cause of said accident was Mr Davidson's left leg becoming entangled in a rope from creels which had been shot from *Optik's* stern, causing him to be dragged into the sea.
- (iii) The cause of Mr Davidson's death was drowning.

- (iv) The accident might have been avoided had the following reasonable precautions been taken:-
 - a. *Optik's* dhan buoy rope being stowed in a container on deck.
 - b. the area in which *Optik's* dhan buoy rope was stowed being partitioned from the deck.
- (v) Mr Davidson's death might have been avoided if the following reasonable precautions had been taken:-
 - a. The completion by *Optik's* owner of an assessment of risks associated with its operations at sea, as defined by The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997.
 - b. The execution of drills by *Optik's* crew to simulate the recovery of a man overboard.
 - c. Training of fishermen in the support and resuscitation of persons who have been immersed in the sea.
 - d. Mr Davidson wearing a lifejacket.
 - e. Mr Davidson carrying a knife.
 - f. Mr Davidson not ingesting Amphetamine.
- (vi) Any other facts relevant to the circumstances of Mr Davidson's death are recorded in the Note below.

Sheriff

NOTE:-

Introduction

1. Raymond Davidson, a 57 year old creel fisherman, drowned at sea on 18 November 2009.

2. In the six weeks before Mr Davidson's death, three other fatal incidents occurred in the fishing industry, two in the preceding twelve days. In 2010 - 11, five further serious accidents occurred, causing three further deaths. The ratio of deaths in the fishing industry has been shown to be many times greater to that in comparable industries onshore.
3. This is the fourth Inquiry to consider one of these deaths. They also prompted the Marine Accident Inspection Bureau ("MAIB") to prepare two consolidated Reports on them.
4. Though Fatal Accident Inquiries have the benefit of hindsight, Mr Davidson's death might have been avoided had reasonable precautions been taken beforehand. Other reasonable precautions might not have prevented his accident but could have affected the actions of those who bravely tried to save him; they might also have prevented subsequent deaths.
5. Paragraphs 12 – 45 of this Note summarise evidence given to this Inquiry. Paragraphs 46 – 49 contain details of other accidents and the findings of related Fatal Accident Inquiries. The remaining Paragraphs reflect on this and the other Inquiries and make recommendations.

Background

6. Evidence was taken on 3 and 4 November 2014. Mrs Nicola Ross represented the Procurator Fiscal. Though no other person was represented, Mr Davidson's uncle sat in court throughout and displayed dignity which at times must have been difficult to maintain. *Optik's* former skipper, Mr Iveson, respectfully sat through the remaining evidence after his own concluded.
7. I record my thanks to Mrs Ross for her skilful presentation of the case and her clear recommendations, which largely coincide with the Determination above.
8. I allowed the evidence of Dr David Sadler to be received by Affidavit, the cause and time of death not being in issue.
9. Witness evidence was taken from:-
 - a. William West, a Marine Accident Inspector with MAIB and the author of the Report on the three incidents in November 2009
 - b. Alan Marsh, an Enforcement Officer with the Maritime and Coastguard Agency ("MCA")

- c. Anthony Iveson, the former skipper and owner of *Optik*
 - d. Neil Teviotdale, a fisherman and owner of the FV *Orianne*, which assisted *Optik* after the accident
 - e. Neil Cargill, a crewman on *Orianne*, who boarded *Optik* after the accident and assisted Mr Iveson
 - f. Andrew Spence, the Deputy Second Coxswain of the Inshore Arbroath Lifeboat, who attended the scene and administered first aid to Mr Davidson
10. The evidence of those witnesses, and the Productions referred to was unchallenged. In any event, the witness evidence was entirely credible and reliable, due allowance made for the passage of time.
11. The following Crown Productions were referred to:-
- a. Production 1, a book of photographs of *Optik*.
 - b. Production 2, Dr Sadler's Post Mortem and Toxicology Report.
 - c. Productions 5 and 6, the MAIB consolidated reports into the deaths of fishermen between 2009 and 2011
 - d. Productions 7 and 11 - 12, associated MAIB and industry documentation.
 - e. Productions 3 – 4 and 13, a MCA Report prepared by Mr Marsh into Mr Davidson's death and associated MCA Guidance.
 - f. Productions 8 – 10, the Determinations from the other Inquiries.
 - g. Production 14, a DVD produced by MAIB showing creels being shot and hauled on a single-handed vessel.

The Post Mortem Report

12. Dr Sadler's Report records the circumstances of Mr Davidson's death as disclosed to him, notes abrasions and bruising to his head and body and concludes he drowned. Amphetamine was discovered in Mr Davidson's bloodstream, though not at fatal levels.

Creel Fishing

13. Mr West's Report contains a comprehensive description of creel fishing on *Optik*. The MAIB DVD also shows creel fishing taking place on a single handed vessel. However, as vessel configurations and these practices vary, it is necessary to provide an overview.
14. Creel fishing vessels commonly fish for lobster or crab. Metal or wooden creels are roped into "fleets" of about twenty. Each end of a fleet is roped to a dhan buoy, which floats and marks the position of the fleet. Commonly, the skipper of each vessel plots the position of each fleet into a GPS enabled device.
15. After creels are baited, each fleet is launched ("shot") into the sea. After the first creel is shot, the remainder fall astern as the vessel sails forwards. The weight of each creel (about 11kg) takes it to the sea bed. Finally, the dhan buoy is shot, usually by someone on deck throwing it overboard.
16. To recover creels, the leading buoy is taken from the sea and its rope placed in a winch ("hauler"). Creels are emptied as they are hauled aboard, rebaited then stored. Finally, the dhan buoy is hauled and stowed.

Health and Safety on Fishing Vessels

15. MAIB is an independent part of the Department for Transport. It investigates marine accidents with the aim of improving marine safety. It makes recommendations to MCA which might reduce the likelihood of accidents at sea. It is not a regulatory or prosecuting authority and cannot enforce its recommendations.
16. MCA is an executive agency of the Department of Transport. It has statutory responsibility to enforce legislation. In Scotland, it reports to the Crown Office for that purpose.
17. Fishing has been subject to Health and Safety legislation for many years. The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 require vessel owners to complete an annual health and safety risk assessment. Risk assessments for vessels of *Optik's* size need not be documented.
18. The Fishing Vessels (Code of Practice for the Safety of Small Fishing Vessels) Regulations 2001 ("the Code") requires vessel owners to (a) carry safety equipment on board (b) self-certify annually that a vessel complies with the Code and (c) present the vessel for inspection at least every five years. The

Code can be revised by the Government following consultation with the fishing industry. The version in force in 2009 was published in 2007. The Fishing Vessels (Safety Training) Regulations 1989 also oblige fishermen to undergo training in, *inter alia*, basic survival at sea and first aid.

19. To promote compliance with the statutory regime, MCA produces a synopsis and full copy of the Code, on paper and on its website. To assist with compliance, simple checklists are annexed. Annex D to Mr West's Report and Mr Marsh's Report contain copies. In 2007, MCA also published a Small Vessel Safety Guidance Booklet. Compiled in Plain English, it contains a pull-out risk assessment sheet and a step-by-step guide to its completion. A copy is annexed to Crown Production 6. MCA also publish Crown Production 13, a folder in which fishermen may store safety publications. Seafish, the Sea Fish Industry Authority, works with fishermen across all sectors of the industry. It publishes Crown Production 7, a Fishing Vessel Safety Folder to assist fishermen preparing risk assessments. The MCA and Seafish publications are freely available.
20. For many years, MCA and MAIB have sought to make the wearing of life jackets compulsory at sea. Neither the Code nor the Regulations obliges fishermen to do so.
21. The Code obliges fishing vessels to carry an operative vhf radio. Until 1998, vhf Channel 16 was used as a dedicated distress channel. Though it continues to be monitored, it has been replaced by the Distress and Calling System ("DSC"), which is GPS based. A vessel's radio is programmed with a unique identification code, which is registered with MCA. If DSC is activated, the identity and location of the vessel in distress is automatically and immediately transmitted to MCA. Simply worded guidance on the purpose and operation of DSC is contained in MCA's Fishing Vessel Safety Folder. In 2013, following the loss of FV *Achieve* and one of its crew, MAIB published Crown production 12, a flyer outlining the benefits of DSC and how it should be used. The flyer is freely available.

The Effects of Cold Water Immersion

22. MAIB investigations have shown the effects of cold water immersion are often underestimated. Fit, healthy fishermen who fall overboard often cannot save themselves due to shock and water ingestion.

23. A victim can appear to have stopped breathing, as the body's metabolism slows due to the effects of severe, rapid cooling. The heart beats more slowly and weakly. It can be difficult to detect a pulse. Consequently, it is vital that any person administering life support continues to provide it even if a victim appears lifeless.

Anthony Iveson

25. By 2009, Mr Iveson had spent over 40 years working at sea, though he had less than 10 years' experience in the fishing industry. He had completed training courses *inter alia* in Safety Awareness, Medical First Aid Aboard Ship and Sea Survival. Copies are incorporated into Mr Marsh's Report. Before purchasing *Optik*, he gained creel fishing experience on FV *Boy Joshua*, another fishing vessel operating from Arbroath. Initially, he operated *Optik* single handed. However, after losing a finger operating the hauler, he took on Mr Davidson as a crewman.

26. Following Mr Davidson's death, Mr Iveson ceased fishing and sold *Optik*.

Raymond Davidson

27. By the date of the accident, Mr Davidson had worked intermittently on trawlers for some time. He had worked with Mr Iveson for about four years. He had completed courses in Basic Sea Survival and Safety Awareness. Copies are incorporated into Mr Marsh's Report. Mr Davidson had not obtained the statutory certification in First Aid at Sea although he had enrolled to attend a training course.
28. Neither Mr Iveson nor Mr Davidson had undergone Man Overboard training. No Man Overboard drills had been carried out on *Optik*. Neither wore life jackets or flotation devices when fishing. Neither carried a knife when fishing.

Optik

29. *Optik*, registered fishing vessel AH-716, was built in 1979, is constructed from glass fibre and is 9.2 metres in length. Originally, it featured a wheelhouse on its forward portion with a large open deck behind.
30. After purchasing the vessel in 2005, Mr Iveson fitted a platform or "shooting table" above the deck. Creels were stored on the shooting table, from where they could be shot astern. Ropes between creels were stowed along a walkway

between the shooting table and the starboard side of the vessel. Crown photographs A and B and Figure 21 of Mr West's Report show the shooting table and walkway.

31. In June 2009, the starboard portion of *Optik's* wheelhouse was removed to provide clear deck space adjacent to the hauler. The modified area is highlighted in Figures 22a and b of Mr West's Report. A stronger davit arm, to which the hauler was attached, was also fitted. The davit arm hung out on the starboard side, about 1.8 metres above sea level.
32. After hauling, the dhan buoy and attached rope were stowed to the port side of the shooting table, affording standing space on deck for the crew. Figures 24a, b and c of Mr West's Report depict this.
33. *Optik* fished with approximately 500 creels, set in fleets of 20. Creels were roped together at 10 fathom (18.3m) intervals. Each fleet was attached to a 30 fathom (54.9m) rope and dhan buoy. The fleets were largely set around the Bell Rock, south-east of Arbroath.
34. In 2007, an inspection under the Code identified seven deficiencies on *Optik*. Mr Iveson later self-reported these as having been rectified.
35. No risk assessments were carried out for operations aboard *Optik* nor did Mr Iveson complete statements to confirm the Code had been complied with.
36. *Optik's* vhf radio was fitted with DSC. However, the DSC facility was inoperative as Mr Iveson had not registered its unique code with MCA.

18 November 2009

37. *Optik* set out from Arbroath about 6a.m. to fish around the Bell Rock. As usual, Mr Iveson acted as skipper and Mr Davidson as the deckhand.
38. Conditions were not ideal. A Force 4 to 6 wind, a 1.5 – 2 metre swell and a flood tide from the south-west against the prevailing wind caused sharp, irregular seas. Conditions deteriorated during the morning. As a result, about 12.30p.m. Mr Iveson decided to return to port after the remaining creels on the boat had been shot.
39. Mr Iveson was in the wheelhouse moving *Optik* forward as the final fleet was shot. He was waiting for Mr Davidson to shout as the last creel fell astern, so he could plot it on GPS. He heard a noise and/or caught sight of something from

the corner of his eye. He then saw Mr Davidson disappear over the stern from the shooting table.

40. Mr Iveson immediately realised what had occurred. He put the boat into reverse, to create slack in the rope to the fleet. When sufficient slack became available, he placed the rope in the hauler to winch Mr Davidson back aboard.
41. Mr Davidson came out of the sea feet first. The rope was wrapped around his left ankle and torso. Though Mr Iveson cut the rope round his torso, he had insufficient strength to haul Mr Davidson over the davit arm. Consequently, Mr Davidson's head bobbed in and out of the swelling sea.
42. Mr Iveson radioed for assistance on vhf channel 14, which local vessels used to communicate with one another. He knew other vessels were fishing nearby. His call was heard by Neil Teviotdale on *Orianne*, about a third of a mile away. Mr Teviotdale immediately cut his lines and sailed towards *Optik*. He drew alongside about five minutes later.
43. Mr Iveson's call was also heard by FV *Lichtie Lass*, whose skipper was a member of the Arbroath Lifeboat Crew. He authorised the immediate launch of the Arbroath lifeboats at 1.15p.m. Airborne assistance was also authorised and a rescue helicopter took off from Northumbria at 1.46p.m.
44. Neil Cargill jumped aboard *Optik* from *Orianne*. He immediately assisted Mr Iveson in bringing Mr Davidson aboard. Mr Davidson appeared lifeless. He was lain on the deck. Mr Cargill attempted mouth to mouth resuscitation and chest compression for about five minutes, without visible success.
45. The Arbroath inshore lifeboat arrived at 1.53p.m. The main lifeboat arrived a few minutes later. Medically trained crew members commenced oxygen based resuscitation of Mr Davidson, which continued until the helicopter arrived at 2.20p.m. Mr Davidson was hoisted aboard and flown to Ninewells Hospital Dundee. Though resuscitation attempts continued throughout the flight and at the hospital, Mr Davidson was pronounced dead at 4.30p.m.

Similar Incidents and Inquiries

46. On 16 August 2007, the skipper of FV *Boy Joshua*, Denis Cargill, was lost overboard in similar circumstances to Mr Davidson. He was fishing single-handed. He was not wearing a life jacket. A Fatal Accident Inquiry held the following June recommended the use of new distress systems by small fishing

vessels, fishermen be encouraged to wear lifejackets at sea and consideration be given to the compulsory wearing of lifejackets.

47. A week before Mr Davidson's accident, William Antonio, a crewman on FV *Osprey*, drowned when fishing nets carried him overboard. He was not wearing a lifejacket. A Fatal Accident Inquiry held in October 2010 recommended fishermen be encouraged to wear lifejackets at sea, skippers ensure all crew members complete regular health and safety training and training should cover how the human body reacts to cold water shock.
48. On 9 October 2010, the single-handed skipper of FV *Discovery*, Bruce Pearson, drowned in broadly similar circumstances to Mr Davidson. Mr Pearson was not wearing a lifejacket.
49. On 20 January 2011, the skipper of FV *Breadwinner*, Neil Smith, drowned in similar circumstances to Mr Davidson. Mr Smith was fishing single-handed. He was not wearing a lifejacket. A Fatal Accident Inquiry held in April 2012 considered the importance of suitable distress systems, the wearing of lifejackets and the carrying of knives (so a man overboard could cut himself free of any rope).

Reflections on the Evidence

50. Fishing is an inherently dangerous process. The dangers of shooting and hauling creels or nets are obvious from the DVD and the witness evidence.
51. Mr Davidson was an experienced creel fisherman. It will never be known why he was near the dhan buoy rope. He did not need to be. Though he knew his job was dangerous and required a clear head, he had ingested Amphetamine, which he must have known would affect his judgement.
52. Mr Iveson was also well aware of these dangers and their potential consequences. He had obtained many safety qualifications. He had personal experience of them. He trained on FV *Boy Joshua*, two years before its skipper, a member of the Arbroath lifeboat crew, drowned. He subsequently lost a finger when fishing on *Optik* and modified the vessel after. However, he did not wear a life jacket, nor did he undertake a risk assessment of *Optik's* operations.
53. Messrs Teviotdale and Cargill did not wear lifejackets at sea. Despite the crew of *Orianne* commencing wearing lifejackets after the *Boy Joshua* accident, they

soon ceased doing so. The fishing industry continues to regard the wearing of lifejackets as an unnecessary encumbrance.

54. DSC is not always used. Mr West's evidence was that most fishermen tend to use their "local" vhf channel instead. It was implied that using DSC, thereby involving MCA and associated procedures, may be regarded as an administrative nuisance.
55. Fishermen tend not to carry knives, though they are available on each vessel.
56. Though *Optik's* dhan buoy rope was customarily stowed to one side of the deck, it was not stowed in a container or in an area partitioned from the deck. Either precaution would probably have avoided Mr Davidson's death.
57. The importance of wearing a lifejacket is self-evident. Following Mr Davidson's death, smaller lifejackets have been developed. They can more easily be worn during shooting and hauling. Mr Marsh demonstrated one during his evidence. They are available free of charge. However take up of that offer has been slow.
58. After he was taken overboard, Mr Davidson might have been able to cut himself free with a knife, notwithstanding the effects of cold water immersion. Though some evidence suggested carrying a knife might be dangerous, it could be sheathed or have a retractable blade. Had he carried and been able to use such a knife to cut the ropes around him, a lifejacket might have brought Mr Davidson back to the surface.
59. However, due to the design and height of *Optik's* davit rail, Mr Iveson would still have been unable to haul Mr Davidson aboard. As no man overboard procedures had been discussed, nor were drills executed to cover that eventuality, Mr Iveson was unaware it was impossible to haul a man over the davit rail and that its height would leave a crew member at risk of drowning as he dipped in and out of the sea.
60. Though I commend Mr Iveson and Mr Cargill for their courageous attempts to rescue Mr Davidson in highly dangerous circumstances, neither was aware that constant first aid remained a priority, notwithstanding Mr Davidson appeared lifeless. As MCA was not formally notified of Mr Davidson's accident, the rescue services might never have been alerted had *Lichtie Lass* not intervened.

Had a DSC distress alert had been sent, trained assistance could have arrived more quickly and/or had better advance knowledge of the incident.

61. As Mr Cargill said in evidence, it is mercifully possible the contusions on Mr Davidson's head meant he was knocked unconscious before he was taken overboard. In that event, Mr Davidson would have been unable to cut himself free. He may well have drowned before Mr Iveson hauled him back. A lifejacket would not have counteracted the weight of the creels holding him underwater.

Conclusions and Recommendations

62. Health and Safety legislation had applied to the fishing industry for twelve years by the date of Mr Davidson's death. However, in their second consolidated report into the 2009 – 2011 accidents, MAIB regarded those accidents as *"entirely avoidable, the common themes being poorly considered working practices and inadequate equipment design"*.
63. Despite legislation, the passage of time, the MAIB comment, the recommendations of other Inquiries and readily available guidance from MAIB, MCA and Seafish, the fishing industry appears reluctant to implement advice voluntarily.
64. Mr Davidson's accident was potentially avoidable. Assistance given to him afterwards could have been improved if better prior training had been given to those administering it. Rescue services ought to have been alerted differently. Other precautions, notably the wearing of a lifejacket and the carrying of a knife, might have prevented his death.
65. Mr West and Mr Marsh gave evidence that the fishing industry is slowly coming to terms with health and safety. While I accept that, it is clear from this and the other cases that the rate and extent of compliance needs to speed up if other deaths are to be avoided.
66. In these circumstances, I therefore recommend:-
 - a. Consideration is given to ensuring that all fishing vessels submit annual Risk Assessments to MCA under The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997

- b. Consideration is given to revising the Code of Practice for the Safety of Small Fishing Vessels to the effect that:-
 - i. The wearing of lifejackets at all times is mandatory
 - ii. Where reasonably possible, ropes leading to dhan buoys should be stowed in a container and/or area partitioned from the deck
 - iii. A vessel's vhf radio must be fitted at all times with a fully enabled and operative DSC facility
- c. Training courses provided under The Fishing Vessels (Safety Training) Regulations 1989 include training on:-
 - i. The effects of cold water immersion and appropriate treatment of those who experience it
 - ii. Man overboard procedures