

**Report of the investigation
of the loss of two crewmen from
fv Astra II
while berthed at Carbost pier,
Loch Harport, Isle of Skye
on 2 April 2000**

Marine Accident Investigation Branch
First Floor, Carlton House
Carlton Place
Southampton
SO15 2DZ

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Extract from
The Merchant Shipping
(Accident Reporting and Investigation)
Regulations 1999

The fundamental purpose of investigating an accident under these Regulations is to determine its circumstances and the causes with the aim of improving the safety of life at sea and the avoidance of accidents in the future. It is not the purpose to apportion liability, nor, except so far as is necessary to achieve the fundamental purpose, to apportion blame.

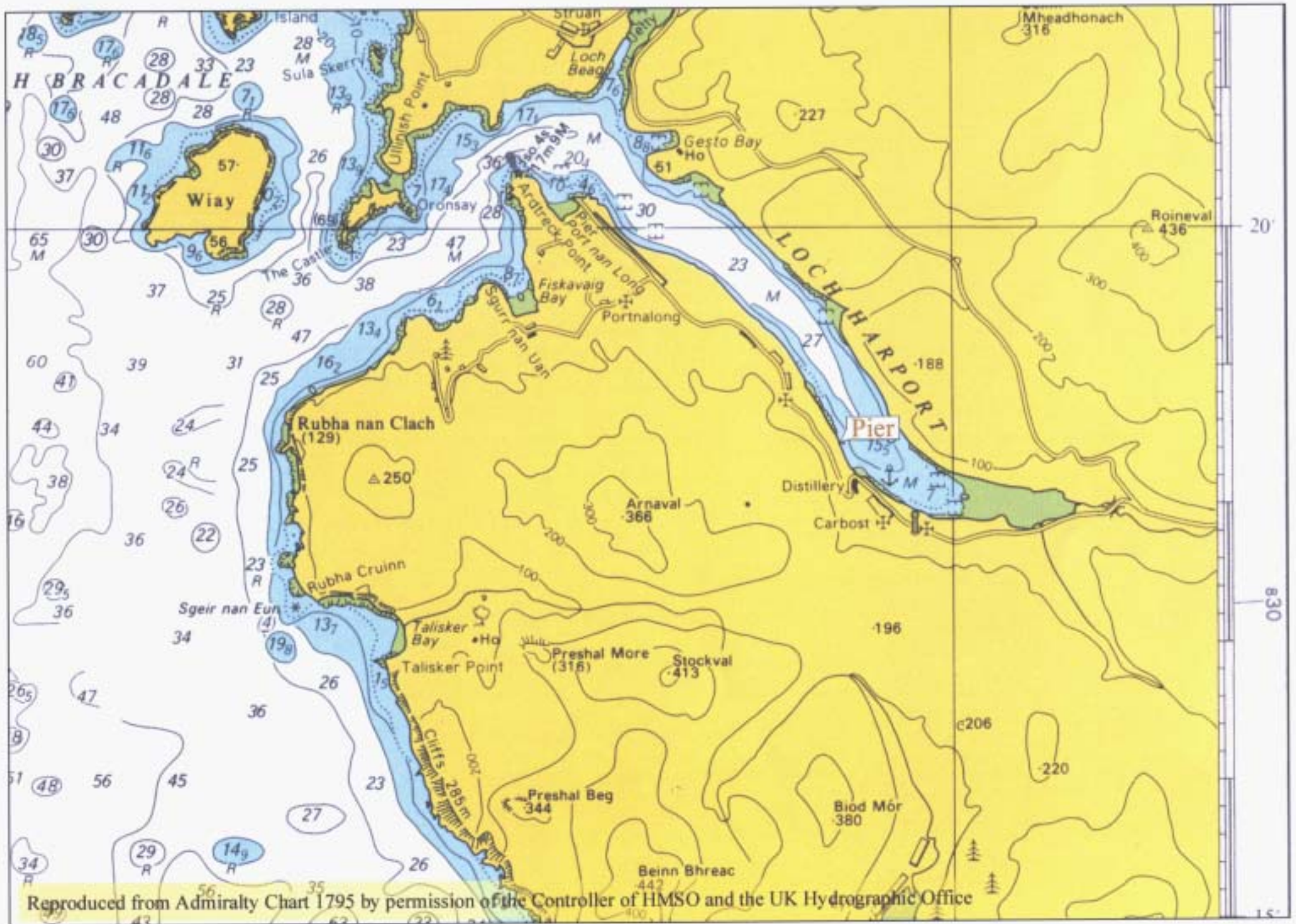
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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

BST	-	British Summer Time
°C	-	Degrees Centigrade
m	-	metre
MRSC	-	Maritime Rescue Sub-Centre
RNLI	-	Royal National Lifeboat Institution
SAR	-	Search and rescue
UTC	-	Universal co-ordinated time
VHF	-	Very high frequency (radio)



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Carlost pier and approach path



Fishing vessels at Carlost pier on 2 April. *Astra II* is at the extreme right. The vessel that had been third from the pier at the time of the accident sailed before this photograph was taken.

(photograph courtesy of Northern Constabulary)

SYNOPSIS

At 1238 BST on 2 April 2000, Stornoway Maritime Rescue Sub-Centre (MRSC) sent a facsimile to the Marine Accident Investigation Branch (MAIB). This stated that two crewmembers from the fishing vessel *Astra II*, SY153 had been reported missing, and their bodies had been recovered by search and rescue (SAR) units. The following day the MAIB began an investigation.

Astra II is a 16.4m wooden fishing vessel operated out of Stornoway, Isle of Lewis, by her owner/skipper.

During the afternoon of 1 April 2000, the vessel was fishing off the west coast of the Isle of Skye. When the weather conditions began to deteriorate, the decision was made to seek shelter in Loch Harport, Isle of Skye.

Six other fishing vessels had also decided on similar action, and were already tied up alongside each other at Carbost pier. *Astra II* arrived at 1930, and berthed outboard of the other vessels.

Astra II's crew tidied their vessel, had a meal and then headed ashore for the evening. By 2200 they were all in a bar ashore, remaining there until some time between 2400 and 0115, (probably closer to 0115).

Having consumed varying quantities of alcohol, they left the bar together and walked the quarter of a mile back to the pier. They needed to climb over the six other vessels to reach *Astra II*. It was dark and there was no artificial lighting. Two of the crew were heard to fall into the water. One was seen briefly but he could not be recovered.

A call for assistance was made to the coastguard on VHF channel 16. SAR operations began at 0221 using Royal National Lifeboat Institution (RNLI) lifeboats, a rescue helicopter, a coastguard coastal search team and police. The bodies of the two men were recovered after daybreak.

The effects of alcohol on co-ordination, risk perception and decision-making, together with lack of lighting and slippery wet surfaces are considered to have contributed to this accident.

No recommendations are made.

PARTICULARS OF VESSEL AND INCIDENT

Name	:	<i>Astra II</i>
Port of registry	:	Stornoway
Type	:	Fishing vessel
Fishing number	:	SY153
Registered length	:	16.43m
Construction	:	Wood
Built	:	1981, Appledore
Owner	:	A M Murray 12 Upper Bayble Point Isle of Lewis
Crew	:	Five
Position of incident	:	57°18'N 006°21'W, Loch Harport, Isle of Skye
Date and time	:	2 April 2000, at approximately 0130 BST
Injuries and loss of life	:	Two fatalities

SECTION 1 - FACTUAL INFORMATION

Note: All times quoted as Local Time = BST (UTC +1)

1.1 Sequence of events

Astra II left Stornoway in the early hours of 27 March 2000, with a crew of four. A fifth crewman travelled to join the vessel on 30 March in Barra.

The vessel spent several days fishing, mostly in the Barra area, landing daily. On 1 April she headed for Bracadale, off the Isle of Skye, and completed two hauls by 1830.

Because weather conditions were deteriorating, the skipper decided to head for shelter in Loch Harport, Isle of Skye. The vessel arrived at Carbost pier, on the south shore of the loch, at about 1930. The wind was strengthening with rain and snow showers. Six other fishing vessels were already berthed alongside each other, multiple-banking on the north-east face of the pier. *Astra II* was the last to arrive and became the boat furthest from the pier.

All seven vessels berthed heading north-west, except the third vessel from the pier. This berthed heading south-east.

In common with the crews of the other vessels, the crew of *Astra II* tidied the deck of their vessel. They then prepared and ate a meal.

The skipper gave some of his crew a £20 advance each. At 2000 he visited one of the other vessels before making his way ashore to The Old Inn, a bar in Carbost village. This was a walk of about a quarter of a mile. He arrived there at about 2100.

As the rain and snow showers had ceased, other crewmembers of *Astra II* decided also to go ashore for the evening. Recognising the absence of artificial lighting, one crewman carried a torch which he used to assist him negotiate the path ashore. He deposited this at the village end of the path where street lighting began.

All members of *Astra II*'s crew were in the bar by 2200, where they remained until closing time. They then left the bar together, joined by a crewman from one of the other fishing vessels, to return to their vessel. Accounts vary as to the exact time, but it was sometime between 2400 and 0115.

The six men headed towards the pier. They collected the torch at the start of the path, and used it to negotiate the path and a recent landslip across it. They all arrived at the pier at about the same time.

Skipper Murray and crewman Campbell, climbed down the pier's ladder on to the first boat. They then made their way across the intervening boats to *Astra II*, selecting a route where each adjacent boat was nearest to its neighbour. This was generally across their sterns, but they had to move forward or aft on each boat to reach the most suitable position. In particular the route taken across the third boat from the pier was across her stern.

After climbing down the pier's ladder, crewmen Morrison and MacLeod then took a route that probably caused them to cross the bows of the third boat from the pier. One was carrying the torch. Crewman MacLennan was not far behind.

As he climbed between the first and second boats MacLennan heard two splashes. He went over to the starboard side of the second boat near the stern and looked over the side. He could not see anything, but heard MacLeod say 'I can't swim'.

MacLennan jumped into the water and saw MacLeod a few feet away, but was unable to reach him. Recognising that the tide was gradually dragging MacLeod away, MacLennan called for assistance.

Skipper Murray heard the shouting and returned to the third boat from the pier. He found MacLennan in the water between the second and third boats, and was told of the other two men in the water, neither of whom could be seen.

Skipper Murray pulled MacLennan out of the water, and both men returned to *Astra II*. He instructed Campbell to contact the coastguard to ask for assistance and to report two men in the water. He made the call on VHF radio channel 16, at 0221. It was made with the assistance of a crewman from another vessel who supplied a position as a latitude and longitude as *Astra II*'s navigation equipment was shut down.

Co-ordinated by Stornoway MRSC, Mallaig and Stornoway RNLI lifeboats were requested to launch, coastguard rescue helicopter MU was scrambled and Portree coast rescue team was tasked.

Astra II's crew, and fishermen from the other boats who had been woken, searched the area around the fishing boats, the pier head and the shoreline. While searching the shoreline, MacLennan thought he saw something in the water, so he entered it again to investigate. This proved fruitless. However, the torch Morrison and MacLeod had used earlier was found on the shoreline south-east of the pier. It was still switched on and, although partially filled with water, was still illuminated.

Stornoway lifeboat was released at 0309. The coastguard coast rescue team arrived shortly after 0330, and joined police already on scene.

Rescue helicopter MU arrived at 0355, and was joined at 0515 by the Mallaig lifeboat.

At 0733 Mallaig lifeboat reported it had recovered a body south east of the pier. Rescue helicopter MU and Mallaig lifeboat were both released at 0825. Other units continued to search for the second man, afloat and along the shoreline towards Carbost village. The coast rescue team recovered his body at 1225, also south-east of the pier. All search and rescue operations were terminated at this time.

1.2 Crew

Skipper : A M Murray

Deckhands : M Campbell
M Morrison
D J MacLeod
D J MacLennan

Skipper Murray and the crewman Campbell are both holders of a Class 2 Fishing Vessel Certificate of Competency. Campbell acts as relief skipper of the vessel.

Because *Astra II* has a registered length less than 16.5m, there is no requirement for her to carry a certificated person on board by the relevant regulations, which are: *The Fishing Vessels (Certification of Deck Officers and Engineer Officers) Regulations 1984*, as amended.

The crewmen MacLeod and MacLennan had been fishermen for about six months at the time of this accident. The remainder of the crew were experienced, with several years of service each. The crew had attended mandatory safety training courses.

1.3 Carbost pier

Carbost pier is a small reinforced concrete structure, approximately 25m long by 15m wide, on the south shore of Loch Harport, Isle of Skye. It extends roughly north-east into the loch. A pier has stood on this site since the first decade of the twentieth century. However, it is uncertain whether the present structure is the original.

Vessels can berth on any of the pier's three faces. The north-east face runs parallel to the shore and offers the deepest water. The other two, south-east and north-west, are at right angles to the shore and are of limited use to anything other than vessels of very shallow draught. A steel access ladder is secured to each of the three faces.

A gravel path runs parallel to the shoreline, between Carbost village and the pier. There is no artificial lighting on any part of the path or on the pier. The path is wide enough to accommodate small to medium-sized road vehicles. On one side of the path is the loch's rocky shoreline, on the other a steep earth bank.

The pier was used originally to land supplies for the Talisker Whiskey Distillery in Carbost village, approximately a quarter of a mile to the south-east. The distillery owns the pier, but leases the seabed on which it stands. It was used for landing barley until the 1970s, and it continued to be used for landing oil, via a pipeline, until 1983/4. Only a few remnants of these activities remain, in the form of railway lines and pipeline fittings set in the concrete of the pier. The pier is no longer used for the commercial activities of the distillery.

The local community has made use of the pier over many years, mainly for leisure purposes. Although this has been with the knowledge and even tacit support of the

distillery, warning signs were posted in 1987 indicating that the pier was private property.

Acknowledging its value to the local population, the distillery has continued to maintain the pier. Significant recent work was carried out in 1992, and included the fitting of new guardrails and a new steel access ladder to the north-east face. More recently a lifebuoy and line were attached to the guardrails in early 1999.

Commercial fishermen have used the pier for landing fish. This has generally been without the agreement of the distillery. However, for safety reasons, efforts were made during pier repairs in 1992 to close off the access path using gates and large obstacles. This briefly stopped the landings at the pier, but somebody removed the gates and obstacles, and landings resumed.

Following heavy rain during the early part of November 1999, parts of the earth bank beside the pier's access path slipped and partially blocked the path. Although this prevented vehicular access to the pier, pedestrians were still able to use it.

1.4 Access to and across vessels

Access to fishing vessels in harbour areas and at commercial quays is generally provided by ladders built into the quay wall.

Movement of crew between vessels is largely a matter of often unspoken agreement between the relevant skippers. However, each skipper should consider the likely risks to which anybody crossing their vessel will be exposed.

“*Fishermen and Safety*”, which is published by the Maritime and Coastguard Agency, contains the following advice:

Provisions for boarding vessels can often be less than ideal. Gangways with safety netting are used on large vessels but for the majority of fishing vessels, it is not always possible to use gangways and it may be necessary to board by whatever means is available. This may be by climbing down a dock/harbour wall ladder or up the rungs of a ladder inset into the shelterdeck side of the vessel. Often it is necessary to step across a gap between the quay and vessel or between adjacent vessels. GREAT CARE MUST BE TAKEN.

1.5 Requirement for risk assessment

The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 require a suitable and sufficient risk assessment of many aspects of a fishing vessel's operations. The objective is to identify risks in order to revise procedures, or to improve safety by other means.

These regulations are applicable to all vessels, whatever their size.

1.6 Risk assessment

The standard guidance to the industry on risk assessment is contained in the *Fishing Vessel Safety Folder* produced by Seafish.

On the activity of boarding and leaving a vessel, this folder identifies access across vessels as a possible hazard. The associated possible consequences are listed as slips, trips and falls.

The preamble covering the subject of access across vessels states:

It is usual for vessels to moor alongside each other and crews and other persons; repairers, officials etc, will need access across your vessel. You must ensure that safe passage is possible and co-operate with other vessels in mooring such that access from vessel to vessel is as easy as possible.

1.7 Weather conditions

A north-east wind, gale force 8, was blowing across Loch Harport during the early evening of 1 April. It was also raining, with occasional snow showers. The wind continued unabated throughout the evening, but the rain and snow eased and then stopped at about 2100.

Sea water temperature was 8°C.

SECTION 2 - ANALYSIS

2.1 Time of accident

Most of the available witnesses relate the night's events to the times at which various members of *Astra II*'s crew arrived at or left the bar of The Old Inn in Carboost village. Although there is general agreement on the times various individuals arrived at the bar, there are some discrepancies concerning the time of the group's departure.

Several of the crew recall leaving at about midnight, but another mentions reaching the pier by 2320. A barman remembers 'last orders' were called at 0010, with *Astra II*'s crew leaving about 0115. As the skipper and survivors clearly remember returning to the pier as a group, these times cannot all be correct.

Stornoway MRSC recorded the time of the VHF call from *Astra II* as 0221.

The walk between The Old Inn and the pier, a distance of about a quarter of a mile, is unlikely to have taken the group of men much more than twenty minutes; even in the dark and having to negotiate the unlit and partially blocked path. Although it was no longer raining, it was still windy and there was no good reason for them to loiter.

The events that unfolded after their arrival at the pier, and until the coastguard were called, again are unlikely to have covered more than thirty minutes.

Working back from the time of the call to the coastguard, suggests that the men left the bar closer to 0130 rather than 2400. This is not to suggest that any attempt is being made to deceive, the difficulty of remembering times during such events is recognised, but it does suggest that more time may have been spent in the bar than has been remembered. An alternative explanation, that the call to the coastguard was seriously delayed for some unknown reason, has no support.

2.2 Carboost pier

The pier is a substantial structure and appears to be in good order. In particular, guardrails and ladders are secure, and show no obvious defects. The lifebuoy and lifeline appear virtually new.

The absence of artificial lighting would make this pier and its approach path particularly hazardous to anybody using it at night. This is the main difference between this pier and quays normally found in commercial harbour areas.

Astra II had used this pier previously for landing fish. However, when landing at night it would be reasonable to expect the vessel's deck lighting to be on, offering some illumination.

On this occasion, however, there was no perceived reason to keep deck lights on. No fish was being landed, and all the crews had long finished any work on deck. Indeed,

at the time of this accident many crewmembers of the other vessels at the pier were in bed.

2.3 Risk assessment

When considering access, the risks associated with crossing vessels berthed alongside each other are difficult to quantify in advance. Many different features and characteristics of fishing vessels can, when brought together, generate a hazard. Bulwarks, guardrails, shelters, gantries, net bins, net drums and power blocks may, when considered individually, each constitute no more than a trivial hazard. However, with two vessels of significantly different size berthed together, the relative height of the bulwarks may produce a substantial risk. Even with vessels of similar size, easy access across the open deck of one vessel may be adjacent to the shelter, gantry, net bin etc. of the second. A direct path across the two vessels might then not be possible without taking extra risk.

Conditions change each time a vessel berths, making amendments to any written risk assessment impracticable. Reliance is then placed on the skipper and crew making themselves aware of the hazards associated with a particular berth and adjacent vessels.

Even when a risk has been fully recognised and considered, any control measure may be confounded if individuals choose to follow a route of higher risk.

It cannot be shown how either MacLeod or Morrison fell into the water, or whether one fell and the second jumped in to assist. However, it is reasonable to suppose that the first to enter the water did so unintentionally. This was the major risk associated with crossing from vessel to vessel.

2.4 Crew

The crew should have been sufficiently experienced to have recognised the hazards associated with the access route across the bows of the third vessel.

2.5 Lighting

There is no artificial lighting on Carbost pier, and no evidence to suggest that any lighting had ever been provided.

Natural lighting levels when the men went ashore were similar to when they returned: very dark. However, when they went ashore there may have been some artificial lighting from the deck lights of some of the vessels over which they gained access to the pier. This was absent when they returned.

The lack of lighting anywhere on the pier, on other vessels and on the path was appreciated by at least one of *Astra II*'s crew, since he carried a torch when he went ashore. This was used again during their return.

2.6 Alcohol

The skipper and crew of *Astra II* had spent several hours in a bar before returning to their vessel. The quantity of alcohol consumed by any of these men is uncertain. Some were said to have 'had a good drink', although none were described as being drunk or incapable. This judgment suggests that they were probably able to talk coherently and to walk without assistance. This view must be tempered with the caveat that it was voiced by fishermen and members of the licensed trade; two bodies of people possibly more tolerant of intoxicated behaviour than others.

Whatever the quantity of alcohol consumed it is considered reasonable to assume that alcohol had some effect on these men, doubt exists only as to the degree and nature of these effects.

Alcohol may affect hand/foot to eye co-ordination and/or alter one's judgment and reasoning. The level and balance of these effects is likely to depend greatly on the individual. However, a person's assessment of a risk may change when affected by alcohol. Whatever his physical capability for executing a task after drinking, his opinion as to his ability to complete that task may be affected by the alcohol. What follows might be an attempt to do something he would judge as being unwise if he was totally sober. The decision made might well confound the best efforts of a risk assessment.

Once in cold water, a person under the influence of alcohol may find his ability to survive reduced. Disorientation is also possible, with some authorities describing a condition that may cause a person suddenly thrown into the water to swim down, rather than up.

2.7 Risk perception

A number of hazards presented themselves to the crew of *Astra II*, both during their journey ashore and when returning. Poor lighting, wet surfaces and the need to climb over and between other vessels. Although not formally assessed in writing, to some degree these hazards were recognised, and safe access routes were found when the men were leaving their vessel.

However, on their return Morrison and MacLeod decided to cross the other vessels by a different route to that taken by the men who preceded them: skipper Murray, Campbell and the crewman from another vessel. The fifth member of *Astra II*'s crew, MacLennan, also recognised the hazards associated with this route and held back to observe the progress of Morrison and MacLeod. His concerns were, unfortunately, well founded.

It cannot be known why Morrison and MacLeod decided on the different route, they both lost their lives. Morrison was an experienced fisherman. MacLeod had been fishing a little more than six months and it might be expected that he would be tempted to follow the lead of the more experienced man, if indeed he did lead.

However, the question of experience might not be a great factor as MacLennan had a similar level of experience to MacLeod and yet he recognised the hazards which MacLeod and the more experienced Morrison chose to dismiss.

One further possible influence, the effects of which cannot readily be assessed, is the characters of these two men or, more significantly, their relative strength of character. A strong character can lead another into an action which, if left unprompted, he would refuse. The effects of alcohol can, with some individuals exaggerate such differences in character.

Whatever risks the casualties perceived as relevant when they returned to the pier, alcohol probably affected their judgment. This would have influenced both their ability to negotiate a hazard, and to recognise the level of associated risk.

Any risk assessment can be by-passed and confounded by the distorted judgments induced by alcohol. This factor probably made a major contribution to this accident and to the chances of the two men surviving once in the water.

SECTION 3 - CONCLUSIONS

3.1 Findings

1. *Astra II* berthed at Carbost pier, Loch Harport, Isle of Skye, at about 1930 on 1 April 2000 after seeking shelter from worsening weather conditions. [1.1]
2. She berthed outboard of six other vessels. [1.1]
3. Carbost pier and its approach road were not in commercial use and had no artificial lighting. [1.3]
4. A lifebuoy and line, in good condition, were mounted on the pier's guardrails. [1.3]
5. The pier's guardrails and access ladders were in good condition. [2.2]
6. The skipper and four crew spent several hours in the bar of The Old Inn, Carbost village. [1.1]
7. On returning to their vessel at about 0130 on 2 April, two of *Astra II*'s crew entered the water, unobserved, while crossing between vessels. [1.1]
8. These two crewmen had taken a route where access between adjacent vessels was difficult. [1.1]
9. One of the men was a very experienced fisherman; the other had been fishing for less than a year. [1.2]
10. The skipper of *Astra II* and other crewmen had already taken a different rather easier route. [1.1]
11. A third member of the crew jumped into the water to assist but without success. He was recovered. [1.1]
12. The coastguard was contacted on channel 16 VHF radio at 0221. [1.1]
13. Efforts by fishermen, an RNLI lifeboat, a coastguard helicopter and a coast rescue team failed to find either of the men until after daybreak. [1.1]
14. Both men drowned. [1.1]

3.2 Causal factors

1. The judgment and co-ordination of the two men were probably affected by alcohol.
2. Probable contributory causes were the absence of artificial lighting and slippery conditions underfoot from earlier rain and snow.

SECTION 4 - RECOMMENDATIONS

There are no recommendations.

**Marine Accident Investigation Branch
October 2000**