THE MERCHANT SHIPPING ACT, 1894

REPORT OF COURT

No. S 475

m.v. "BOSTON PIONAIR" (O.N. 187846)

In the matter of a Formal Investigation held at the Lothingland Rural District Council Offices at Lowestoft on the 30th day of November and the 1st and 2nd days of December 1965 before Mr. J. V. Naisby, QC, assisted by Mr. H. A. Lindsay, BSC, MRINA, and Mr. D. A. Roberts, JP, into the circumstances attending the loss of the British motor vessel *Boston Pionair* with all hands.

The Court having carefully inquired into the circumstances attending the above-mentioned shipping casualty, finds for the reasons stated in the annex hereto, that the loss of the *Boston Pionair* and the lives of those on board her was probably caused by the vessel being overwhelmed in severe weather conditions by a wave or a succession of waves which caused her to roll with such severity that her righting lever was extinguished and that she had thereby lost her ability to right herself. The possibility of structural damage to hull or superstructure cannot be excluded.

Dated this 28th day of January 1966.

J. V. NAISBY, *Judge.*

We concur in the above report.

H. A. LYNDSAY }
D. A. ROBERTS } *Assessors.*

ANNEX TO THE REPORT

1. This inquiry was held at the offices of the Lothingland Rural District Council at Lowestoft on the 30th November and the 1st and 2nd December 1965. Mr. Barry Sheen and Mr. A. P. Clarke appeared on behalf of the Board of Trade, and Mr. W. Porges, QC, and Mr. R. F. Stone (instructed by Messrs. Andrew M. Jackson & Co., Hull) appeared for the owners of the *Boston Pionair.*

2. The *Boston Pionair* was a single-screw steel motor trawler of riveted construction. She was built in 1956 by Richards (Shipbuilders) Limited at Lowestoft. Her gross tonnage was 165.85 and her registered dimensions were 103 x 22.1 x 10 feet. She was owned by Pegasus Trawling Company Limited, St. Andrew's Dock, Hull, and her designated manager was Mr. B. A. Parkes.

3. The *Boston Pionair* had a single deck with a sheer of three feet nine inches at the forward perpendicular and four feet three inches at the after perpendicular with a camber of six inches amidships. There were six watertight bulkheads. One at the after end of the fore peak; one at the forward end of the fish hold; one separating the fish hold from the engine room; one at the after end of the engine room; one at the after end of the tunnel recess, which extended only to the top of that recess, and one which was the transom bulkhead at the after end of the accommodation. Except where stated, all these bulkheads extended up to the deck. Oil fuel bunkers were situated in the wings of the engine room, that on the port side having a capacity of 18.75 tons and that on the starboard side 14.75 tons. Accommodation for eight men was situated below deck above the shaft tunnel recess. A fresh water tank with a capacity of 5.87 tons and an after peak with a capacity of about 3.5 tons were situated abaft the transom bulkhead.

4. The erections on deck were as follows:

An open forecastle about nineteen feet long and an average height of about six feet. At the after end of the forecastle there were stores fitted on each side of the vessel leaving an opening into the forecastle about eight feet wide.

The main deckhouse was about forty-five feet long, ten feet broad and six feet nine inches high and contained the skipper's cabin, engine casing, galley, crew's mess room, WC and wash place, and at the extreme after end an escape trunk from the accommodation below deck.

Abaft the main deckhouse was a small poop house about three feet six inches long by ten feet wide leaving a cross passage about five feet one inch in width between it and the main deckhouse.

A bulwark three feet one inch in height extended from the after end of the forecastle to the stern. Seven freeing ports were provided at each side fairly evenly distributed throughout the length of the vessel. These ports were twenty-five inches long, twelve inches deep and fitted with hinged covers, except for the second from forward on each side which was fourteen inches deep and fitted with vertical sliding doors.

The wheelhouse was situated on top of the forward end of the main deckhouse, being six feet nine inches in height, and abaft this the wireless room, skipper's toilet and engine uptakes were contained in a semi-elliptical funnel.

Access to the engine room and accommodation was by a door in the after end of the main deckhouse towards the starboard side. It was four feet two inches in height and one foot eight inches wide with a coaming about fifteen inches above the wood deck sheathing. The door was of steel and in two halves (top and bottom). It was not watertight. There were no other means of access (with the exception of watertight manholes and the emergency escape leading to below deck) aft.

Means of access to below deck forward were as follows: watertight manhole to forepeak, hatch to net store three feet four inches by two feet nine inches. Ice hatch to the forward end of the fish hold three feet four inches by two feet three inches. Two main fish hatches each three feet four inches wide and four feet three inches long. The four hatchways were provided with steel coamings fifteen inches in height above the deck sheathing, wooden covers three inches thick, tarpaulins, battens and wedges.

5. Permanent ballast was carried as follows: in the bottom of the fish hold 9.9 tons of concrete; in the bottom of the engine room 6.45 tons of concrete and one ton of pig iron, and in the bottom of the stern tube a quarter ton of concrete. The foremast was of steel raked aft and situated just abaft the ice hatch and extending about thirty-seven feet above the deck. The steel mizzen mast was also raked aft and was ten feet forward of the after end of the main deckhouse, extending twenty-seven feet six inches above the house top, and had a boom twenty feet long and six inches in diameter for launching the lifeboat which was stowed thereunder. The radio aerial was suspended between the two masts about thirty-five feet above the deck. Seven inch bilge keels were fitted over approximately fifty-three feet of the trawler's length.

6. Ventilation to the accommodation was by torpedo vents in the sides of the main deckhouse with cowls and mushrooms on the house top. The engine room was ventilated via the funnel.

7. The *Boston Pionair* was equipped with the following pumps:

Hand pumps to pump the chain locker and the well at the after end of the fish hold
Bilge pumps in the engine room

The main engine was a Widdop diesel, capable of producing a speed of about nine knots.

8. The electrical supply was derived from a dynamo driven from the main engine shaft and an auxiliary generator.

9. The lifesaving equipment included:

1 x 17 foot wooden lifeboat for sixteen persons, carried on the middle line of the top of the house aft and served by a derrick for launching.
2 inflatable twelve man liferafts.
4 circular lifebuoys.
12 lifejackets.
1 line throwing apparatus.
distress rockets and flares.

This equipment was in excess of the scale laid down, in that the vessel was only required to carry one liferaft. It had been inspected in January 1963 and was in order.

10. The *Boston Pionair* was adequately supplied with navigational aids which were in order. She was classed + 100A1 (trawler) at Lloyd's, the latest certificate having been issued on 11th January 1965. There were no unusual features in the design, construction or equipment of the vessel and she had been well maintained.

11. The *Boston Pionair* sailed from Lowestoft on the 6th February 1965 under the command of Skipper Brian Moyse and manned by a crew of nine hands all told. She proceeded to the Horn Reef area and began fishing the next day in proximity to two other Lowestoft trawlers, the *Boston Widgeon* and the *Roy Stevens*. The three trawlers fished in that area until the 12th February and the *Boston Pionair* by then had probably caught about one hundred kits of fish, about half her expected catch.

12. In the evening of the 12th February the wind was freshening, the seas rising and a bad weather forecast of north westerly winds up to force 10 was received and the skippers of the three trawlers all decided to move further west. About 1930 hours the *Boston Pionair* was seen to haul her gear and go off in a direction of approximately west-south-west. She was then apparently all right and in a good condition. About an hour later the *Boston Pionair* was out of sight of the other two trawlers which also hauled their gear and went off on a course of about south west by west. This was the last that was seen of the *Boston Pionair*.

13. The weather continued to deteriorate during the night of the 12th February and on the 13th February, according to the estimate of the skipper of the *Boston Widgeon*, was 'a good force 10', and towards the evening he hove his vessel to. On the morning of the 14th February the weather where the *Boston Widgeon* was was very bad with very high seas and the wind force 9 or 10 from the north west or north-north-west. About 0630 hours the skippers of the *Boston Pionair* and the *Boston Widgeon* had a conversation by radio telephone and Skipper Moyse said that he had been laying to for an hour and a half but by the look of the weather he would have to start dodging again soon. Before the conversation was finished the skipper of the *Boston Widgeon*, after

talking about fishing, said 'Over' and expected to get a reply from the skipper of the *Boston Pionair* but got none.

14. The skipper of the *Boston Widgeon* thought that perhaps the aerial of the *Boston Pionair* had come down and later in the day made further efforts to contact the vessel, and asked the skipper of the *Roy Stevens* which was nearer to the *Boston Pionair* to do so also. On the 15th February the managers of the *Boston Pionair* caused a message to be sent by Humber radio to all *Boston* trawlers to try and establish contact with the *Pionair*. No contact was made and by daylight on the 16th February a full scale search had been mounted. Two naval vessels, a Shackleton aircraft and a total of seventy trawlers took part in the search which was mainly directed by Skipper Crisp of the *Boston Victor*.

15. As a result of the search certain articles which might have come from the *Boston Pionair* and some of which were identified as actually belonging to her, were picked up on the 16th and 17th February in an area some thirty miles square, about 130 or 140 miles about west-south-west from the position in which the *Boston Pionair* was last seen.

16. The weather on the 14th February was bad. The wind was force 9 or 10 up to noon at least, and the height of the highest wave was probably about thirty-five feet on the Dogger Bank and even up to fifteen feet higher in the deeper water. In the morning the trawler *Lowestoft Lady* (except for her engines, a similar vessel to the *Boston Pionair*) whilst running before the wind took a heavy wave on her port quarter which pushed her round broadside to the wind and the following wave caused the vessel to list heavily to starboard. One of the windows on the starboard side of the wheelhouse was broken, and according to her skipper this happened when the vessel heeled over so heavily that the windows were submerged.

17. From the evidence adduced it is quite impossible to state with any certainty when and where the loss of the *Boston Pionair* occurred. The probabilities seem to indicate that it was towards the western edge of the Dogger Bank. Whether the loss occurred immediately following the conversation on the radio telephone with the skipper of the *Boston Widgeon*, or at some time thereafter, must remain unknown, but the probabilities are that it did occur at some time on the 14th of February.

18. The court carefully considered the useful evidence on waves given by an experimental officer of the National Institute of Oceanography. This officer had been made aware of the weather conditions prevailing in the North Sea on February 13th/14th 1965 in the area where the disaster is most likely to have occurred and on the basis of statistical information available to him at the institute he calculated the probable wave height in that area at that time. He stated that in water of about 120 feet in depth a wave with a height of forty-six feet would not be unusual but that although his calculations were based on the best available data he considered that they were subject to an error of up to twenty per cent in either direction. He confirmed that a deep water wave of known height would initially increase its height, slow down and have a greater tendency to break when it encountered shallower water. He further stated that an exceptionally high wave was not an isolated occurrence but is normally followed by two or three other waves of almost equal height at approximately ten second intervals.

19. In the opinion of the court the probable cause of the loss of the *Boston Pionair* was that she was overwhelmed in severe weather conditions by a wave or a succession of waves which caused her to roll with such severity that her righting lever was extinguished and that she had thereby lost her ability to right herself. The possibility of structural damage to the hull or superstructure cannot be excluded.

20. The *Boston Pionair* was owned by the Pegasus Trawling Company Limited, a wholly owned subsidiary of the Boston Deep Sea Fisheries Limited and was managed by the latter company. The managing company owned or managed five other vessels which were almost sister ships of the *Boston Pionair* except for their engines. There was a good deal of evidence from skippers who had sailed in the *Boston Pionair* and these ships to the effect that they were good sea boats and had never given them any anxiety as to their performance in bad weather. The *Boston Pionair* herself was registered in July 1956 and the others had been so registered between that date and October 1954. No casualty had occurred to any of them and no incidents tending to show any lack of stability had been reported. Evidence was given by a senior ship surveyor of the Board of Trade that so far as he could calculate from the information available to him and based largely upon the inclining experiment of a sister ship and the information given to him as to the probable amounts and dispositions of the weights on board the *Boston Pionair*, the righting lever of the *Boston Pionair* was slightly below the proposed standard which will be referred to in the next paragraph. According to his calculations, however, so long as the hull and superstructure of the *Boston Pionair* remained watertight she had adequate stability with a righting lever up to very large angles of heel.

21. The question of the stability of fishing vessels has been exercising the authorities of various countries and the fishing industry in recent years. The Inter-governmental Maritime Consultative Organisation, to which the British government are a party, has been concerned with the question of the stability of fishing vessels. As a result of their investigations the Board of Trade in September 1965 (some seven months after the loss of the *Boston Pionair*) issued the draft of a notice intended to be sent to owners, skippers and builders of fishing vessels which fixed the minimum righting lever and gave certain recommendations as to how this minimum righting lever should be achieved. In point of fact, the *Boston Pionair* more than complied with the recommendations made, but, according to the calculations of the senior ship surveyor, did not quite have the minimum righting lever suggested. It was made clear to the court that the consideration by this organisation as to the stability of fishing vessels is being continued.

22. The draft notice referred to in the last preceding paragraph was addressed to owners, skippers and builders. The first page of it is largely introductory. The second page is largely concerned with technical problems and expressions which fishing skippers may find difficult to understand; and the last page with advice to skippers as to their navigation. It is recommended that the notice should be

revised and that two notices should be issued. One to owners and builders dealing with design, and the other to skippers dealing with the operation of the ships.

23. The court recommends that all openings in the superstructure are so arranged that they are, or in bad weather can be made, watertight, and that all skippers be advised that the maintenance of the watertight integrity of the superstructure is of primary importance for the safety of the vessel.

QUESTIONS AND ANSWERS

The court's answers to the questions submitted by the Board of Trade are as follows:

Q. 1. (*a*) By whom was *Boston Pionair* owned at the time of her loss?

(*b*) Who was her designated manager?

A. (*a*) Pegasus Trawling Company Limited, Hull.

(*b*) Mr. B. A. Parkes.

Q. 2. When, where and by whom was *Boston Pionair* built?

A. 1956. Lowestoft. Richards (Shipbuilders) Limited.

Q. 3. Have any alterations, likely to affect *Boston Pionair*'s stability, at any time been carried out?

A. No.

Q. 4. When did *Boston Pionair* leave Lowestoft on her last voyage?

A. 6th February 1965.

Q. 5. (*a*) How many crew did she carry on her last voyage?

(*b*) Who was in command?

A. (*a*) Nine hands all told.

(*b*) Skipper Brian Charles Leslie Moyse.

Q. 6. Did the life saving appliances in *Boston Pionair* on her last voyage comply with the regulations in force and had they been properly surveyed and maintained?

A. Yes to both parts of the question.

Q. 7. (*a*) Was *Boston Pionair* seaworthy in all respects other than stability when she sailed on her last voyage?

(*b*) Did *Boston Pionair* have adequate stability?

A. (*a*) Yes.

(*b*) Yes, so long as her hull and superstructure remained intact.

Q. 8. (*a*) When and in what position was *Boston Pionair* last seen?

(*b*) What was her condition at this time?

A. (*a*) About 2030 hours on the 12th February 1965. In a position to the eastward of the tail end of the Dogger Bank.

(*b*) She was proceeding in a west-south-westerly direction apparently all right and in good condition.

Q. 9. (*a*) Were any articles belonging to *Boston Pionair* found?

(*b*) If so, what were these articles and where and by whom were they found?

A. (*a*) Evidence was given as to the finding of the following articles:

(1) By Skipper Gamble of the *Universal Star*: one lifebuoy, a deck board and fish room boards. The lifebuoy was marked with the fishing number of the *Boston Pionair* and the deck and fishroom boards were similar to those with which the trawler was equipped. These articles were picked up on the 17th February.

(2) By Skipper Hunt of the *Boston Beaver*: a wheelhouse grating, a wooden hatch cover, a broken oar, a piece of trawl grating, one or two pound boards and a couple of bobbins. None of these articles was identified as belonging to the *Boston Pionair*, but at least most of them were of the type supplied to her.

(3) By Skipper Shillings of the *Sawfish*: a green starboard light was picked up in the trawl. This light was of the type supplied to the builders of the *Boston Pionair* and was marked with the letter "L", indicating Lowestoft as its port of origin.

(4) On 16th February by the French trawler *Lafayette*: a lifeboat and a lifebelt. The life boat was marked LT 222, whereas the number of the *Boston Pionair* was LT 432. It is, however, possible that it had been supplied to the *Boston Pionair* from another trawler. The life belt was identified as belonging to the *Boston Pionair*.

The above articles were found in an area some thirty miles square, about 130 or 140 miles about west-south-west from the position in which the *Boston Pionair* was last seen.

Q. 10. Were all proper steps taken to initiate a search for *Boston Pionair* and her crew?

A. Yes.

Q. 11. (*a*) Approximately, where and when was *Boston Pionair* lost?

(*b*) What was

(i) the direction and force of the wind,
(ii) the state of the weather, and
(iii) the state of the sea at that time?

A. There was no evidence upon which these questions can be answered with any degree of certainty. See paragraph 17 of the annex to the report.

Q. 12. How many lives were lost?

A. Nine.

Q. 13. What was the p
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Q. 13. What was the probable cause of the loss of the *Boston Pionair*?

A. That the *Boston Pionair* was overwhelmed in severe weather conditions by a wave or a succession of waves which caused her to roll with such severity that her righting lever was extinguished and that she had thereby lost her ability to right herself. The possibility of damage to the hull or superstructure cannot be excluded.

Q. 14. Was the loss of the *Boston Pionair* caused or contributed to by the negligence of any person or persons?

A. No.

J. V. NAISBY, *Judge.*

H. A. LYNDSAY }
D. A. ROBERTS } *Assessors.*

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