



MVI
8 May 1957
(AMOCO MAINE a-8 Bd)

Commandant's Action

on

Marine Board of Investigation; explosion on SS AMOCO MAINE,
Gulf of Mexico, 26 November 1956, with loss of life

1. Pursuant to the provisions of Title 46 CFR Part 136, the record of the Marine Board of Investigation convened to investigate subject casualty, together with its Findings of Fact, Conclusions, and Recommendations, has been reviewed.
2. On 26 November 1956 the American tanker AMOCO MAINE of 7236 g. t., built [redacted] with no cargo on board, was en route from Savannah to Texas [redacted] previous cargo had been gasoline. Tank tops to No. 3, center and starboard cargo tanks, located immediately forward of the [redacted] shelter deck area, were open and the butterworth plates to such tanks [redacted] in the shelter deck area, were also removed. Both tanks [redacted] washed down with cold water and a coppus blower was fitted and operating in the butterworth opening in No. 3 center cargo tank. Vapors from No. 3 cargo tanks entered the shelter deck area through the open forward door to such space and were ignited by electrical testing equipment in the electrical shop located in the shelter deck area. An explosion occurred first in the shelter deck area and was then followed by an explosion in No. 3 center cargo tank. The fires in the shelter deck area and No. 3 center tank were extinguished with the ship's water firefighting equipment within a short time. As a result of this casualty, two members of the crew, the Chief Mate and an Able Seaman, lost their lives, five crew members sustained injuries, and the estimated damage to the vessel was \$75,000.
3. The Findings of Fact, Conclusions, and Recommendations of the Marine Board of Investigation convened to investigate subject casualty are approved.

(Signed) A. C. Richmond
A. C. RICHMOND
Vice Admiral, U. S. Coast Guard
Commandant

REPORT

of a

MARINE BOARD OF INVESTIGATION

Marine Inspection Office, United States Coast Guard

8th Coast Guard District

Galveston, Texas

on

30 November 1956

In order of

Commandant, U. S. Coast Guard

To inquire into and investigate the circumstances surrounding the explosion and fire on board the SS ANOCO MAINE, in the Gulf of Mexico, on 26 November 1956 with loss of life.

1 March 1957

Subj: SS AMOCO MAINE, Steam tank vessel, official number 235603;
explosion and fire in the shelter deck area and in #3 center
cargo tank in the Gulf of Mexico on 26 November 1956

FINDINGS OF FACT

1. At or about 0950 on 26 November 1956, there occurred on board the SS AMOCO MAINE an explosion and resultant fire in the shelter deck area and the #3 center cargo tank of that vessel resulting in the death of John S. Staniszewski, Z-162966-D3, Able Seaman and John J. Terrio, Z-25154-D1, Chief Mate and in injuries of varying degrees to four additional crew members along with substantial material damage to the midships section of the vessel.
2. The vessel involved was the SS AMOCO MAINE, official number 235603, steam screw tank vessel, official call WOMG, 7236 gross tons; 4481 net tons; capacity 100811 barrels; registered length 435.0 feet; registered breadth 66.85 feet; registered depth 34.27 feet; horsepower 2000; number of crew including the master 38; home port Baltimore, Maryland; built at Kearny, New Jersey 1936; steel hull tank vessel; owned and operated by American Oil Company, 555 Fifth Avenue, New York 17, N. Y.
3. Weather conditions at the time of casualty: fresh to strong northerly winds, rough seas, cloudy, visibility approximately ten miles.
4. At the time of the casualty, the SS AMOCO MAINE was bound from Savannah, Georgia to Texas City, Texas on course 294°T at a full speed of approximately ten knots with Thomas W. Philippi, Z-68107 as Master, he having assumed duty in that capacity approximately four days earlier on 22 November 1956 in the port of Savannah, Georgia.
5. On the morning prior to the casualty, the tank tops to #3 center and #3 starboard cargo tanks had been opened and remained open at the time of the explosion. The butterworth plates to #3 center and #3 starboard tanks located in the shelter deck space of that vessel had also been removed. Both tanks had been washed down with cold water on that morning and a coppus blower was running in #3 center cargo tank, it having been blowing since approximately 0810. The coppus blower was scheduled to be switched to #3 starboard cargo tank in approximately five minutes after the time that the explosion occurred by John P. Davis, Z-761016-D3, Bosun, and Joachim Jacobson, Z-100176, AB, who were standing by in the carpenter shop in the shelter deck area of the vessel to move the blower when the time came.
6. John S. Staniszewski, Z-162966-D3, one of the persons killed as a result of the explosion, was sweeping in the starboard side of the shelter deck.

7. John J. Terrio, Z-25154-D1, Chief Mate, the other deceased person, was also in an undetermined location in the shelter deck area.

8. Herbert C. Morrell, Z-44725, Electrician, had been in the electrician's workshop also located in the shelter deck area of that vessel preparing some coils for re-insulation and was just leaving the electrician's work shop on his way to the after house for coffee time when the explosion occurred, knocking him back into the electrical workshop, unconscious.

9. Joseph A. Radt, Z-697837-D2, Purser, was leaving the shelter deck area through the after starboard door of the shelter deck space and had just stepped through this doorway at the time the explosion occurred.

10. On the bridge at the time of the casualty were Wilburn L. Clarke, Z-123381, Third Mate, the Officer of the Watch and Clarence D. Hydes, Z-825068, Helmsman.

11. The work in progress relative to the cleaning and gas-freeing of the tanks was under the direction of John J. Terrio, Chief Mate, deceased.

12. There were three water tight doors to the shelter deck of the vessel. Two of the water tight doors were located on the after side of the shelter deck, one being on the starboard side and one being on the port side and one of the water tight doors was in the forward bulkhead of the shelter deck in the center of that space. All of these doors were open at the time of the casualty allowing the atmosphere in the shelter deck space to be gaseous.

13. The initial explosion occurred in the shelter deck area of the vessel.

14. The ensuing explosion in the #3 center cargo tank occurred only seconds later blowing the coprus blower from its position over the studs around the butterworth plate opening with sufficient force to cause the blower to hit the overhead of the shelter deck space and break it.

15. The first person coming from the shelter deck space after the explosion was John S. Staniszewski, AB, deceased, followed by John J. Terrio, Chief Mate, deceased; both of whom emerged from the starboard after door of the shelter deck space.

16. John P. Davis, Bosun and Joachim Jacobson, AB, who were in the carpenter shop, crouched behind the carpenter bench and behind a piece of plywood for approximately two minutes until the flames died down before they were able to exit from the space through the starboard after door.

17. Herbert C. Morrell, Electrician, was unconscious in the electrician's workshop and was removed some time later by John P. Davis assisted by several other crew members.

18. Immediately after the explosion, the course of the vessel was changed by giving full left rudder, to a more favorable direction before the wind, for the purpose of preventing the flames from the center cargo tank from blowing through the shelter deck area.

19. The steam smothering system was turned on and approximately four 2½ inch fire hoses fitted with combination fog and solid stream nozzles were brought into play.

20. Water was obtained on deck immediately and the fire fighting operations were successful in extinguishing the flames in the center cargo tank in a very short time.

21. At 1036 the fire was under control in the shelter deck and by 1105 it was extinguished.

22. Five fire hoses in an undetermined number were used for the purpose of cooling the decks in the vicinity of the midships section.

23. One of the fire pumps failed but not until the flames had been extinguished at which time the auxiliary fire pump was placed on the line for the purpose of furnishing further cooling water to the deck.

24. The casualty occurred at latitude 27 degrees 11 minutes north, longitude 89 degrees 42 minutes west, being a position approximately 100 miles due south of Sea West Pass, after which the course of the vessel was altered for the port of New Orleans, La.

25. The vessel had carried a cargo of gasoline on its previous voyage and had not been gas free prior to the time of the explosion and fire.

26. The severely injured persons were transported to the ship's hospital where they were treated by John H. Mann, S-1337-22, Second Mate of the SHANICO MARU.

27. John Joseph Ferris, Chief Mate, received burns on the head, arms and lower body with approximately 60% of his body burned to a serious degree which proved fatal while he was hospitalized at the U. S. Public Health Service Hospital, New Orleans, La. on 16 December 1936.

28. Joseph Stanley Stanisowski received severe burns over at least 80% of his body, which burns proved fatal before the vessel could get him to any special medical assistance.

29. Herbert Calvin Norrell, Electrician, received severe burns about the face and arms and a possible back and internal injuries.

30. Joseph A. Padd, Steward, received injuries in the nature of serious but not critical facial burns, the skin being burned off in an area of approximately six square inches of his face in way of his temple and lower degree burns across his nose and neck. These burns proved painful but were not of a critical nature, he not being hospitalized on the ship. He remained active aboard the vessel in fighting the fire and assisting the other injured persons.

31. John Paul Davis, Bosun, was severely bruized with possible injuries to his left leg or lower spine according to his own complaint. This man was not hospitalized and continued to work and assist in every way possible.

32. Joachim Jacobson, AB, received a very superficial burn on his left wrist while assisting the rescue of the electrician from the electrician's workshop in the shelter deck area.

33. John D. Howe, Second Mate, received minor burns on his fingers and forearm in removing the clothing of John S. Staniszewski while assisting him.

34. The material damage to the vessel consisted of the entire midships housing section being raised approximately four inches off its pedestal with its beam bent and damaged. The two riveted seams on the lower bridge deck were ruptured. Numerous rods were bent and broken. The upper decks of the midships section were creased where the house raised and the bulkheads held fast to the deck. The only damage to #3 tank was a very small amount of set-in in the forward bulkhead between #3 and #2 center cargo tank with no sign of rupture or fracture along with a buckled port vertical frame section on the forward end of the #3 center tank. The radio and the gyro compass were knocked out of commission and the foam fire extinguishers located on brackets in the midships section had fallen and discharged on deck. In addition the magnetic compass and direction finder were not working. The telemotor steering apparatus, the engine room telegraph and the telephones continued to operate satisfactorily.

35. The structural damage to the vessel was in the estimated amount of \$75,000.

36. The radio which had been rendered inoperative by the force of the explosion was repaired to an extent sufficient to reach vessels in the vicinity through which communication was relayed to New Orleans requesting assistance and medical assignments.

37. The U. S. Public Health Service Hospital, New Orleans advised the following treatment: "Wrap wounds in sterile gauze, give one teaspoon of salt and one-half spoon of baking soda in one quart water. Drink as much of this solution as patients can take, not more than two quarts

over two-hour period; bed rest. If severe pain, give morphine sulphate one-sixth grains every four hours as needed. If respiratory difficulties, administer oxygen; if rapid pulse, elevate lower extremities.

38. At 1023 UFG 1271 departed the Coast Guard Air Detachment, Biloxi, Mississippi to evaluate the condition of the SS AMOCO MAINE in position 27-11 North, 89-42 West which was proceeding south. At 1130 that plane which was then on the scene advised that conditions were unfavorable for an offshore landing.

39. At 1113 helicopter HUP BUHO 3524 from the Naval Air Station, New Orleans, arrived at the SS AMOCO MAINE but was unable to remove any of the patients due to a fouled hoist.

40. At or about 1525 Plane T5MIG1287 from the Naval Air Station, St. Petersburg, Florida was also in the area but also unable to land due to the sea conditions; therefore assisted US 101271 in escorting the helicopters.

41. At or about 1625 Helicopter HO3S 235 from the Coast Guard Air Detachment, New Orleans departed from the SS AMOCO MAINE with John Joseph Terrio, Chief Mate, on board after having landed at Pilot Town en route to the vessel for the purpose of refueling. Helicopter HO3S 235 then proceeded to Pilot Town where the patient was transferred to Helicopter HO3S 232 for transportation to the U. S. Public Health Service Hospital, New Orleans, La.

42. Terrio was the person first evacuated from the ship due to the fact that the helicopter appeared on the scene suddenly while Terrio was lying on the settee in the chart room located in the midships section of the ship from where the patients were to be picked up by hoist and there was no time to bring Staniszewski, the worst injured man from the ship's hospital aft.

43. The AMOCO MAINE then proceeded to Sou'west Pass with standby engines at 1039 and Joseph A. Redd, the Chief Pumpman; Herbert C. Morrill, the Electrician and the body of Joseph Stanley Staniszewski, who had already died, were transferred to Coast Guard Boat 40446.

44. Staniszewski was examined by the Master at or about 1700, at which time he was found to be dead. Soon after this an examination of the deceased was also made by Mr. Howe, the Second Mate.

45. The AMOCO MAINE then proceeded at full speed on a course to take the vessel about three miles south of Sou'west Pass entrance buoy, thence to Ship Shoal Buoy, thence to Heald Bank Buoy, Galveston. En route the vessel received radio orders from the operator to attempt to gas free the ship before she entered the harbor in Galveston. Therefore the vessel did not arrive in the port of Galveston until the night of 29 November 1956.

46. A Marine Board of Investigation was appointed by Appointing Order dated 10 December 1956 and the Marine Board of Investigation met on 5 December 1956 at which time all investigative material was turned over to them by the investigating officer who was designated as the Recorder of the Marine Board of Investigation.

47. The electrician's workshop in which Herbert C. Morrell had been working at the time or immediately prior to the explosion, was located in the center area of the midships shelter deck space, all four sides being constructed of wood with a wooden door. In this room were benches upon which electrical and mechanical work could be performed, as well as shelves in which electrical equipment and apparatus was stowed. On the after wooden bulkhead of this room above the work bench was installed a marine type double plug-in receptacle which was wired in to the ship's 110 D. C. volt lighting system at the overhead light which was made fast to the overhead in the center section of the electrician's workshop over the work bench. This marine type receptacle had two marine female plug-ins for which there were no caps at the time that the explosion occurred. This installation of a permanent nature wired with armored cable, had been installed for an undetermined time. The electrician's workshop was customarily kept locked except those times when the electrician was working therein. There was no readily available means of being able to see inside the workshop while the door was locked. At the time of the explosion there was installed on the side of the work bench a household type female plug-in receptacle designed to receive two male prongs in each unit.

48. After the arrival of the vessel at this port, there was no wiring leading from this household type receptacle to any part of the ship's electrical system. In addition to there being no wiring at all from this household type receptacle, there was also no indication that wiring had been originally removed. The household type double plug-in receptacle had been attached by the work bench according to the testimony of Herbert C. Morrell, Electrician, during a period of from two months to eight months prior to the casualty. Morrell had been off the ship for a period of six months, having returned to the vessel approximately two months prior to the casualty. His testimony was that the receptacle had been placed in the workshop during the interval while he was off the ship.

49. There was also located in the electrical workshop at the time the vessel arrived in Galveston some testing equipment consisting of a resistor, a base for a light bulb with a broken light bulb screwed into it together with electrical leads, one with an alligator clip and one with a test prong on it.

50. John P. Davis, the Bosun, testified that he pulled the plug from this testing equipment from the household type receptacle located on the side of the work bench on the day after the explosion had occurred.

51. The testimony of John D. Howe, Second Mate of the vessel, was that from the marine type plug in the electrician's workshop, there was an extension wire which went over the edge of the bench and back under the bench to the double outlet which was present at the time the Bosun pointed out to him the electrical equipment after the casualty. According to the Second Mate, this connected wire was a black rubber covered wire. This wire was not present when the vessel arrived at the port in Galveston.

52. The person removing the wire and the reasons therefor cannot be ascertained.

53. Also present on the marine double plug-in receptacle were two brass caps attached by a chain which were not present at the time of the explosion that were admittedly installed by the First Assistant Engineer as a safety measure after the occurrence of the casualty.

54. The Electrician, Herbert C. Morrell, advised in a deposition taken at the U. S. Public Health Service Hospital, New Orleans, La., that at the time of the explosion he was not using any of the testing equipment located in the electrician's workshop nor had he ever at any time used this testing equipment in the electrician's workshop and that he had been working on one of the coils getting ready to reinsulate the coils without making a test at the time.

55. The Bosun, John P. Davis and the Second Mate, John C. Howe, however, testified that the testing apparatus was connected immediately after the casualty had occurred.

56. The answer to Question 152 of the deposition by Herbert C. Morrell, the electrician, should further be noted, the answer to the question being as follows: "Q. Now is it possible that either one of those two coils could have touched any electrical connection as you left? A. No, the only thing it might have been able to touch there would be something like them test leads if they were plugged in. I don't know for sure, they could have fell off the benches or something, hit together and caused a spark. I just don't see how that could have been possible."

57. The wire connecting the marine type plug receptacle to the household type plug receptacle could never be located on board the vessel after its arrival at Galveston.

58. The testimony relative to the coils which had been removed from the dack winch was that they had been removed and tested at sea sometime some months prior to the casualty.

59. At the time of the explosion, there was no vapor tight glove installed on the vapor tight lighting fixture in the electric workshop, there being a bare bulb burning in the socket.

60. John P. Davis, Bosun, was not removed from the vessel at New Orleans because of his injuries, however, he received outpatient treatment at the U. S. Public Health Service Hospital, Galveston, Texas after the arrival of the vessel at this port.

61. Joseph A. Redd, the Pumpman, was discharged from the U. S. Public Health Service Hospital in New Orleans, La., on 3 December 1956.

62. Herbert C. Morrell, Electrician, remains a patient at the U. S. Public Health Service Hospital, New Orleans, La., at the date of this report.

63. John J. Terrio, Z-25154-DL, Chief Mate, died in the U. S. Public Health Service Hospital, New Orleans, La., on 16 December 1956.

64. Witnesses interviewed:

Walter Woods - Fireman Watertender - 601 James St., Tampa, Fla.
Sumnerfield Ramsey - Able Seaman - 516 Maple St., Moochan, N. C.
Millard Herod - Wiper - 618 South Fremont Ave., Baltimore, Md.
John P. Davis - Bosun - 411 First St., North, Texas City, Texas
John D. Howe, - Chief Mate - RFD #1 Box 18-Z, Dickinson, Texas
William E. Best - Radio Operator - 603 -13th St., North, Texas City, Tex.
Murrell K. Miller - Able Seaman - PO Box 792, Galveston, Tex.
Clarence D. Hydes - Able Seaman - 812 West Indiana Ave., Tampa, Fla.
Donald M. Brewer - Superintending Engineer, American Oil Company -
3518 Glenwood Road, Brooklyn, N. Y.
Mrs. Dorothy Davis - Housewife - 411 First St., North, Texas City, Tex.
Joseph A. Redd - Pumpman - Wagener, South Carolina
Thomas W. Philippi - Master - Box 1222, Texas City, Tex.
Joseph W. Martin - First Assistant Engineer - 1330 E. Comanche Ave.
Tampa, Fla.
Egbert D. Harris - Chief Engineer - 2040 Saddle Path, Seaford, Long
Island, N. Y.

CONCLUSIONS

65. That the casualty was due to the ignition of gaseous vapors by an electrical spark and that the explosion originated in the shelter deck area of the vessel which progressed to the forward doorway of the shelter deck space to #3 center cargo tank.

66. The conclusion that the origin of the explosion was in the shelter deck space is borne out and amplified by the testimony of the Bosun, John P. Davis, that he first heard the explosion and felt a flash in the shelter deck area and that it was moments later that he saw the coppus blower blown from its place in the butterworth opening of #3 center cargo tank.

67. That the presence of the gaseous vapors in the shelter deck area was due to leaving the forward door to the shelter deck area open while the Coppus blower was discharging air into #3 center cargo tank from which gasoline vapors emerged through the open tank top directly forward of the open shelter deck door.

68. That the source of ignition was an electrical spark from electrical testing equipment in the electrician's workshop located in the shelter deck area.

69. The testimony of Herbert C. Morrell, the Electrician, on this point is contradictory to that of John P. Davis, Bosun, and John D. Howe, Second Mate, in that the latter two testified that after the explosion, they disconnected the electrical testing apparatus while the testimony of the Electrician was that he had not used the electrical apparatus on the morning prior to the explosion and that the explosion occurred as he was leaving the electrician's workshop to go aft for coffee and it was the force of the explosion which blew him back into the workshop.

70. In these premises, however, it further appeared from his testimony that the Electrician was actually unsure as to whether or not the electrical testing apparatus might have been connected to the ship's electrical system at the time; it also being his opinion in one part of his testimony that it was possible that the test prong and the alligator clip from the test equipment might have come together due to the pitch or roll of the ship causing a spark.

71. It should further be noted in the connection that the testimony of Herbert C. Morrell, Electrician, was attained by deposition while he was hospitalized at the U. S. Public Health Service Hospital, New Orleans, La., therefore there was no opportunity to efficiently amplify his testimony relative to the testing equipment and subject him to a searching cross-examination, while the Bosun, John P. Davis, was given a searching examination.

72. That the tank cleaning, gas-freeing operation on the morning of the casualty were directly in charge of John Joseph Ferrio, Chief Mate.

73. That the presence of the electrical testing apparatus and the make-shift household type plug-in receptacle in the shelter deck area was unknown to any of the persons in authority on board the vessel.

74. That although allowing gaseous vapors to enter the shelter deck space through the open forward shelter deck door and allowing the presence of electrical equipment in the electrician's workshop of the shelter deck area constitutes faulty seamanship and the disregard of proper safety practices, there was no misconduct, negligence, inattention to duty or incompetence on the part of any member of the crew now remaining alive for which suspension and revocation proceedings should now be instituted under the provisions of RS 1450 as amended.

75. That no failure of material either physical or designed was involved.

76. That no personnel of the Coast Guard or any other government agency contributed to the casualty.

77. That no laws and regulations relating to vessels have been violated.

78. That no aids to navigation or any uncharted or incorrectly charted area or objects were involved.

79. That all logical and proper efforts were made by the Master, officers and crew at the time of and after the casualty to avert more serious impending disaster and to minimize the danger.

RECOMMENDATIONS

80. In view of the foregoing Findings of Fact and Conclusions drawn therefrom, it is recommended that no further action be taken and that the case be closed.

/s/ Harold O. Rasmussen
HAROLD O. RASMUSSEN
Commander, USCG
Chairman

/s/ George F. HAMILTON
GEORGE F. HAMILTON
Commander, USCG
Member

/s/ FORREST E. STEWART
FORREST E. STEWART
Lieutenant, USCG
Recorder