

UNITED STATES COAST GUARD

ADDRESS REPLY TO:
COMMANDANT
U. S. COAST GUARD
HEADQUARTERS
WASHINGTON 25, D. C.



MVI

23 July, 1951

FILE (ESSO GREENSBORO -
ESSO SUEZ a-8 Bd)

From: Chief, Merchant Vessel Inspection Division
To: Commandant
Via: Chief, Office of Merchant Marine Safety

Subj: Marine Board of Investigation; Collision involving ESSO GREENSBORO and
ESSO SUEZ, Gulf of Mexico 20 April, 1951, with loss of life

1. Pursuant to the provisions of Title 46 C.F.R. Part 136, the record of the Marine Board convened to investigate subject casualty, together with its Findings of Fact, Conclusions, Opinions and Recommendations, has been reviewed and is forwarded herewith.
2. The steam tanker ESSO GREENSBORO of 10, 195 gross tons with a full cargo of crude oil, departed from Corpus Christi, Texas on 19 April, 1951, bound for an Atlantic Coast port. The steam tanker ESSO SUEZ of 17,061 gross tons, without cargo, departed from Baltimore, Maryland on 16 April, 1951, bound for Corpus Christi, Texas. On 20 April, 1951, both vessels were in the Gulf of Mexico. At approximately 0330, 20 April, 1951, dense fog was encountered. Both vessels continued at normal full speed (approximately 15 knots), had each other in sight on their respective radars, and altered their courses to give each other wider passing distance. At approximately 0422 when both vessels heard the fog signals and sighted each other, (still at full speed and in dense fog) collision was inevitable and seconds thereafter both vessels collided in position 26° 17' 26" N - 91° 25' 30" W (approximately 200 miles SSW of SW pass Mississippi River). As a result of this casualty, explosions occurred and both vessels caught fire. Out of a total crew of 42 on board the ESSO GREENSBORO, 37 lost their lives and 5 survived, of which 2 were injured. Out of a total crew of 49 on board the ESSO SUEZ, 2 lost their lives and 47 survived, of which 3 were injured. The damage to the ESSO GREENSBORO and cargo was approximately \$2,075,000.00 and to the ESSO SUEZ \$957,600.00.
3. The Board made the following Findings of Fact:

"At 0422 on 20 April, 1951, the SS ESSO SUEZ and the SS ESSO GREENSBORO collided in a dense fog in Latitude 26° 17' - 30" N, Longitude 91° 25' 30" W, in the Gulf of Mexico. Immediately after the collision fire swept the decks and quarters of the two vessels resulting in the death of Master and 36 crew members on the SS ESSO GREENSBORO and 2 crew members on the SS ESSO SUEZ."

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The vessels involved;

SS ESSO GREENSBORO - Off. No. 243440, steel hull, steel superstructure, T2 type tank vessel of 10,195 gross tons, 6,107 net tons, 504 feet in length and 68.2 feet beam. The vessel is a single screw turbo electric drive, 6,000 horsepower with two B & W watertube boilers. The working pressure allowed on the two boilers is 500 lbs. The speed of the vessel in loaded condition is 15 m.p.h.

The ESSO GREENSBORO was built in Chester, Pa., in 1943 and is owned and operated by the ESSO Shipping Company, 15 West 51st Street, New York, New York.

Annual inspection on the ESSO GREENSBORO was completed by the Coast Guard, Marine Inspection Unit at Mobile, Alabama on 9 March, 1951, and after inspection a certificate was issued certifying the vessel had been inspected and approved for the carriage of inflammable or combustible liquids of grade "A" not to exceed 25 lbs. Reid Vapor Pressure and all other lower grades, with exception of deep tanks which were limited to grade "E" liquids only.

The vessel was equipped with four metal lifeboats of 31 persons capacity each and 4 sets of quadrantal davits. One of these boats was located on the port side of midship house, one on the starboard side of midship house, one on port side of the after house, and one on the starboard side of after house. The boats were equipped with Manila rope falls which were stowed on reels with canvas covers.

The vessel's fire fighting equipment consisted of fire main, with canvas hose, smothering lines, CO₂ fixed system in engine room and pump room, and portable fire extinguishers. This equipment was inspected, tested and passed during the last annual inspection of the Coast Guard.

In addition to gyro compass, radio direction finder and fathometers, the vessel was equipped with a Model CR-101-R Radar manufactured by the Radiomarine Corporation of America with a range of 40 miles.

The cargo capacity of the ESSO GREENSBORO is 141,158 barrels and at the time of the collision the vessel was laden with a full cargo of West Texas crude oil, having a flashpoint of 82.

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The ESSO SUEZ - Off. No. 257581, steel hull, steel super-structure, tank vessel of 17,061 gross tons, 10,486 net tons, 628 feet in length and 82.6 beam. The ESSO SUEZ is powered with a 12,500 horsepower turbine with two Foster Wheeler watertube boilers with allowable working pressure of 965 lbs.

The ESSO SUEZ was built at Newport News, Va., in 1949 and is owned and operated by the Esso Shipping Company, 15 West 51st Street, New York, New York.

Annual inspection was completed at Baltimore, Maryland, on 14 April, 1951, and certificated for the carriage of inflammable or combustible liquids of Grade "A" not to exceed 25 lbs. Reid Vapor Pressure and all lower grades.

The ESSO SUEZ was equipped with 4 metal lifeboats, 2 of 35 persons capacity each and 2 of 37 capacity each, and four sets of quadrantal davits. The two 35 persons capacity lifeboats were located on the port and starboard side of the midship house and the other two were located on the port and starboard side of the after house. The lifeboat falls were Manila rope and were stowed on reels with canvas covers.

The fire fighting equipment consisted of fire main with canvas hose, smothering lines, foam and CO₂ systems for engine and pump room and portable fire extinguishers. This equipment was inspected, tested and approved by Coast Guard at the last annual inspection of the vessel.

The navigation equipment consisted of gyro compass, magnetic compass, radio direction finder, fathometer, and a Model CR-101-A Radar manufactured by Radiomarine Corporation of America and capable of a range of 40 miles.

The cargo capacity of the ESSO SUEZ is 229,615 barrels. At the time of the collision the vessel was gas free and in ballast. The Master estimated the draft to be 14' 6" forward and 21' 9" aft.

Shortly preceding the collision and at the time of the collision, it was foggy with visibility estimated to be from 200 to 300 yards. The wind was northerly with a small sea.

The ESSO SUEZ sailed from Baltimore, Maryland, at 0730 on 16 April, 1951, en route to Corpus Christi (Harbor Island) Texas. The vessel was under the command of Edwin C. Geick, a licensed master.

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The voyage was uneventful until the early morning of 20 April, when fog was encountered at about 0330. When the vessel entered the fog, the 3rd Officer who was watch officer at the time called the Master, began sounding fog signals and readied the radar for use. At the time the 3rd Officer called the Master, he estimated the visibility to be 300 yards. The Master arrived on the bridge approximately 5 minutes after being called and after observing the weather conditions he drank a cup of coffee and then put the engine room telegraph on standby at 0351. At 0355 the 2nd Officer arrived on the bridge and relieved the 3rd Officer for the 0400 to 0800 watch. When the 2nd Officer relieved the watch it was foggy and fog signals were being sounded normally. The course was 284° true and the engine room telegraph was on standby, with engine going full speed ahead.

A few minutes after 0400 the Master observed a target on the radar bearing two points on the starboard bow and 6 miles distant. After this observation the course was changed from 284° to 270° and vessel's engine continued at full speed ahead. About 5 minutes later, the Master observed this target bearing 4 points on the starboard bow 3 miles distant. The course was changed again from 270° to 260° and the vessel was allowed to continue at full speed ahead. The Master informed the 2nd Officer who was on the starboard wing of the bridge to keep a sharp lookout and listen for fog signals at the same time indicating the direction of the target as observed on the radar. The Master then returned to the pilothouse. At 0422 the 2nd Officer heard a fog signal and seconds later saw a red light approximately 10° on the starboard bow. He reported the light to the Master who ordered a hard left wheel and stopped the engine. A matter of seconds later the ESSO SUEZ collided with the ESSO GREENSBORO on the port side in the way of No. 8 cargo tank, the angle of collision being about 90°. Almost instantly fire broke out and the two vessels were enveloped in flame from burning oil.

The bow of the ESSO SUEZ cut into the ESSO GREENSBORO for a distance of sixty feet and remained in physical contact for approximately 30 minutes. During this time three explosions on the ESSO GREENSBORO sprayed the ESSO SUEZ with burning oil from forward to aft and ignited all combustible equipment and material on deck and in the forward storeroom. Flames from burning oil on the water around the ESSO SUEZ reached a great height and prevented the crew from effectively fighting the fire on the vessel until the ESSO SUEZ cleared the ESSO GREENSBORO and was able to maneuver clear of the burning oil on the water, after which the crew, by using fire hose, portable fire extinguishers and foam, were able to bring the fire under control. This was accomplished by working

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from after end forward. While fighting fire considerable difficulty was experienced with the canvas fire hose bursting due to having been burned by the fire and intense heat. At about 0800 the fire was restricted to the forward storerooms of the vessel and was completely extinguished at 1100 on 20 April, 1951. The vessel proceeded to Mobile under her own power, escorted by the SS ESSO NEW YORK, arriving in Mobile at 2100 on 21 April, 1951.

Immediately after the collision the Master turned on the general alarm, sent the helmsman to call the crew and ordered the 2nd Officer to go aft and turn the steam smothering system on, and remained on the bridge and by maneuvering the engines, succeeded in getting the ESSO SUEZ clear of the ESSO GREENSBORO and the burning oil on the water.

The 2nd Officer on his way aft, after the collision, called the crew in the midship house and then made his way aft. Upon arriving aft he found that the steam had already been turned on the steam smothering system. By this time the deck of the ESSO SUEZ was aflame from forward to aft and he was unable to get back to the bridge. He then went to the after boat deck and assisted in fighting fire.

The Radio Operator was awakened by the crash, jumped out of his bunk, and went to the chartroom. The Master instructed him to send out an SOS. He then went into the radio room and started up the transmitters and receivers and heard nothing coming in. This indicated that he had no aerial. He however began sending out an SOS, thinking that the wiring in the radio room would give enough radiation to get the signal out. He stayed with his radio set until the flames burst out the porthole glass and forced him out of the radio room. He then went to the wheelhouse and stayed with the Master until the vessel cleared the burning oil on the water after which he went aft and assisted in fighting fire. After the fire around the amidship house was under control he rigged a jury aerial and was able to get back on the air again. His radio log shows that the first SOS was sent at 0424.

The 3rd Assistant Engineer relieved the watch at 0400. When he relieved the watch in the engine room, the engine room telegraph was on standby, and the engine was going full speed. The engine continued at that speed until 0422 when a stop bell was received. A few seconds later the 3rd Assistant Engineer felt the impact of the collision. At 0424 a full astern bell was received and after the full astern bell, numerous bells were received of which no record was made in the engine room bell book or log. Immediately following the collision the Chief Engineer and other Assistant Engineers came to the engine room and assisted in starting the fire pump and turning steam on the smothering line.

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The engine room rapidly filled with smoke, making it necessary for the men in the engine room to cover their faces with wet rags in order to breathe.

After the vessel cleared the ESSO GREENSBORO, members of the engine department, who were not needed below, assisted on deck in fighting fire.

The Chief Officer, after the collision, was seen by other members of the crew on the after boat deck and in the engine room shortly after the collision occurred. He however made it back to the midship house, and when the fire was put out around this house, his body was found in the starboard passageway of the house. How or why he returned to the midship house could not be explained by any of the other members of the crew.

The Steward, after the collision, attempted to get to the after house on the port side of the main deck. The door on the port side of the house was closed and he was trapped by the flames, and fatally burned before reaching the upper deck. He died from these burns before medical aid reached the vessel in the afternoon.

During the time the ESSO SUEZ was in physical contact with the ESSO GREENSBORO, the heat from burning oil in the water around the ship and fire on deck was so intense that the porthole glasses shattered and fell or blew out. This allowed suffocating smoke to enter the crew's quarters and passageways, and in order to breathe, the men had to lie on the deck.

The ESSO GREENSBORO sailed from Corpus Christi (Harbor Island), Texas at 0706 on 19 April, 1951, with a full cargo of West Texas crude oil en route to an Atlantic Coast port. Cyril C. Eden, a licensed master was in command. Little is known of what actually transpired on the bridge of the vessel preceding the collision, since the entire 4 to 8 watch were lost and only one AB saved from the 12 to 4 watch, and all records that would show what took place were destroyed by fire. The engine room telegraph was put on standby at 0314 and fog signals were being sounded. The AB who stood the midnight to 0200 wheel watch and the 0300 to 0400 lookout watch on the bow stated that he steered a course of 108° by gyro compass during his watch at the wheel; that during his watch at the wheel he saw the Master using the radar and that fog signals were being sounded. He was unable to state whether fog signals were being blown during his watch or lookout from 0300 to 0400.

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The 1st Assistant Engineer relieved the watch in the engine room at 0400. When he relieved the watch, the engine room telegraph was on standby, and the engine was going full speed ahead and at about 0420 he felt the impact of the collision; that immediately after this fire broke out in the upper engine room; the engine was stopped and he attempted to communicate with the bridge, but was unsuccessful; that the fire in the upper engine room prevented the steam smothering system being turned on, and that the fire pump was started but only 30 lbs. pressure could be built up on the line, which would indicate that the fire main had been severed.

Attempts to escape from the engine room were impossible on account of the fire raging in the passageway and over the after house. The 1st Assistant and three other members of the crew in the engine room were forced to the lower level of the engine room by the smoke and fire. Approximately four hours after the collision, the 1st Assistant Engineer escaped through the engine room skylight and made his way to the stern and swam to the No. 1 lifeboat of the ESSO GREENSBORO which was afloat off the stern of the vessel. Upon crawling aboard the lifeboat, he found that it had been gutted by fire and two charred bodies were in the bottom of the boat. He was rescued sometime later by a lifeboat from the ESSO NEW YORK. After picking the 1st Assistant up, the lifeboat proceeded to the stern of the ESSO GREENSBORO and picked up the three men from the engine room who made their way to the stern and jumped overboard.

Frederick O. McMahon, AB, was relieved as lookout at 0400. After being relieved he went to the crew's messroom on port side of after house, and was having coffee with several other crew members. While drinking coffee an Ordinary Seaman looked out the port and remarked how close another ship was. McMahon looked out the port and when he saw how close the other vessel was he ran for the starboard side of the ship. On the starboard side of the ship, a space from the Chief Engineer's room to the Officer's mess, was clear of flames and several members of the crew had found their way to this location. The starboard lifeboat was in flames and men started jumping overboard. McMahon jumped overboard and with two other men got clear of the vessel and burning oil. The other two were a little wiper and an AB named Kwasmieuski. After being in the water for awhile, McMahon talked to the 3rd Mate, who was in the water. The 3rd Mate told McMahon that they had launched a lifeboat but the lifeboat caught fire and he had to dive and swim clear of it.

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While in the water the little wiper disappeared, then Mattie Kwasmieuwaki when last heard was calling for help. The last of the four persons in the water heard from by McMahon was the 3rd Mate. McMahon remained afloat during the day with the assistance of a half burned oar and about 1600 he was spotted by a plane and a rubber life raft was dropped to him. At 1700 a lifeboat from the ESSO BURLINGTON picked him up.

The 1st Assistant Engineer stated that about 10 minutes before the collision he noticed a drop in the revolutions and again just before the collision he noticed another greater drop in revolutions, which would indicate that the rudder had been put over at the time.

The No. 1 lifeboat, located on the starboard side of the midship house was launched but according to the information passed on to McMahon by the 3rd Mate, while in the water, caught fire. The two charred bodies in the lifeboat were burned beyond recognition by Roff and McMahon.

Immediately after the collision the ESSO GREENSBORO was aflame from forward to aft. All communication and pipelines were severed by the collision damage. Flames fed by burning oil poured through the after quarters and passageways. At 2200 on 20 April, after the ESSO GREENSBORO had been abandoned, the vessel was boarded by crew members from the SS VIRGINIA. At the time of boarding, Nos. 2, 3 and 9 starboard cargo tanks and Nos. 3 and 4 port cargo tanks were burning around the expansion trunk covers. Fires were also in the shelter deck space and lazarette. These fires were extinguished by men from the crew of the SS VIRGINIA and the vessel was taken in tow and proceeded to Galveston, Texas.

An examination of the vessel made by the Coast Guard after the fires had been extinguished disclosed the following:

The general alarm switch was in an off position.

The engine room telegraph indicator in the wheelhouse was on standby.

No. 1 lifeboat was missing and the davits in a swung out position.

The steam to the smothering system had not been turned on.

The fixed CO₂ system to the engine room and pump room had not been released.

The rudder was at an approximately 15° to the right position.

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In the after quarters 15 bodies were found. In the starboard passageway of the engineer's quarters, 3 bodies. Chief Engineer's office, 1 body. Third Assistant Engineer's room, 1 body; room forward of Officer's Messroom, 1 body; Messman's room on after deck, 2 bodies; and 2 bodies in the shower room. Quarters on the main deck, recreation room, port side, 1 body; port passageway after end, 1 body; transverse passageway, 1 body; boatswain's room, 1 body; and starboard passageway, 1 body. The bodies were burned beyond recognition and were removed from the vessel by morticians from Malloy and Sons, Galveston, Texas, and placed aboard the tug W. A. BISSO and were taken to the undertaking establishment of Malloy and Sons, Galveston, Texas.

After the ESSO GREENSBORO arrived in Galveston, Texas, an estimated 97,000 barrels of oil cargo remained in the vessel.

The following is a list of the crew of the ESSO SUEZ at the time of the casualty:

Edwin C. Geick, Master, next of kin, wife, Katherine,
20 O'Brien Court, Bayonne, New Jersey.

Walter M. Brehm, Chief Mate, next of kin, wife, Helen,
445 Page Avenue, Lyndhurst, New Jersey.

John M. Brophy, 2nd Mate, next of kin, wife, Ann,
Route 138, Wyoming, Rhode Island.

Jesse A. McLean, 3rd Mate, next of kin, mother, Cora,
Route 1, Box 312, Eldorado, Arkansas.

William J. McClymont, Jr., 3rd Mate, next of kin, mother, Margaret,
2109 3rd Avenue, Spring Lake, New Jersey.

John B. Ireland, Jr., Chief Engineer, next of kin, wife, Carolyn,
4809 S. Dakota Avenue, N.W., Washington, D. C.

Peter C. Kessler, 1st Asst. Engineer, next of kin, wife, Dorothy,
Butler, Maryland.

Daniel J. Sweeney, 2nd Asst. Engineer, next of kin, wife, Lucy,
126 Willow Street, West Acton, Mass.

Edwin C. Sullivan, 3rd Asst. Engineer, next of kin, mother, Diana,
311 King Phillips St., Fall River, Mass.

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Raymond L. McDonald, Jr., 3rd Asst. Engineer, next of kin,
wife, Mildred, 132-4th Street, Chelsea, Mass.

Harvey H. Long, Radio Operator, next of kin, wife, Hazel,
1225 No. Main St., Cape Gerardion, Missouri.

William B. Devine, Jr., Asst. Purser and Pharmacist's Mate,
next of kin, wife, Gloria, 654 Glazobrook St., Corpus Christi,
Texas.

Charles A. Blair, Electrician, next of kin, wife, Caroline,
43 Cedar St., Nutley, New Jersey.

Antonio C. Fernandes, Steward, next of kin, wife, Conida,
344 Purchase St., New Bedford, Mass.

Thomas L. Lenos, Chief Cook, next of kin, niece, Katherine,
Constantoki, Nourdoover 2, Athens, Greece.

Edwin K. Harding, Jr., Boatswain, next of kin, mother, Judith,
138 Central St., Somerville, Mass.

Jesus Pacin, Pumpman, next of kin, cousin, Jose Pardo,
120 Pichard St., New York, New York.

Forest P. Boyles, 2nd Pumpman, next of kin, wife, Helen,
457 W. 57th Street, New York, New York.

Albert P. Foote, AB, next of kin, Mabile,
12 Wolcott St., Malden, Mass.

Clarence L. Day, AB, next of kin, wife, Ann,
1077 Hancock St., Brooklyn, New York.

John A. Horton, AB, next of kin, wife, Edna,
111 Spring St., Cambridge, Mass.

Charles A. Batchelder, AB, next of kin, wife, Florence,
14 Norwood St., Portland, Maine.

Juan C. Lago, AB, next of kin, wife, Antonin,
Muros, Coruna, Spain.

Richard C. Edwards, AB, next of kin, wife, Doris,
3513 McShane Way, Dundalk 22, Maryland.

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Roger C. Ormsby, Deck Maint., next of kin, wife, Anne,
139 North Avenue, Oswego, New York.

George W. Larsen, Deck Maint., next of kin, wife, Ethel,
685 Parker St., Roxbury, Mass.

William E. O'Neil, Deck Maint., next of kin, wife, Daise,
8 School St., Haverhill, Mass.

John S. Baban, Jr., Deck Maint., next of kin, brother, Steve,
88 E. 26th St., Bayonne, New Jersey.

William F. Beaumont, O.S., next of kin, Friend, V. Bordon,
59 Temple St., Nashua, New Hampshire.

Raymond R. Darby, O.S., next of kin, wife, Marjorie,
4050 Devon Drive, Corpus Christi, Texas.

Clement B. Webster, III, O.S., next of kin, mother Adelaide,
50 W. Moreland St., Phoenix, Arizona.

Raymond Richards, Mach., next of kin, mother, Louise,
350 E. 120 St., New York, New York.

Franklin A. Lawson, Oiler, next of kin, father, William H.,
802 Clinton St., Baltimore 24, Maryland.

Albert Guitierrez, Jr., Oiler, next of kin, father, Albert,
12132 No. Martindale Avenue, Detroit, Michigan.

Donald W. Payes, Oiler, next of kin, mother, Hedwig,
167 Prospect Place, Pearl River, New York.

John J. Marciano, Stkpr., next of kin, mother, Anna,
405 E. 155th St., New York, New York.

Edmund A. Larson, F.W.T., next of kin, mother, Annie,
Box 392 Sag Harbor, Long Island, New York.

Harry F. Price, F.W.T., next of kin, wife, Thelrue L.,
Box 135, Pierson, Florida.

Charles G. Freeman, F.W.T., next of kin, wife Phyllis,
71 E. Broshline St., Boston, Mass.

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William H. Perkins, Wiper, next of kin, wife, Hazel,
9400 Avenue J., Houston, Texas.

Manuel J. Canto, Wiper, next of kin, wife, Mathilda,
22 North St., New Bedford, Mass.

William Cuthbert, Jr., Wiper, next of kin, wife, Aileen,
63 Groton Avenue, Cortland, New York.

Antonio J. Fernandes, 2nd Cook, next of kin, mother, Marcia,
Brova, C. V. I.

Curtis L. Thomas, Mess., next of kin, wife, Lillie Mae,
334 Camp Avenue, Norfolk, Va.

John W. Quinn, Mess., next of kin, sister, Anna N. Brown,
12 Monteford Rd., Hull, Mass.

Albert Mucci, Mess., next of kin, wife, Helen,
1736 Lamont Avenue, Baltimore, Md.

Joao A. DeAfonseca, Mess., next of kin, brother, Joseph,
918 Lonsdale Avenue, Central Falls, Rhode Island.

Richard Gardiner, Mess., next of kin, mother, Lois,
2699 Arnboy Rd., Staten Island 6, New York.

Edward L. Mousseau, Jr., Asst. Ps., and Pharmacist's Mate,
next of kin, mother, Mary, 10 Pine St., Pascoag, Rhode Island.

Total complement 49 persons.

The following members of the crew of the ESSO SUEZ lost their
lives from the casualty:

Walter M. Brehm, Chief Mate
Antonio C. Fernandes, Steward.

The following crew members of the ESSO SUEZ received serious
burns from the casualty:

John A. Horton, AB.
Forest E. Boyles, 2nd Pumpman.
Manuel J. Canto, Wiper.

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The following comprised the crew of the ESSO GREENSBORO at the
time of the Casualty:

Cyril C. Eden, Master, next of kin, wife, Phyllis,
1219 Clifton St., Tampa, Fla.

Chester L. Reynolds, Chief Mate, next of kin, wife, Lorette,
336 A. N. 3rd St., Greenville, Illinois.

Ernest Johnson, 2nd Mate, next of kin, son, Ernest,
13 Willoughby Avenue, Brooklyn, New York.

John J. MacKinnon, 3rd Mate, next of kin, mother, Sarah,
55 Closhon St., Boston, Mass.

Skold T. Anderson, Chief Engineer, next of kin, brother, John,
433 7th Avenue, Brooklyn, New York.

Arthur A. Roff, 1st Asst. Engineer, next of kin, wife, Ellen,
P. O. Box 555, St. Cloud, Fla.

John J. Holden, 2nd Asst. Engineer, next of kin, wife, Mary,
634 Elm St., Arlington, New Jersey.

Albert E. Chrobak, 3rd Asst. Engineer, next of kin, mother, Anna,
8 Lots Rd., Sutton, Mass.

Theodore R. Fisher, Radio Operator, Brother, Carroll,
San Mateo, California.

Kenneth E. Slade, Jr., Asst. Purser & Pharmacist's Mate,
next of kin, wife, Mildred, 176 Van Buren Ave., Franklin
Square, New York.

Michael Wajda, Electrician, next of kin, mother Verona,
214 Feton Avenue, Highland Park, New Jersey.

Phillip C. Labor, Steward, next of kin, wife, Mary,
142 Bard Avenue, Lexington, Kentucky.

Edward Theriot, Chief Cook, next of kin, wife, Ernestine,
535 Edgecomb Avenue, New York, N.Y.

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Miguel V. Petriz, Bos'n., next of kin, brother, Manuel,
Salina Cruz, Mexico.

George W. Watson, Pumpman, next of kin, wife, Rita,
203 Wenmissimett St., Chelsea, Mass.

Jimmy L. Ardoin, AB, next of kin, wife, Jaimindius,
807 Waverly St., Houston, Texas.

Wesley G. Clark, AB, next of kin, wife, Helen,
175 Pleasant St., Marblehead, Mass.

Maurice F. Milan, AB, next of kin, wife, Dorothy,
1125 N. Holmes St., Memphis, Tennessee.

Dan W. Hayden, AB, next of kin, mother, Victoria Jones,
1120 Government St., Baton Rouge, La.

Frederick O. McMahon, AB, next of kin, wife, Dorothy,
32 Horaden Lane, Roxbury, Mass.

Mieczslaw Kwasmiewski, AB, next of kin, mother, Alice,
193 Falmon St., Fall River, Mass.

Timothy E. Karkolie, Deck Maint., next of kin, father, Earl,
1154-15th St., San Diego, Calif.

John A. Pirro, Deck Maint., next of kin, mother, Mary Delbose,
44 Walker St., Leominster, Mass.

William K. Yarborough, O.S., next of kin, father, Madison,
2503 Jayner Rd., Durban, North Carolina.

Manuel P. Sousa, O.S., next of kin, father, Henry,
10 Bellflower St., Dorchester, Mass.

James S. Smith, O.S., next of kin, brother, D. Smith,
7221 St. Louis Sts., Houston, Texas.

Robert H. Twiford, Oiler, next of kin, wife, Ruth,
616 Deck St., Wilmington, North Carolina.

Randall J. Berend, Oiler, next of kin, mother, Hilda,
Hermann, Missouri.

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Allen A. Schweitzer, Oiler, next of kin, mother, Faunil,
895 Elmire Place, Bronx, New York.

Leroy E. Fay, Stkp., next of kin, mother, Alice,
1339 S. Elinton St., Baltimore, Md.

Marian M. Franks, F.W.T., next of kin, mother, Mrs. Willie Franks,
801 Harris St., Bryan, Texas.

James E. Huff, F.W.T., next of kin, wife, Sadie,
Aransas Pass, Texas.

John W. Rohm, F.W.T., next of kin, wife, Helen,
Rt. 1, Box 84, Mobile, Alabama.

Edward D. Squire, Wiper, next of kin, brother, John,
29 Albim St., Somerville, Mass.

Addison W. Bentham, Wiper, next of kin, mother, Mrs. David
Bentham, York St., Canton, Mass.

Manuel R. SeSousa, 2nd Cook, next of kin, wife, Louise,
Rt. 2, Nicholson, Pa.

Thomas E. Bonner, Mess., next of kin, sister, Mrs. W. J. Thigpen,
63 Bogrid St., Charleston, S. C.

Ensbey P. Wheaton, Jr., Mess., next of kin, father, Ensbey Sr.,
389 Wilson Blvd., Mineola, Long Island, New York.

John King, Mess., next of kin, brother, Thomas,
General Delivery, Baytown, Texas.

Manuel P. Baptista, U.M., next of kin, father, Casmir,
335 N. 43rd St., New York, New York.

Raymond G. Peterson, U.M., next of kin, wife, Francis,
25 Liberty St., Gloucester, Mass.

Joseph N. Landry, 2nd Pumpman, next of kin, wife, Cecile,
17 Walden St., Jamaica Plain, Mass.

The total complement, 42.

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The following are the only known survivors of the crew of the
ESSO GREENSBORO:

Arthur A. Roff, 1st Assistant Engineer.
Frederick O. McMahon, AB.
Leroy E. Fay, Storekeeper.
John A. Pirro, Deck Maint.
John W. Rohm, F.W.T.

When Fay and Rohm were rescued they were hospitalized at Corpus
Christi, Texas for treatment of burns and observation due to shock
and exposure.

Damage to the ESSO SUEZ:

The Board visited the ESSO SUEZ at Alabama Drydock and Ship-
building Company, Pinto Island Yard, Mobile, Alabama on 23 and 27
April, 1951, and found the following:

The side shell plating and all internal structural members were
severed between the 15 foot waterline and 28 foot waterline from the
stem approximately 40 feet aft on the port side and 65 feet aft on
the starboard side.

The side shell plating along the light loadline port and star-
board side, including some structural members, buckled from intense
heat.

The lifeboats shell plating buckled and twisted from heat and
combustible internal members and equipment destroyed by fire, life-
boat falls burned and davit screws buckled.

The superstructure deck plating and bulkheads on midships and
after house, including pilothouse and chartroom, buckled. All port-
hole glasses to crew quarters and windows and porthole glasses to
pilothouse and chartroom shattered and out.

Crew's quarters in midships and after house damaged from heat
and smoke. All wooden weather doors to crew's quarters destroyed by
fire.

An itemized report of the damage to the ESSO SUEZ from collision
and fire is included as a part of this record and identified as Exhibit
L. The estimated monetary damage to vessel is \$957,600.00.

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Damage to the ESSO GREENSBORO:

An examination of the vessel afloat in Bolivar Roads, Galveston, Texas, was made by the Board and the following conditions were found:

The vessel was out in the way of No. 8 tank for a distance of sixty feet, from main deck to an undetermined depth. The main deck was completely severed for a distance of sixty feet. The No. 8 tanks longitudinal bulkheads were ruptured, the transverse bulkheads to Nos. 7 and 9 port tanks were ruptured and transverse bulkheads to Nos. 7 and 9 center tanks were also affected. All steam and water pipes, fire lines, electric wiring, telemotor lines and communication lines from bridge to engine room were severed in way of collision damage. The main mast was down and lying across the deck.

The side shell plating and main deck plating, plating of superstructure houses fore and aft badly buckled from intense heat. With the exception of Master's quarters, Radio Operator's quarters, Radioroom, Purser's Room, the Chief Mate's quarters, and the Third Mate's quarters in the midship house and the Officer's Messroom aft, all other crew's quarters on the vessel in the midships house and after house were gutted by fire.

The pilothouse and chartroom were also gutted and all combustible materials destroyed, including navigation equipment, log books, and course recorder graph.

The three lifeboats remaining on board, davits, and falls were burnt out, lifeboat plating badly buckled, davits buckled and screws melted and parted. The falls were completely destroyed.

The electric circuits were destroyed where subjected to intense heat.

The estimated monetary damage to vessel is \$2,000,000.00; to the cargo \$75,000.00."

4. The Board made the following Conclusions:

" The ESSO SUEZ encountered dense fog at about 0330 on 20 April, 1951, and did not reduce speed to moderate. A few minutes after 0400 a target was observed on the radar, bearing two points on the starboard bow and 6 miles off, at which time the course was changed from

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284° true to 270° and vessel continued at full speed. A little later (about 5 minutes according to the Master's testimony) this target was observed by radar to be 3 miles off and 4 points on the starboard bow. The course was then changed from 270° to 260°, but the vessel's engine was not stopped or speed reduced.

All deck officers and members of the deck crew of the ESSO GREENSBORO on watch at the time of the collision were lost, hence nothing is definitely known of what transpired on the bridge of this vessel prior to the collision, other than the vessel was running at full speed (approximately 15 m.p.h.) up until the collision occurred, and that there was a change of course to the right sometime shortly before the collision occurred. There was sufficient evidence to indicate that the officer in charge of the navigation of the ESSO GREENSBORO had used his radar between midnight and 0200 on 20 April, and at 0314 the engine telegraph had been put on standby and that fog signals were being sounded by the vessel. The fact that there was a change of course of the ESSO GREENSBORO shortly before (approximately 10 minutes) the collision occurred, would indicate that there was knowledge of a vessel ahead.

It is concluded that both vessels failed to comply with Article 16 of the International Rules when they failed to reduce speed to moderate when fog was first encountered, and failed to stop their engines and navigate with caution until they were past and clear when they had knowledge of another vessel forward of their beam.

The fog was encountered at 0300 and the radar on the ESSO SUEZ had a range of 40 miles. The Master was called and arrived on the bridge about 0335, yet no target was observed on the radar until after 0400, which indicates that an alert radar watch was not kept.

It is further concluded that there was no evidence to establish failure of any equipment or machinery or that the improper functioning of any equipment or machinery in any way contributed to the collision.

The following failures as a result of the fire subsequent to the collision are noteworthy:

The port glasses and window glass on the ESSO SUEZ did shatter and fall out from the fire, while on the other hand, the port glasses on the ESSO GREENSBORO, which no doubt were subjected to much greater heat, although discolored and spiderwebbed, were

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intact. The canvas fire hose on the ESSO SUEZ where subjected to fire did not stand up when working pressure was applied. The electric circuits of the ESSO GREENSBORO were wired with lead and armored cable. Due to the low melting point of lead, it melted and ran off in every place where subjected to heat of 600° or over. The electric circuits on the ESSO SUEZ appeared to be armored Navy standard linen covered cable. These circuits in way of fire were in order and still functioned. The fact that the heat on the ESSO GREENSBORO was no doubt much more intense might be significant in the failure of the electric circuits.

The Manila lifeboat falls on both vessels were destroyed or burned to such an extent by the fire as to be rendered useless.

The crew of the ESSO SUEZ remained calm after the casualty occurred and succeeded in extinguishing the fire on their vessel and bringing it into port. Their action in so doing is commendable.

The crew of the ESSO GREENSBORO had no chance. The entire vessel with the exception of the engine room became a raging inferno almost instantly after the vessels collided and only those men who were up at the time had any chance of survival.

Jesse A. McLean, 3rd Mate, ESSO SUEZ, was in charge of the navigation of that vessel when fog was encountered. He failed to reduce speed to moderate and allowed the vessel to proceed at full speed ahead in dense fog for approximately 5 minutes until the Master arrived on the bridge.

Edwin C. Geick, the Master, arrived on the bridge approximately 5 minutes after being called and allowed the vessel to proceed at full speed in dense fog, and after observing a target on the radar forward of the beam, he not only failed to stop the engine but allowed the vessel to proceed at full speed ahead."

5. The Board expressed the following Opinions:

"That the cause of this casualty can be directly attributed to the failure of both vessels to comply with Article 16 of the International Rules of the Road.

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That although the Board realizes that the use of radar does not relieve the person in charge of a vessel of his obligation to comply with the Rules of the Road, it is the Board's firm opinion that had an alert radar watch been kept by both vessels, and, had the information the radar gave been skillfully evaluated, the officers in charge of the navigation of the vessels would have been in a position to take the necessary action to avoid this casualty.

That the Master of the ESSO SUEZ after fog was encountered navigated his vessel in a haphazard manner, and that proper alert watch was not kept; and that there were indications, although not supported by evidence, that it was the custom to merely put the telegraph on standby and to allow the vessel to proceed at full speed during periods of low visibility.

DISCIPLINARY ACTION

With the approval of the Board, the Master of the ESSO SUEZ, Edwin C. Geick was charged with negligence and accorded a hearing on 27 April, 1951. He was found guilty of this charge and the Examiner revoked his Master's license.

Jesse A. McLean, 3rd Officer, was charged with negligence and accorded a hearing on 27 April, 1951. He was found guilty of this charge and the Examiner suspended his license for a period of three months.

In compliance with Part 136.09-25 of Subchapter K, the U. S. District Attorney was notified by letter dated 23 April, 1951, that a Marine Investigation Board would convene on 24 April, 1951, to investigate this casualty. A representative from his office was not present at the Investigation."

6. The Board made the following Recommendations:

"Inasmuch as the license of Edwin C. Geick, the Master of the ESSO SUEZ was revoked and the license of Jesse A. McLean was suspended for three months, no further disciplinary action is recommended.

That in deck officers' examinations, emphasis should be placed on the fact that radar in no way relieves the navigator of his obligation to comply with the applicable Rules of the Road and to exercise all precautionary measures.

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It is further recommended that serious consideration be given to the following changes in equipment required on tank vessels:

1. The use of fire resistant lifeboat falls.
2. The use of metal fittings as far as possible in lifeboats.
3. Use of wire inserted glass in all ports and windows.
4. Replace canvas covered fire hose with approved fire resistant hose.
5. Replace wooden doors with metal weather doors to crew's quarters, and other weather deck openings to storeroom, etc.
- X 6. Four gas masks for engine room and four for Deck Department, for use in smoke filled areas.
- ✓ 7. First aid kits for engine room and after quarters.
- ✓ 8. Six life preservers to be placed in an easily accessible location in the engine room.
- X 9. That if available, non-combustible paint be used on tank vessels."

REMARKS

7. Conclusion 3 of the Board in effect states that both vessels violated paragraphs 1 and 2 of Article 16 of the statutory International Regulations for Preventing Collisions at Sea (33 USC 92), in that said vessels failed to reduce speed when fog was encountered and thereafter, upon sighting each other forward of each other's beam on their respective radars, failed to stop their engines and navigate with caution until they were past and clear.

8. Paragraphs 1 and 2 of Article 16 of the International Regulations (33 USC 92) provide as follows:

"Every vessel shall, in a fog, mist, falling snow, or heavy rain storms, go at a moderate speed, having careful regard to the existing circumstances and conditions.

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"A steam vessel hearing, apparently forward of her beam, the fog signal of a vessel the position of which is not ascertained shall, so far as the circumstances of the case admit, stop her engines, and then navigate with caution until danger of collision is over."

9. Both vessels were in violation of paragraph 1 of Article 16 when they failed to go at a moderate speed when they encountered fog at approximately 0330 on 20 April, 1951.

10. The ESSO SUEZ having the ESSO GREENSBORO in sight on her radar 6 miles away but not hearing the fog signal of the ESSO GREENSBORO apparently forward of her beam, could not be considered in violation of paragraph 2, Article 16 of the International Regulations by not stopping as this maneuver is only required when the fog signal of another vessel is heard forward of the beam, position of which is not ascertained.

11. As indicated in paragraph 9, both vessels should have been proceeding at a moderate speed at the time they sighted each other on their radars. At this time, although still too far apart for their respective fog signals to be heard and, therefore, not specifically required to stop their engines, both vessels in the exercise of good seamanship were required to be navigated with extreme caution under the circumstances until all danger of collision was over. Both vessels failed in this duty.

12. With respect to the navigation of ships equipped with radar, attention is invited to the statement of the International Conference for the Safety of Life at Sea, held at London from 23 April to 10 June, 1948, which is as follows:

"The Conference, while recognizing that the recent advances in radar and electronic navigational aids are of great service to shipping, is of the opinion that the possession of any such device in no way relieves the master of a ship from his obligation strictly to observe the requirements laid down in the International Regulations for Preventing Collisions at Sea, and in particular, the obligations contained in Articles 15 and 16 of those Regulations."

13. The third opinion of the Board in effect states that, although not supported by evidence, there was indication that it was the custom to merely put the telegraph on standby and allow the vessel to proceed at full speed during periods of low visibility. Such action is in violation of Article 16 of the International Regulations (33 USC 92) which provides that every vessel shall,

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in a fog, mist, falling snow, or heavy rain storms, go at a moderate speed, having careful regard to the existing circumstances and conditions. The necessity for full compliance with this rule as indicated by the tragic results of subject casualty will again be brought to the attention of all those concerned with vessel operation through the Coast Guard's publication "Proceedings of the Merchant Marine Council."

14. The statements of the Board with respect to the disciplinary action against the licenses of the Master and Third Mate on board the ESSO SUEZ are neither approved nor disapproved for the reason that the actions taken against such licenses are subject to appeal in separate proceedings outside the scope of the functions for which the Board was convened. Such statements are interpreted as being informative. Nothing in the Board's report is to be construed, however, as indicating that Jesse A. McLean, Third Mate on board the ESSO SUEZ either caused or contributed to the cause or was in any way responsible for the subject collision.

15. The recommendations of the Board will be considered by the Merchant Marine Council for adoption and inclusion in the rules and regulations for Tank Vessels.

16. The record of investigation of subject casualty contains evidence of criminal liability on the part of Edwin C. Geick, Master of the ESSO SUEZ. Accordingly, a duplicate copy of such record shall be referred to the Attorney General of the United States as required by the provisions of the Act of 28 February, 1871, as amended. (46 USC 239 (h)).

17. Subject to the foregoing remarks, it is recommended that the Findings of Fact, Conclusions, Opinions and Recommendations of the Marine Board of Investigation be approved.

P. A. Ovenden

P. A. OVENDEN
Acting