

## UNITED STATES COAST GUARD

MVI

19 March, 1952

(CHARLES A. KEFFER - a-3 Ed)

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

Subj: Marine Board of Investigation; SS CHARLES A. KEFFER - flash fire  
in deep tanks, Philadelphia, 10 September 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 and Recommendations, has been reviewed and is forwarded herewith.

2. The SS CHARLES A. KEFFER, a dry cargo Liberty type vessel of 7,254 GT, built in 1944, was withdrawn from the laid-up fleet, and on 10 September 1951, was moored at the Pennsylvania Shipbuilding and Drydock Company, Port Richmond, Philadelphia for reconditioning. At about 1700 on this date four shipyard workers were engaged in spray painting the deep tanks in No. 1 lower hold. So far as ascertainable the paint vapor was ignited by a nonexplosion-proof portable extension light which resulted in a flash fire and caused the death of two shipyard workers and injuries to the other two shipyard workers engaged in spray painting such spaces.

3. The Board made the following Findings of Fact:

"1. The SS CHARLES A. KEFFER suffered slight structural damage as a result of an explosion which occurred on 10 September, 1951, while the vessel was moored at the Pennsylvania Shipbuilding and Drydock Company, Port Richmond, Philadelphia. Four shipyard personnel, working at the scene of the explosion suffered severe burns and two of them died shortly after as a result.

"2. The CHARLES A. KEFFER, Official No. 246093, is a dry cargo, steam propelled vessel of 7,254 gross tons, 422.8' x 57' x 34.8', built at Savannah, Georgia in 1944 and is the type of vessel commonly known as a "Liberty". At the time of the explosion,

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the KEFFER was undergoing repairs to prepare her for active operation, and this work was being carried out by the shipyard for the owner, the U. S. Maritime Administration, under the general supervision of Mr. M. J. Ford, Maritime Administration Surveyor. A night mate and engineer were on board at the time.

"3. The fatally injured were:

Vincent P. McGuire, Age 25, 6122 Lensen St., Phila., Pa.  
Harry Rebl, Age 21, 79 E. Duval St., Phila., Pa.

Those injured, but expected to recover:

George Ackley, Age 22, 623 E. Thompson St., Phila., Pa.  
Ulysses E. Sapp, Age 30, 1933 W. Diamond St., Phila., Pa.

"4. The KEFFER arrived in Philadelphia for repairs after being laid up for some considerable time, and the contract for the work had been awarded to the Pennsylvania Shipbuilding and Drydock Company, Richmond and Norris Streets, Port Richmond, Philadelphia, Pa. She was not certificated and was undergoing annual inspection at the time. A skeleton crew consisting of a master, two mates, chief engineer and two assistant engineers had been assigned to the vessel by the Maritime Administration, but their duties consisted essentially of husbanding and they had no supervisory powers over any of the repair work. On the night of September 10th, all of these officers were ashore, having been relieved by a night mate, Norbert Johnson, 1105 E. Montgomery Avenue, Philadelphia, Pa. and a night engineer, George Krupiak, 1415 Adams Avenue, Philadelphia, Pa. Neither of these officers were in the vicinity of the explosion and consequently had little direct knowledge of the circumstances.

"5. Not included in the contracted repairs was the painting of the deep tanks and the KEFFER has four in No. 1 lower hold with access afforded by manholes, the covers of which had been removed and were not on board at the time. But due to a shipyard error this work was undertaken and the four men were assigned to the job. McGuire, Rebl, Ackley and Sapp, the four assigned commenced work on the second shift at about 1630, the first two in No. 1

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and the other two in No. 2 port deep tank. Their working gear consisted of paint and spray tools; the lights had been rigged prior to their arrival and were in place at the time. At about 1700 Ackley and Sapp exhausted their supply of paint and both left the tank where they were working to obtain more from the supply tank in No. 1 lower 'tween deck. They heard McGuire tell Rebl in the other tank, that he would finish the No. 1 port and Ackley testified that he assumed this conversation to mean that the painting was completed except for the space behind the ladder. At this point Rebl was standing on the port side of No. 1 lower 'tween deck alongside Ackley; Sapp was out of the tank, near the manhole assisting McGuire to remove gear. A loud hissing noise, like escaping air, was heard and someone shouted, "Fire!" as the entire space where these men were, burst into flames. Ackley tried to get out by the forward ladder, but found the hatch blocked by hatch covers; he turned to the after ladder and managed to reach the deck but was severely burnt on the face and hands. None of the others reached the deck and were removed by a rescue squad. The fire extinguished itself after burning about two minutes. McGuire and Rebl succumbed that night, Sapp and Ackley lived, but each required long hospitalization."

4. The Board made the following Conclusions:

"1. It is considered that this casualty was caused by a vapor explosion which started in No. 1 port deep tank. It is further considered that the paint laden atmosphere was ignited by a portable extension light which was found in the tank after the explosion, and which was identified during the investigation. From its condition, it is deduced that lacking a vapor globe, the bulb was in some manner broken and the resultant flash supplied the necessary ignition.

"2. No evidence was adduced to indicate negligence or misconduct on the part of the licensed personnel involved. The night mate and engineer had very little knowledge of the shipyard work then underway and paid little attention to it, and as stated before the other licensed personnel had been regularly relieved and were not present.

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"3. One witness, Ulysses E. Sapp, 1933 W. Diamond St., Philadelphia, Pa. was not available for the investigation and due to the severity of his injuries, it was deemed inadvisable to question him. The board was advised that his recovery was not only uncertain, but would be a matter of many months. Inasmuch as it was considered that his testimony could not add to what had been adduced from other witnesses and his availability was so uncertain this report is forwarded without his testimony."

5. The Board made the following Recommendations:

"1. Since there was no apparent evidence of negligence of misconduct as defined under R.S. 4450, (46 U.S.C. 239), and since there was no mechanical failure of any Coast Guard approved equipment, it is recommended that no further action be taken and the case closed."

#### REMARKS

6. Following a similar casualty, a comprehensive article was published in the Coast Guard publication "Proceedings of the Merchant Marine Council" in April 1950 with respect to safety in painting interiors of vessels for the guidance of all concerned. The content of this article was apparently disregarded as evidenced by the sub-standard safety procedures with respect to the interior vessel painting on board the CHARLES A. KEFFER at the time subject casualty occurred. An amended article with respect to interior vessel painting will again be prepared and published in the Coast Guard publication "Proceedings of the Merchant Marine Council" for the guidance of those concerned, in the interest of raising the standard of safety in interior vessel painting.

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

/s/ P. A. OVENDEN  
P. A. OVENDEN

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24 March, 1952

From: Chief, Office of Merchant Marine Safety  
To: Commandant

Forwarded, recommending approval.

/s/ H. C. SHEPHEARD  
H. C. SHEPHEARD

APPROVED MAR 25 1952

/s/ A. C. RICHMOND  
A. C. RICHMOND  
Rear Admiral, U. S. Coast Guard  
Acting Commandant