

1. The crew's inability to maneuver the ship which was the result of damaged boilers and inoperable feed pumps.
2. Limitation of the engineering plant design, which did not provide for filling and testing a boiler when both boilers were secured.
3. Errors in operating and maintenance procedures committed by the crew because of lack of competence and proper supervision.
4. The deck officers' inability to plot the vessel's position and to determine its set and drift.
5. Failure by the ship's officers to report the malfunction of the boilers, feed pumps, and ship's service generator to the Coast Guard while the ship was in Manila.

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M-73-7-9 <sup>thru</sup>

RECOMMENDATIONS

The National Transportation Safety Board concurs in the Commandant's decision that the Coast Guard should conduct a research and development study of the efficacy of its inspection techniques, particularly those directed towards older vessels.

The Safety Board recommends that:

M-73-7

1. The Coast Guard study the need, based on frequency of simultaneous boiler failure, for all steam vessels certificated for ocean service to have a means of filling and hydrostatically testing the propulsion boilers with an electrically driven pump that can be powered from the emergency generator. (Recommendation No. M-73-7)

M-73-8

2. The Coast Guard publicize to the merchant marine industry, the importance of the requirement in the U.S. Code, Title 46, Section 234, that all licensed officers must notify the Coast Guard of all significant hull, machinery, boiler, or equipment failures for any vessel on which such licensed officers sail. (Recommendation No. M-73-8)

M-73-9

3. The Coast Guard consider the feasibility of requiring all U.S. ships on an ocean voyage to have on board long-range, electronic navigation capability. (Recommendation No. M-73-9)

MAR-73-1

BY THE NATIONAL TRANSPORTATION SAFETY BOARD:

Adopted this 29th day of August 1973:

Francis H. McAdams  
Francis H. McAdams, Member

Louis M. Thayer  
Louis M. Thayer, Member

Isabel A. Burgess  
Isabel A. Burgess, Member

William R. Haley  
William R. Haley, Member

John H. Reed, Chairman, was not present and did not participate in the adoption of this report.