

109# M-329A



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

**Date:** August 21, 1987

**In reply refer to:** M-87-38

Mr. Richard T. Soper  
President  
American Bureau of Shipping  
45 Eisenhower Drive  
Paramus, New Jersey 07653-0910

About 1030 on October 28, 1986, explosions and fires occurred in the engineroom and starboard fuel oil tanks of the 811-foot-long U.S. tankship OMI YUKON which was en route from Hawaii to South Korea for scheduled vessel repairs and biennial inspection by the U.S. Coast Guard. At the time of the explosions, the tankship was located in the Pacific Ocean about 1,000 miles west of Honolulu, Hawaii, and was not carrying any cargo. There were 24 crewmembers, 2 U.S. welders, and 11 Japanese workers employed in cleaning the cargo tanks aboard the vessel. Four persons were killed; the other 33 persons safely abandoned the vessel and were later rescued by a Japanese fishing vessel. The estimated damage to the OMI YUKON was \$40 million. The vessel was towed to Japan and sold for scrap. 1/

Before the explosions, the OMI YUKON had undergone the required Coast Guard inspections and American Bureau of Shipping (ABS) surveys for classification. The inspections and surveys covered examination of the tankship's six fuel oil tank vents including the tank vent that was found without a flame screen after the explosions. The last Coast Guard inspection of the tank vents was on December 20, 1985. The last ABS survey was during August and September 1986. Records and witness statements indicate that the Coast Guard inspectors and ABS surveyors reported examinations of the fuel oil tank vents following their respective boardings of the OMI YUKON, and that the vents were in satisfactory condition at the conclusion of the inspections and surveys.

The Coast Guard inspectors, the ABS surveyors, and the crew of the OMI YUKON each had a unique responsibility in the inspection process. The Coast Guard inspector was responsible for enforcing Coast Guard regulations regarding the safe operation of the tankship. The ABS surveyor was responsible for confirming that the vessel was being maintained in accordance with ABS standards. OMI Corporation (OMI) paid ABS for the surveys, and in turn, OMI was kept informed of the level of maintenance of their vessels to meet insurance and other requirements. The responsibility for inspections on the part of the crew was primarily to assess maintenance needs.

The specific tasks of Coast Guard inspectors within their responsibilities for fuel oil vents are to identify all vents for fuel oil tanks on the vessel, and to examine either a sample of one or more of the vents or to examine all vents to determine compliance with

1/ For more detailed information, read Marine Accident Report—"Explosions and Fires Aboard U.S. Tankship OMI YUKON in the Pacific Ocean about 1,000 Miles West of Honolulu, Hawaii, on October 28, 1986" (NTSB/MAR-87/06).

the standards in Coast Guard regulations. The tasks for ABS surveyors are similar to those of Coast Guard inspectors. Information for inspection schedules and procedures by the crew of the OMI YUKON were provided in various sources including machinery and equipment manuals, directives from OMI management, and the experience and training of the individual crewmembers. However, the inspection and replacement of flame screens was not contained in any periodic maintenance program, but was expected to be accomplished during normal periodic maintenance. Engineering crewmembers normally only inspected the fuel oil tank vent flame screens when they became fouled from dirt adhering to the drying residue from oily vapor on the mesh.

Coast Guard inspectors and ABS surveyors have several sources of information for obtaining the identification of all vents on a vessel before their examination. These sources include experience with similar vessels, knowledge of the particular vessel from previous inspections or surveys, labeling of the vents, and guidance from crewmembers. In the case of the OMI YUKON, the absence of labeling on any of the fuel oil vents and the unusual provision for two expansion trunks and two vents on each storage tank indicated the special need for identification. None of the vents were labeled, and it is not known if the after expansion trunks for the fuel oil storage tanks were labeled for fuel oil. After the explosions and fires, National Transportation Safety Board investigators found that the after trunks for the OMI YUKON fuel oil storage tanks were labeled as ballast tanks rather than fuel oil tanks. Testimony by crewmembers indicated that the labels were painted. Whether the trunks was properly labeled or not, there was a need for the after vents to be labeled so that they would not be mistaken for ballast tank vents (located a few feet aft of the after vents on the fuel oil storage tank) which do not require flame screens.

Therefore, as a result of its investigation, the National Transportation Safety Board recommended that the American Bureau of Shipping:

Require that the fuel oil tank vents on all vessels be appropriately labeled. (Class II, Priority Action) (M-87-38)

Also, as a result of its investigation, the Safety Board issued Safety Recommendations M-87-28 through -37 to the U.S. Coast Guard, M-87-39 through -46 to the OMI Corporation, M-87-47 and -48 to the Hawaiian Independent Refinery, Inc., M-87-49 to Caleb Brett U.S.A., Inc., M-87-50 to the American Petroleum Institute, and M-87-51 to the Federal Aviation Administration.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility ". . . to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter. Please refer to Safety Recommendation M-87-38.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER, NALL, and KOLSTAD, Members, concurred in this recommendation.

By:   
Jim Burnett  
Chairman