



NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C. 20594

Safety Recommendation

Date: JAN 17 1995

In Reply Refer To: M-94-49 and -50

Mr. Jack Goldstein
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About 2000 on October 9, 1993, an explosion occurred on board the 660-foot-long U.S. tankship OMI CHARGER, which was anchored near Galveston, Texas. A welder, who was making repairs to stop a small leak in the bulkhead between the port ballast and No. 5 port cargo tanks, burned through the bulkhead, initiating an explosion in the No. 5 port cargo tank, which the ship's crew had not properly gas-freed. The welder and the firewatch, both of whom were inside the ballast tank, and the vessel's pumpman, who was working on deck near the No. 5 port cargo tank, were killed by the explosion. The vessel, valued at \$12 million, was declared a constructive total loss.¹

In its investigation of this accident, the National Transportation Safety Board determined that the actions of the master, who was the company's on-board management representative, in suggesting, supporting, and directing unsafe procedures for tank cleaning and hot work preparation were causal to the accident. Further, the Safety Board found that the lack of a corporate oversight program, which allowed conditions to develop that were dangerous and ultimately catastrophic to the vessel and its crew, was causal in this case.

The Safety Board reviewed the safety management system of OMI Bulk Management Company (OMI), a division of OMI Corporation, to determine the adequacy of the company's

¹For more detailed information, read Marine Accident Report—*Explosion and Fire On Board the U.S. Tankship OMI CHARGER at Galveston, Texas, October 9, 1993* (NTSB/MAR-94/04).

safety management and oversight as it applied to this accident. OMI has adequate, clear, understandable, and up-to-date written procedures for tank entry, cleaning, purging, atmosphere testing, gas-freeing, and hot work in the company's *Fleet Standing Orders* manual on board the tankship. Had personnel aboard the OMI CHARGER adhered to these procedures, this accident might have been prevented.

Although OMI's *Fleet Standing Orders* state that "proper management of the vessel is the sole responsibility of the Master," the Safety Board believes that corporate management cannot entirely assign away its responsibilities to a vessel's master. While the master can usually be expected to ensure that company directives and policies are adhered to aboard a vessel, exigencies do occur that lead a master to employ procedures not endorsed by management. Corporate oversight is essential to prevent unsafe or illegal methods from becoming accepted practice. In this case, management oversight did not detect that the OMI CHARGER's master had adopted an unauthorized, ineffective procedure for cleaning tanks.

The Safety Board found that while the OMI CHARGER crew had conducted numerous welding repairs in the past 3 years, not one hot work permit had been maintained in the company's files. These omissions should have led management to review its oversight procedures and take action. Whether its tanker officers were following proper tank cleaning and testing procedures should have been areas of concern to OMI management. The Safety Board found no evidence that OMI management had made any effort to monitor these operations on the vessel. OMI's shoreside management representative, the port engineer, who was aware that the master planned to overflow the No. 5 port and starboard cargo tanks to flush residue from them, made no effort to prevent him from doing so. The port engineer in effect granted management's tacit approval to use the overflowing procedure to clean the tanks.

Numerous reports were on file with the company from the vessel's officers, charterers, classification societies, the Coast Guard, and others. They all related to the OMI CHARGER's material condition, not to operational safety and practices. Nor were these reports directed to a corporate official specifically responsible for vessel safety. The Safety Board believes that effective management oversight should extend to operational safety practices.

Effective management oversight of vessel operations could have prevented conditions conducive to an accident from developing on board the OMI CHARGER. Given the current state of communications technology, no matter how many thousands of miles separate them, a company and its ships can readily communicate information about activities affecting vessel safety, such as proposed hot work or tank gas freeing, via the vessels' radiophone, satellite telephone, and telefacsimile machine.

An effective oversight program can ensure safe tankship operations by using shore-based personnel to audit each vessel's operations regularly. Essential to the success of such a program is the systematic examination of each vessel's operational system, procedures, certificates, and documentation, as well as an evaluation of crewmembers' training and experience. Once the organization's processes and procedures are documented, understood, and evaluated, an auditing program that includes frequent visits to the vessel can be developed and implemented.

The Safety Board believes that OMI should implement operational safety policies and procedures, managed and evaluated by company officials, that include an auditing program with verifiable feedback. A uniform, companywide safety management system to identify, mitigate, control, or eliminate operational safety risks would significantly improve OMI's management of each vessel's safety.

In reviewing the events following the accident, the Safety Board noted that OMI did not give sufficiently high priority to ensuring that crew personnel provided timely samples for drug and alcohol analysis. OMI initiated toxicological sampling many hours after the accident only after being reminded of the testing requirement by the Coast Guard investigator.

To determine whether drugs and alcohol caused or contributed to an accident, toxicological sampling must take place soon afterwards. Because alcohol and, to a lesser degree, drugs are quickly eliminated from the body (generally at a rate of 0.015 to 0.018 percent of alcohol per hour), delays in obtaining samples hinder assessment of the effect of alcohol or drugs on an individual's performance. The Safety Board believes OMI should speed the collection of samples by predesignating a company representative whose primary responsibility in the event of an accident is to initiate and ensure completion of postaccident toxicological specimen collection as soon as possible.

Therefore, the National Transportation Safety Board recommends that OMI Bulk Management Company:


Implement an auditing program to ensure that corporate policy and guidance related to critical safety functions, including tank cleaning, tank testing, and tank entry, are followed aboard company vessels. (Class II, Priority Action) (M-94-49)

Develop a postaccident toxicological testing policy and procedures that include prearrangements designed to enhance collection of samples as soon as practicable following the occurrence of a serious marine incident. (Class II, Priority Action) (M-94-50)

Also, the Safety Board issued Safety Recommendations M-94-46 through -48 to the U. S. Coast Guard; M-94-51 to the National Fire Protection Association; and M-94-52 to the Texas Department of Public Safety. If you need additional information, you may call (202) 382-6860.

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 interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations M-95-49 and -50 in your reply.

Chairman HALL and Members LAUBER and HAMMERSCHMIDT concurred in these recommendations.

By: 
Jim Hall
Chairman