



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: September 18, 1990

In reply refer to: M-90-50 through -52

Governor Steve Cowper
P.O. Box A
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About 0009, on March 24, 1989, the U.S. tankship EXXON VALDEZ, loaded with about 1,263,000 barrels of crude oil, grounded on Bligh Reef in Prince William Sound, near Valdez, Alaska. At the time of the grounding, the vessel was under the navigational control of the third mate. There were no injuries, but about 258,000 barrels of cargo were spilled when eight cargo tanks ruptured, resulting in catastrophic damage to the environment. Damage to the vessel was estimated at \$25 million, the cost of the lost cargo was estimated at \$3.4 million, and the cost of the cleanup of the spilled oil during 1989 was about \$1.85 billion.¹

At the time of the accident, the Alyeska Terminal's contingency barge was not loaded with oil spill response equipment as had been the Terminal's practice in the past and the expectation of the Alaska Department of Environmental Conservation (ADEC). However, the Alyeska Contingency Plan, which had been approved by ADEC, did not specify that response equipment had to be kept on board the barge at all times. The barge had been used in response to a pollution incident in early January 1989, and its equipment had been offloaded so that it and the barge could be cleaned. The barge had also been damaged above the waterline during a storm in February 1989, and reloading of the response equipment had been delayed to allow for repairs. Alyeska had not thought it necessary to inform the ADEC that the barge was not loaded with equipment because the barge could still be loaded and used in an emergency.

ARCO Marine had conducted a simulated oil spill drill in 1988, during which ARCO relieved Alyeska. The Coast Guard, ADEC, and local government officials participated in the drill. ARCO was the only company that had a State-approved plan that included procedures for relieving Alyeska of cleanup responsibilities. As a result of this drill, the On-Scene Coordinator (OSC) apparently assumed that Alyeska and Exxon would follow similar procedures. Alyeska and Exxon did not have any State-approved procedures for relieving Alyeska of cleanup responsibilities, probably

¹For more detailed information, read Marine Accident Report--"Grounding of the U.S. Tankship EXXON VALDEZ on Bligh Reef, Prince William Sound Near Valdez, Alaska, March 24, 1989" (NTSB/MAR-90/04).

because Alaska had not required any such procedures. Exxon had submitted proposed oil spill cleanup plans on two previous occasions, but the State had returned the plans to Exxon because, according to the State, they were not required. Alyeska stated that it had an understanding with Exxon that Exxon would assume cleanup responsibilities for a major spill, but the understanding was not written into Alyeska procedures. Exxon announced soon after it was advised of the spill that it would assume cleanup responsibility, supporting the contention that such an arrangement had existed with Alyeska. After Exxon received notice of the spill, the president of Exxon Shipping Company activated the Exxon-wide spill response teams, and he and his staff proceeded to Valdez to take over the cleanup responsibilities from Alyeska. They arrived on the afternoon of the accident day, but they did not relieve Alyeska immediately, although Exxon was taking action to assume responsibility for the cleanup. Companies shipping oil from the Alyeska Terminal at Valdez should amend their individual plans to include procedures for assuming cleanup responsibility for major oil spills from Alyeska and have the individual plans approved by the State. It is possible that some companies may not be fully capable of assuming responsibility quickly. Each company's response capability and procedures should be listed in the Alyeska contingency plan. Following State approval of a company's plan, it should be included in the Alyeska contingency plan for Prince William Sound.

The lessons learned as a result of this accident should be incorporated into the Alyeska and individual company contingency plans and drill activities. The plans should include recommended response times for cleanup personnel to report to their stations and for equipment delivery to the cleanup scene. To make this contingency planning meaningful, drills should be conducted with each company that loads oil at the Terminal on a periodic schedule, comparisons of its performance with the plan should be made, and the plan revised, as appropriate. Such drills should always involve an estimate of the amount of oil that can be removed from the water with the equipment on hand within specified time frames.

Because every spill is different in size and location, a variety of cleanup equipment is required. Equipment stored on one barge may be adequate for a small spill, while larger spills may require additional equipment that must be loaded on two or more barges. An accident may also necessitate the use of lightering equipment, as was the case in this spill. To save time in gathering and loading response equipment and to allow cleanup supervisors to use their time for other activities, such equipment should be preloaded on barges and ready for deployment. Thus, Alyeska should be prepared beforehand with barges loaded with different levels of cleanup equipment so that the response to an accident is not delayed by the need to load or unload equipment.

The company contracted by Alyeska needed more than 3 hours to prepare a helicopter with a 300-gallon spray bucket to conduct a dispersant test application, which was done about 18 hours after the spill was reported. Air-deliverable dispersant system (ADDS) packs for fixed-wing aircraft were not available in Valdez and had to be ordered from storage sites in Alaska and the continental United States. The Alyeska plan states that aircraft

capable of applying dispersants are to be available in 9 to 17 hours. However, the aircraft and ADDS packs were not available for use during the first 24 hours after the spill occurred. If dispersants are to be used on an oil spill, especially in such a remote area as Valdez, the delivery system must be readily available and stored on or near the Terminal. The Safety Board believes that if dispersants continue to be regarded as an oil spill response option, ADDS packs and other dispersant application equipment should be stored in Valdez and ready for immediate use and that appropriate aircraft or vessels should be available on short notice.

During the first 24 hours after the spill, Exxon applied to the Regional Response Team (RRT) to conduct in-situ burning of the spilled oil. The RRT recommended approval if the OSC was satisfied that the burning could be done without degrading other cleanup efforts. In addition, the State had to issue a burn permit. "Approval to open burn" was issued by the ADEC on the same day, March 24, but the permit was not sent to Exxon until the next day. Even though the permit was not received until the next day, neither Alyeska nor Exxon was prepared to burn oil on the first day of the spill because neither one had a fire- or burn-proof boom on hand. The boom had to be shipped in from the North Slope and Seattle. Had the boom been immediately available and a burn permit issued earlier, this method of cleanup could have been used on heavy concentrations of oil before the wind and currents spread the oil so far that effective containment was not possible.

Therefore, the National Transportation Safety Board recommends that the State of Alaska:

Require that the oil spill contingency barge or barges at the Alyeska Pipeline Service Company Terminal at Valdez be loaded at all times with the response equipment specified in the plan. If a barge is unloaded and unavailable for immediate deployment, require that a replacement barge be provided and loaded with the equipment specified in the plan. (Class II, Priority Action) (M-90-50)

Require that the companies loading oil at the Alyeska Pipeline Service Company Terminal in Valdez provide a plan for assuming cleanup responsibility from Alyeska Pipeline Service Company in the event of a major oil spill or potential major oil spill of more than 100,000 gallons. (Class II, Priority Action) (M-90-51)

Develop and require minimum levels of mechanical oil spill cleanup equipment, fire- or burn-proof boom, air-deployable dispersant system packs, and other dispersant application equipment to be stockpiled and immediately available at the Alyeska Pipeline Service Company's Valdez Terminal. (Class II, Priority Action) (M-90-52)

Also, the Safety Board issued Safety Recommendations M-90-26 through -31 to the Exxon Shipping Company and all companies operating in Prince William Sound; M-90-32 through -43 to the U.S. Coast Guard; M-90-44 through -47 to the Environmental Protection Agency; M-90-48 and 49 to the Alaska Regional Response Team; M-90-53 through -58 to the Alyeska Pipeline Service Company; and M-89-59 to the U.S. Geological Survey. The Safety Board also reiterated Safety Recommendation M-88-1 to the U.S. Coast Guard and Safety Recommendations I-89-1 through -12 to the Department of Transportation.

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 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-90-50 through -52 in your reply.

KOLSTAD, Chairman, COUGHLIN, Vice Chairman, and LAUBER and BURNETT, Members, concurred in these recommendations.


By. James L. Kolstad
Chairman