NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

Log M-249

ISSUED: September 7, 1984

Forwarded to:

Admiral James S. Gracey
Commandant
U.S. Coast Guard
Washington, D.C. 20593

SAFETY RECOMMENDATION(S)

M-84-30

About 1235 on July 30, 1984, the 689-foot United Kingdom tankship ALVENUS ran aground in the Calcasieu Ship Channel about 11 nautical miles south of Cameron, Louisiana. The vessel's hull cracked circumferentially in the vicinity of forward cargo tanks Nos. 2 port, 2 starboard and 2 centerline and released about 10,000 tons of crude oil. There were no injuries or deaths as a result of the accident but about 3,000 tons of oil washed ashore along the Texas shoreline. The estimated cost of cleaning up the oil and damage to waterfront property is $20 million.

The crew of the ALVENUS stated that the tankship's maximum draft in salt water at the time of the accident was 39 feet 4 inches. The Louisiana State pilot aboard the ALVENUS at the time of the accident stated that the Calcasieu Ship Channel had a project depth of 40 feet at mean low water and was maintained by the U.S. Army Corps of Engineers at a depth of 42 feet. He also stated that the tide was 2 1/2 feet above mean low water at the time of the accident. Both the pilot and crewmembers stated that the accident occurred while the tankship was proceeding in the middle of the channel with no other traffic to interfere with its passage.

The pilot boarded the ALVENUS about 1145 at the sea buoy and the tankship proceeded in the channel at about 95 rpm (12.5 kns at sea) or 10 rpm above full maneuvering speed. The pilot stated the tankship was actually making about 10 knots. The reduced speed was probably due to the resistance produced by the small clearance between the tankship's bottom and the channel bottom. The ALVENUS was also probably experiencing squat (sinkage and trim). As a vessel increases speed, it will sink deeper in the water. This is caused in part by the increase in relative velocity of the water as it flows under the vessel, and in part by the interaction of the bow and stern wave systems. Depending on the hull form, a vessel may trim by the bow or by the stern. This sinkage and trim is increased in shallow water where the proximity of the bottom causes increased relative velocity as the water flows under the vessel and the waves are more pronounced.

The ALVENUS proceeded in the channel without incident until it came abeam of channel buoys 19 and 20 about 1235. The tankship then smoothly but quickly decelerated as it grounded. The second mate on watch noticed oil spurting out of the No. 2 tanks, stopped the engine, and actuated the emergency alarm. The master ordered the electrical power shut off and a foam blanket be spread on the deck to prevent any fires or explosions. As the oil flowed out of the ALVENUS, its bow rose and the tankship drifted northwesterly coming to rest about 1 nmi northwest of buoy 19 in the spoils area where dredged material from the channel is dumped.

Records of the Calcasieu Pilot Association show that out of the 60 large vessels navigating the Calcasieu Ship Channel during July 1984, only three vessels had maximum drafts near the ALVENUS draft of 39 feet 4 inches. All three vessels were safely navigated through the channel. Therefore, the grounding of the ALVENUS was probably a combination of the tankship's bottom clearance, speed, and hull form. The U.S. Coast Guard, in consultation with the U.S. Army Corps of Engineers and the Calcasieu Ship Channel pilots, should take immediate action to limit the draft and speed of deep draft vessels navigating through the Calcasieu Ship Channel.

Therefore, the National Transportation Safety Board recommends that the U.S. Coast Guard:

> Set immediately maximum draft and speed requirements for deep draft vessels navigating the Calcasieu Ship Channel. (Class I, Urgent Action) (M-84-30)

BURNETT, Chairman, and GOLDMAN, Vice Chairman, concurred in this recommendation. GROSE, Member, dissented and BURSLEY, Member, did not participate.

By: Jim Burnett
Chairman