Log M-203

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: October 19, 1982

Forwarded to:

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

SAFETY RECOMMENDATION(S)

M-82-41

On April 26, 1980, the M/V CITATION with its two-barge tow was southbound on the Intracoastal Waterway, Morgan City to Port Allen Alternate Route, en route to Lake Charles, Louisiana. The AMOCO 11 was the lead barge of the integrated tow, the S2017 was secured behind the AMOCO 11, and the 850-hp CITATION was pushing at the stern of the S2017. The AMOCO 11 and the S2017 were carrying 16,000 barrels and 18,000 barrels, respectively, of crude oil.

About 0300 on April 27, 1980, when the CITATION was near Drews Pass approaching the Atchafalaya River, the relief operator radioed the Berwick Bay Vessel Traffic Center (VTC) and made the required report. The VTC replied that the CITATION could proceed southbound. About 0310, when the tow was in the Atchafalaya River about 1 mile north of the Long Allen bridge, the CITATION met the northbound M/V VENTURE I port to port. The VENTURE I was pushing a four-barge tow at approximately 1/2 mile per hour over the ground near the east bank of the river. Regarding the meeting with the VENTURE I, the CITATION's relief operator said, "This forced me to go too far to the west and caused me to get out of alignment [position] for making the bridges below. I tried to bring my tow back into position. My engines were at approximately half throttle." As the relief operator attempted to realign the tow for the passage under the bridges, he noticed that the tow was becoming "out-of-shape," a condition in which the tow rotates and slides sideways with the current. The head of the tow was swinging toward the east, and the CITATION was sliding toward the west. The relief operator said that, as the tow neared Conrad Shipyard (about 3/4 mile north of the Long Allen bridge), he placed the engines at full ahead and the rudders at hard starboard in an attempt to correct the out-of-shape condition by driving the tow forward and swinging the head of the tow to the west, but the tow continued to slide sideways down the river. When the tow was about one towlength away from the Long Allen bridge, the relief operator placed the engines at half ahead, woke the operator, and said, "I'm sliding bad."

The operator saw that the tow was sliding sideways toward the western pier of the Long Allen bridge. He placed the engines at full ahead and maintained the rudders at hard starboard. The tow slid sideways under the Long Allen bridge with the stern of the CITATION missing the western bridge pier by about 3 feet. The operator recognized that the tow would slide under the new highway bridge but would not successfully pass under the 1/4-mile-distant Southern Pacific Railroad bridge, so he placed the engines at full astern and sounded the danger signal.

About 0320 with the tow still sliding sideways, the bow of the AMOCO 11 struck a support piling of the eastern part of the railroad bridge. The piling and the adjoining support structure were damaged, and two sections of railroad track were destroyed. The starboard stern of the S2017 struck the protective dolphin near the eastern side of the railroad bridge lift span, but only minor damage resulted. The cables at the port bow of the CITATION broke, and the towboat swung around and struck the S2017. The CITATION's starboard side, including some handrails and doors, was damaged.

During the high water season from January to June, the strong southbound current in the Atchafalaya River near Berwick Bay reduces the margin for operator error. A successful southbound passage is greatly dependent on properly negotiating the bend in the river from Drews Pass to Conrad Shipyard because the tow must be properly aligned for the bridge passage shortly after passing Conrad Shipyard. Although the speed of the current near Conrad Shipyard increases with distance off the east bank, the speed gradient is not so great that a southbound tow cannot safely meet a northbound tow just north of Conrad Shipyard near the east bank and then become properly aligned for the bridge passage after passing the shipyard. On the day of the accident, the river stage was about 5 feet above mean sea level and the current had been measured at approximately 3.9 miles per hour under the railroad bridge. Although the current was typically strong, the relief operator should have been able to properly align the tow for the bridge passage when the tow was near Conrad Shipyard.

The tow was not aligned for the passage and was out-of-shape when the relief operator woke the operator. Because of the short distance to the railroad bridge, the strong current, and the tow's low horsepower-to-length ratio of about 1.7, it is doubtful that the operator could have properly aligned the tow for the passage under the railroad bridge when he took control of the tow near the Long Allen bridge. Between 1946 and 1978, the Southern Pacific Railroad bridge or its protective structures were struck by vessels 534 times. The Safety Board previously noted that the accident history at Berwick Bay indicates a rational basis for requiring a minimum horsepower-to-towlength ratio of about 3 to 1 during high water conditions for downbound tows. (See Marine Accident Report--"Collision of M/V STUD with the Southern Pacific Railroad Bridge Over the Atchafalaya River, Berwick Bay, Louisiana, April 1, 1978" (NTSB-MAR-80-5).)

The National Transportation Safety Board determined that the probable cause of the accident was the failure of the relief operator of the M/V CITATION to properly align the tow on the approach north of the Berwick Bay bridges. Contributing to the accident was the CITATION's low horsepower in relation to the towlength for maneuvering in the existing river conditions.

As a result of its investigation of this accident, the National Transportation Safety Board reiterates the following recommendations which it issued to the U.S. Coast Guard as a result of the collision of the M/V STUD with the Southern Pacific Railroad Bridge:

> In cooperation with the U.S. Army Corps of Engineers, establish methods to measure and to make available continually updated information on river stage and current velocity to vessels transiting the Berwick Bay bridges. (Class II, Priority Action) (M-80-18)
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> Improve navigational aids for vessels transiting the Berwick Bay bridges. (Class II, Priority Action) (M-80-19)
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> Expedite the issuance of the Notice of Proposed Rulemaking to codify the Berwick Bay Vessel Traffic Service operating procedures. (Class II, Priority Action) (M-80-21)

In addition, the Safety Board recommends that the U.S. Coast Guard:

> Establish a minimum horsepower-to-towlength ratio for downbound tows carrying dangerous cargoes while navigating through the Berwick Bay bridges during high water conditions. (Class II, Priority Action) (M-82-41)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and McADAMS and BURSLEY, Members, concurred in this recommendation. ENGEN, Member, did not participate.

By: Jim Burnett
Chairman