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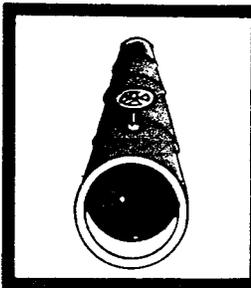
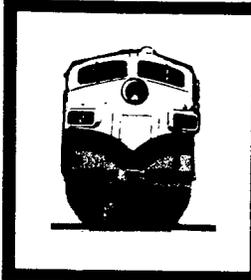
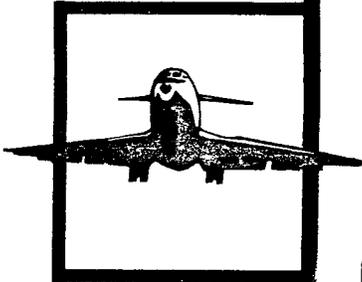
WASHINGTON, D.C. 20594

MARINE ACCIDENT REPORT

**COLLISION OF
BRITISH BULK CARRIER
M/V PALM PRIDE WITH THE SIOUX CITY
& NEW ORLEANS BARGE FLEET
IN THE MISSISSIPPI RIVER
NEAR THE LULING-DESTREHAN BRIDGE
JUNE 23, 1986**

NTSB/MAR-87/03

UNITED STATES GOVERNMENT



TECHNICAL REPORT DOCUMENTATION PAGE

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16. Abstract On June 23, 1986, the 674-foot-long British-registered bulk carrier M/V PALM PRIDE departed Burnside Terminal, Louisiana, at 0154 and proceeded downbound in the Mississippi River. At 0444 while attempting to overtake two downbound tows that were in an overtaking situation, the PALM PRIDE collided with barges in the Sioux City & New Orleans barge fleet sited along the right descending river bank in the bend at 26 Mile Point, about mile 122.6 above Head of Passes. Damage to the PALM PRIDE and the barges and their cargoes was estimated at \$1,400,000. There were no injuries reported. The National Transportation Safety Board determines that the probable cause of the accident was the attempt by the pilot of the PALM PRIDE to overtake two tows simultaneously in the Mississippi River bend at 26 Mile Point where the space available to pass was limited. Contributing to the accident and to its severity was the high speed of the PALM PRIDE under the conditions of the overtaking; also contributing to the accident was the failure of the pilot to have the navigation bridgewatch assist him by monitoring the radar.					
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EXECUTIVE SUMMARY

On June 23, 1986, the 674-foot-long, British-registered bulk carrier M/V PALM PRIDE departed Burnside Terminal, Louisiana, at 0154 and proceeded downbound in the Mississippi River. At 0444 while attempting to overtake two downbound tows that were in an overtaking situation, the PALM PRIDE collided with barges in the Sioux City & New Orleans barge fleet sited along the right descending river bank in the bend at 26 Mile Point, about mile 122.6 above Head of Passes. Damage to the PALM PRIDE and the barges and their cargoes was estimated at \$1,400,000. There were no injuries reported.

The safety issues discussed in the report are as follows:

1. Vessel speed control while maneuvering and overtaking.
2. Piloting precautions and pilot's accident history.
3. Effective use of bridgewatch and lookout.
4. Adequacy of radar monitoring on rivers.
5. Proper compliance with the Inland Navigation Rules.
6. Hazards of passing/overtaking vessels in river bends.
7. Safe siting of barge fleets.
8. Adequacy of the Vessel Traffic Service.

Recommendations are made to the U.S. Coast Guard and to the Board of New Orleans-Baton Rouge Steamship Pilot Commissioners. The report also includes a review of the status of previous Safety Board recommendations issued on similar safety concerns.

The National Transportation Safety Board determines that the probable cause of the accident was the attempt by the pilot of the PALM PRIDE to overtake two tows simultaneously in the Mississippi River bend at 26 Mile Point where the space available to pass was limited. Contributing to the accident and to its severity was the high speed of the PALM PRIDE under the conditions of the overtaking; also contributing to the accident was the failure of the pilot to have the navigation bridgewatch assist him by monitoring the radar.

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

MARINE ACCIDENT REPORT

Adopted: March 31, 1987

COLLISION OF BRITISH BULK CARRIER M/V PALM PRIDE
WITH THE SIOUX CITY & NEW ORLEANS BARGE FLEET
IN THE MISSISSIPPI RIVER
NEAR THE LULING-DESTREHAN BRIDGE
JUNE 23, 1986

INVESTIGATION

The Accident

On June 22, 1986, the 674-foot-long, British-registered, bulk carrier M/V PALM PRIDE was discharging cement cargo at the Burnside Terminal, Louisiana, at mile 169.8 above Head of Passes (AHP) on the Mississippi River. The cargo discharge was to have been completed at 2330, 1/ and tugs and a pilot were ordered accordingly. At 2315 the vessel's master was notified that the discharge would not be completed until 0100 on June 23. A New Orleans-Baton Rouge Steamship Pilots Association pilot, NOBRA 50, 2/ boarded at 2335 to pilot the vessel down river to New Orleans. Because of the unanticipated delay, the master provided his office to NOBRA 50 so that he could rest before the vessel's departure. The vessel's cargo discharge was completed at 0055 on June 23. The vessel's draft after discharge was 18 feet 3 inches forward and 22 feet 5 inches aft.

At 0100 on June 23, tests were made of the navigation equipment, steering gear, and the main engine on the PALM PRIDE and the results were satisfactory. Two harbor tugs arrived and were secured alongside at 0145. The pilot took navigational control of the vessel, and the vessel left the berth at 0154. The pilot used the assisting tugs to turn the vessel to head downriver and then released the tugs at 0208. At 0210, the pilot ordered the engine to full maneuvering speed ahead, about 15 mph. The pilot estimated the river current to be 3 to 3 1/2 mph. The pilot did not enter the PALM PRIDE into the Vessel Traffic Service.

When the vessel was nearing 26 Mile Point, mile 123 AHP (see figure 1), the pilot, the master, the chief mate who was in charge of the bridgewatch, and the helmsman were in the pilothouse located aft on the vessel. A lookout was located at the bow. At some time before 0438, the bow lookout reported to the bridgewatch that a tow was ahead. Shortly thereafter, he left the bow to call the relief helmsman. The PALM PRIDE's pilot later stated that he was not aware that a lookout was posted. He said that he was unaware of the tow until he was "right on top of him" because of the "poor lighting on the tow." The pilot further stated that he called the towboat's operator by radiotelephone to arrange a two whistle overtaking agreement, 3/ but he got no response. He did not make use of the vessel's whistle to reach an agreement. The pilot estimated the tow was about 200 feet to starboard when the PALM PRIDE passed. While passing, the towboat was identified as the CAPT. STEVE HEBERT which was pushing a seagoing barge. After moving ahead of the HEBERT, the PALM PRIDE's pilot ordered 20° right rudder to bring the vessel closer to the right descending river bank off 26 Mile Point.

1/ All times herein are central daylight time based on a 24-hour clock.

2/ The pilot's radio call sign designator.

3/ A two whistle signal means "I intend to leave you on my starboard side."

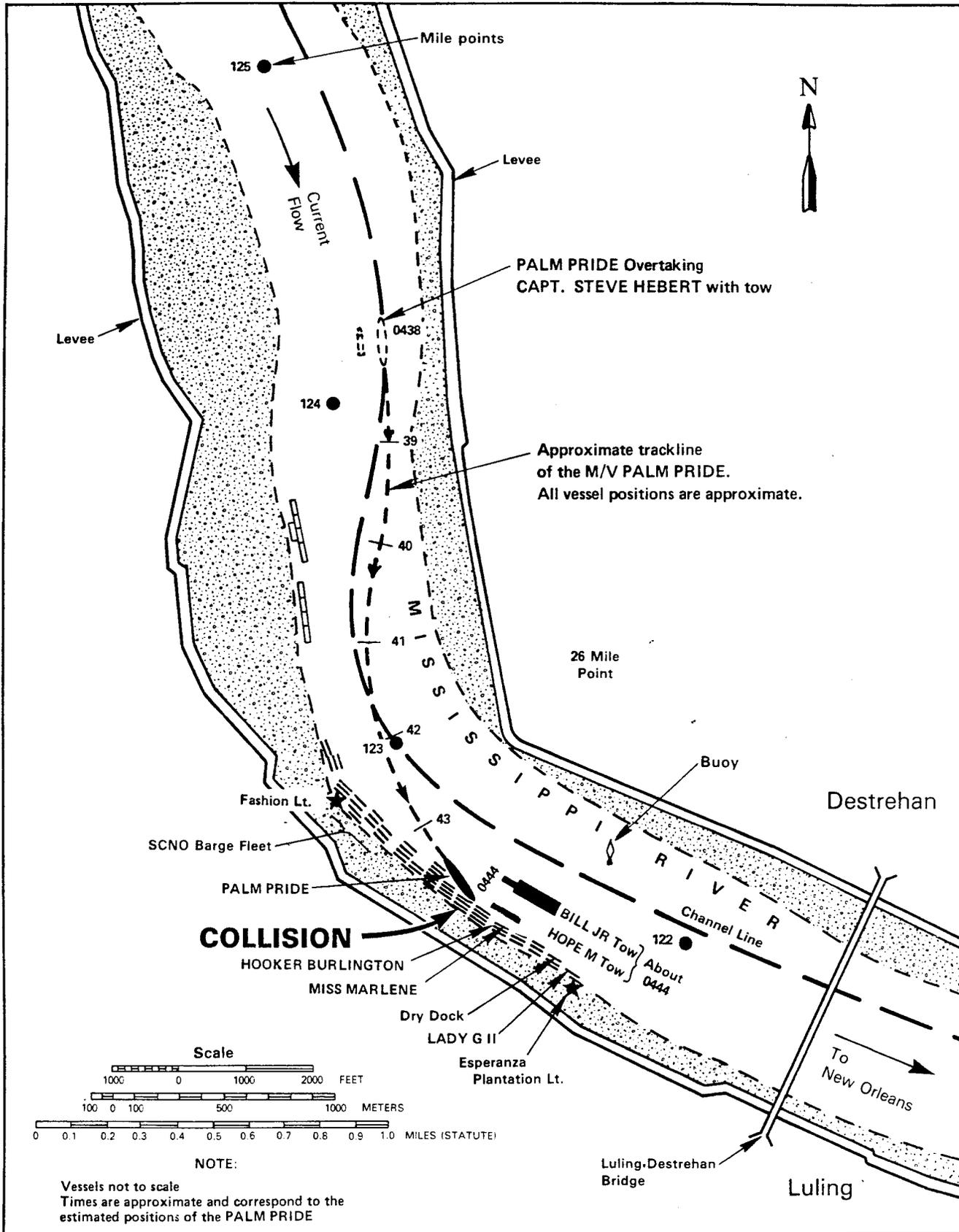


Figure 1—Location of the accident.

As the PALM PRIDE neared 26 Mile Point, the pilot heard the operator of the M/V VIRGINIA, a towboat with an upbound tow that was located downriver of the Luling-Destrehan Bridge, communicating on VHF FM radiotelephone channel 67 with the operator of a downbound towboat that was approaching the bridge. The PALM PRIDE's pilot determined from the communications that his vessel would be overtaking the downbound HOPE M and the BILL JR tows. The HOPE M, pushing two 100-foot barges, was overtaking the BILL JR which was pushing a 3-wide by 4-long barge tow. Both tows were traveling on the right side of the channel line. The tows were close abeam with the HOPE M overtaking on the BILL JR's starboard side. The pilot of the PALM PRIDE radioed the operator of the HOPE M to determine the speed of the tow and was advised that it was about 10 mph. He estimated the BILL JR's speed from 8 to 10 mph. The pilot estimated the speed of the PALM PRIDE to be 15 to 15 1/2 mph, but he had not checked the vessel's actual speed over the ground. He planned to overtake the tows on one whistle, 4/ overtaking and leaving both tows to the port side of the PALM PRIDE. The pilot stated that he reached an agreement with both tows for the overtaking arrangement after passing the HEBERT tow. The pilot expected that the BILL JR would be at the bridge when the PALM PRIDE passed it, and that the HOPE M would be downriver and would be passed later.

The operator of the downbound towboat HOPE M stated that while near 26 Mile Point he made an overtaking agreement with the operator of the downbound towboat BILL JR. The HOPE M was between the BILL JR and the right descending riverbank. While the tows were abreast, NOBRA 50 radioed to make an overtaking agreement with the tows. The PALM PRIDE was then about 1/4 to 1/2 mile astern of the tows. The HOPE M's operator stated that during the radio communications, NOBRA 50 advised him that the PALM PRIDE was making 17 mph. The HOPE M's operator later stated in a letter that in his judgment NOBRA 50's overtaking arrangement was originated too late to be accomplished safely since the PALM PRIDE was too close and was moving too fast. He advised NOBRA 50 that the only way the PALM PRIDE could overtake the HOPE M would be on one whistle (to the starboard side of the tows) if the vessel could make that. He further stated that shortly thereafter he heard NOBRA 50 say, "Oh, my God, I'd better slow down and start backing." The Safety Board was unable to corroborate that this statement was broadcast.

When the PALM PRIDE was overtaking the HOPE M and BILL JR tows, the movements of the vessels were observed by the operator of the towboat LADY G II and a fleet mate who were in the vessel's pilothouse. The LADY G II was tied close to the drydock at the downriver end of the Sioux City New Orleans (SCNO) barge fleet that was moored along the right descending riverbank. The operator and the mate both observed that when the approaching tows were about 1,000 feet upriver, they were side by side and a "couple of hundred feet apart." They could see the running lights on the towboats and the towed barges. It appeared to them that the tow nearest to the right descending bank might hit barges in the fleet, but the nearer tow passed about 200 feet from the drydock. The operator described the alignment of the PALM PRIDE's range lights at a 45° angle, and the vessel appeared to be heading toward the SCNO fleet. It also appeared to the operator of the LADY G II that the PALM PRIDE might collide with the downbound tows.

While closing with the tows, the PALM PRIDE's pilot did not use the radar to check the overtaking situation. However, the PALM PRIDE's master looked at the radarscope and observed that the tows were about 1/2 mile ahead. He became concerned at the high speed with which the PALM PRIDE was overtaking the tows. The master, expressing his concern to the pilot, stated, "We are going too fast. . .we are too close." The pilot looked

4/ A one whistle signal means "I intend to leave you on my port side."

through binoculars at the tows and then ordered half-speed ahead. The bridge and engineroom bellbook entries show the engine order was logged at 0443. When interviewed, the pilot stated that the tows appeared to have stopped or were moving ahead at "dead slow" speed. The pilot further stated that after he reduced speed, his vessel "got sluggish" and did not respond to the rudder. As the PALM PRIDE neared the tows, the pilot ordered right full rudder. The master saw that the PALM PRIDE then was too close to the SCNO barge fleet. He countermanded the pilot's orders with full astern on the engine and left full rudder; the helmsman complied with the master's helm order. The bridge and engineroom bellbook entries show stop and full astern engine orders were logged at 0444. At 0444 the PALM PRIDE struck barges moored in the SCNO fleet at mile 122.6. The pilot sounded a danger signal (at least five short blasts) on the vessel's whistle about the time of collision. The pilot stated that at the time of collision, the BILL JR tow was about 300 feet forward of the PALM PRIDE. The weather at the time of the accident was calm, and the night was clear with visibility about 3 miles.

The PALM PRIDE struck barges in the SCNO fleet at an angle of about 20° and then sheered to port toward the center of the river. The master regained control of the PALM PRIDE and maneuvered it downstream toward an anchorage at reduced speed for about 45 minutes. Meanwhile, the pilot reported the accident by radiotelephone to the Coast Guard. The Coast Guard received the report at 0452 and requested the pilot provide details of the accident later by telephone. The pilot also radioed a nearby tug to stand by until the PALM PRIDE anchored. The pilot resumed the conn and maneuvered the PALM PRIDE to an anchorage near St. Rose, about mile 117 AHP. The vessel's port anchor was dropped at 0538, and the starboard anchor was dropped at 0540.

The operator of the LADY G II stated that when the PALM PRIDE collided with the SCNO barges, the vessel first glanced off barge 7904, and then barges 7336, 8038, and 1391. The drydock was displaced downriver about 180 feet. The tank barge HOOKER BURLINGTON with a cargo of caustic soda was dragged from its position in the SCNO fleet. The barge's hull was ruptured and the barge capsized as it drifted downriver. The barge was subsequently recovered by the towboat LADY JOAN and grounded on the right descending riverbank near mile 120 AHP. About 1,900 barrels of caustic soda leaked from the barge into the river.

After the PALM PRIDE collided with and then moved past the SCNO fleet, 14 barges whose mooring wires had been broken were set adrift. Drifting barges temporarily prevented the LADY G II from leaving its position. When the LADY G II was able to move, the operator maneuvered the towboat to check on the condition of another standby towboat, MISS MARLENE, and to recover the drifting barges. Except for the HOOKER BURLINGTON, the drifting barges were recovered by towboats in the area and resecured at the SCNO fleet site. The operator of the LADY G II reported the accident to the Coast Guard at 0514.

After the accident and after the downbound traffic had passed, the towboats VIRGINIA and TACO TODDY proceeded upbound under the bridge keeping their 3-wide by 3-long barge tow toward the east bank side of the bridge. About 0500, barge SCNO 8012, which had been broken loose from the SCNO fleet during the collision, drifted downriver near the upbound tow. A harbor tug maneuvering to recover the SCNO 8012 caused the drifting barge to turn toward the upbound tow and collide with No. 5143 and WGH 74 in the tow causing minor damage.

At 0605 NOBRA 50 left the PALM PRIDE after being relieved on board by NOBRA 59. At 0800, NOBRA 59 disembarked, and the PALM PRIDE remained at the anchorage. After NOBRA 50 left the PALM PRIDE, he did not contact the Coast Guard by telephone concerning the accident. Efforts by the Coast Guard to contact the pilot

unsuccessful. On July 3, 10 days after the accident, NOBRA 50, accompanied by an attorney, made himself available for an interview by Coast Guard and National Transportation Safety Board investigators concerning the accident.

Injuries to Persons

There were no reported injuries.

Damage to Vessels

PALM PRIDE.—The collision damage to the PALM PRIDE consisted of hull scrapes almost the full length of the starboard side, and two deep dents in the bulbous bow. A representative of the Bureau Veritas classification society examined the PALM PRIDE and found the vessel to be seaworthy. On June 23, the Coast Guard authorized the vessel to proceed on its voyage. Because of damage claims filed by owners of damaged barges, the PALM PRIDE was prevented from sailing by a court seizure order until September 16, 1986.

SCNO Barge Fleet.—Fifteen barges in the SCNO fleet, including the HOOKER BURLINGTON, were damaged. The standby towboat MISS MARLENE sustained minor damage.

The total damage to the PALM PRIDE and the barges and their cargoes was estimated at \$1,400,000.

Personnel Information

The PALM PRIDE had a crew complement of 25 including the master; all of the crewmembers were Polish nationals. The master had a good command of the English language. (See appendix B.)

At the time of the accident, the master, chief mate, helmsman and pilot were on the vessel's navigation bridge. The master had been on the bridge since the vessel left the Burnside Terminal. He stated that he had remained aboard and was able to get a substantial amount of rest while the vessel was discharged for 3 days at the Burnside Terminal. During the day of the vessel's scheduled departure he had slept 8 to 9 hours and another hour or more just before the delayed departure. He stated he had not consumed any alcoholic beverages before the accident and he was not taking any medication. He also stated that the PALM PRIDE handled properly at all times, and that the pilot's commands were executed expeditiously.

The chief mate arrived in the pilothouse at 0400 and was in charge of the 4 to 8 watch. His duties while on watch included operating the engine order telegraph, checking that the helmsman correctly carried out the pilot's orders, and logging events. He testified that the vessel had Mississippi River charts on board, but no vessel positions were plotted en route. He occasionally looked at the operating radarscope and had done so while the PALM PRIDE was overtaking the HEBERT tow. The chief mate estimated that the PALM PRIDE passed the tow at a distance of 30 to 40 meters (98 to 131 feet).

The helmsman was a seaman on the 4 to 8 watch. While steering, the helmsman watched the compass, but he did not observe the two tows forward of the PALM PRIDE, nor did he see the SCNO barge fleet at the time of collision. He testified that the vessel was responsive to the helm. He stated that shortly before collision, the pilot ordered 20° right rudder and subsequently ordered hard right rudder. Before he could apply full right to the helm, the master ordered hard left rudder and he complied.

The pilot of the PALM PRIDE began sailing in 1951 and had deckhand, mate, and operator experience on towboats with tows of up to 50 barges plying the Mississippi River. During the past 12 years with the pilots' association he had piloted vessels ranging in size from 1,000 to 160,000 gross tons. (See appendix B.)

The pilot stated that he had adequate rest before receiving the assignment to the PALM PRIDE. His prior assignment was aboard a 7,000 to 8,000 gross ton vessel along the same route downbound from Burnside anchorage between 1220 and 1730 on June 22. He had been at home in the morning and the previous night. He stated that he had slept for 1 1/2 hours while being driven to the PALM PRIDE and for about 45 minutes in a chair in the master's office when the PALM PRIDE's departure was delayed. He stated that he was not taking drugs or any medication and had not consumed any alcoholic beverages before the PALM PRIDE assignment. According to the master, the pilot did not appear to be tired or under the influence of alcohol while on board the PALM PRIDE.

The pilot had passed a physical examination in February in connection with his Federal Aviation Administration private pilot's license. His normal work schedule was 1 week on and 1 week off. The PALM PRIDE assignment was to have been his last before going off duty. After being relieved on the PALM PRIDE, he left the New Orleans area. He stated that the PALM PRIDE's delayed sailing had not caused him to try to make up for the lost time and that he ran the vessel downbound at normal speed. While approaching the tows before the collision, he did not consider overtaking them on their port sides because of the danger of hitting the bridge pier.

Since 1981 the Safety Board has investigated three other marine accidents involving vessels piloted by NOBRA 50. In 1981, the tankship APHRODITE B, piloted by NOBRA 50, was proceeding at full ahead maneuvering speed (about 8 knots) upbound, and the towboat KAREN WAYNE was pushing three barges in tandem downbound in the lower Mississippi River. The tankship and the tow collided at mile 97.5. The Safety Board determined that the probable cause of the collision was the "excessive speed of the APHRODITE B and the lack of a proper lookout during reduced visibility in dense traffic conditions." 5/

In 1982 the tankship ARKAS, piloted by NOBRA 50, was proceeding upbound in the Mississippi River and was overtaking the towboat CREOLE GENII which was pushing three barges. The tankship and the tow collided near mile 130. The Safety Board determined that the probable cause of the accident was "the failure of the pilot of the ARKAS to maintain a safe distance between the vessels while overtaking the CREOLE GENII tow, and the inability of the operator of the CREOLE GENII to effectively navigate and control his tow." 6/ In addition, on June 24, 1983, the Safety Board issued Safety Recommendation M-83-49 to the New Orleans-Baton Rouge Steamship Pilots Association:

Remind member pilots of the importance of giving maximum clearance to tows while maneuvering in areas where currents may cause a tow to take on a high crossriver speed component if tow control is lost and the tow is deflected.

5/ Marine Accident Brief No. DCA 81AM 065 — Collision of the Greek Tankship APHRODITE B and the U.S. Towboat KAREN WAYNE at mile 97.5 LMR, Mississippi River at New Orleans, Louisiana, on September 5, 1981.

6/ For more detailed information, read Marine Accident Report—"Collision of U.S. Towboat CREOLE GENII and Liberian Tank Vessel ARKAS near Mile 130, Mississippi River, March 31, 1982" (NTSB/MAR-83/04).

The Safety Board did not receive a response from the pilots' association. A follow-up letter was sent on December 1, 1986. The Safety Board held this recommendation as "Open--Awaiting Response." Based on the lack of any response, Safety Recommendation M-83-49 is now classified "Closed--Unacceptable Action."

Later in 1982 the bulk carrier AMSTELVOORN, piloted by NOBRA 50, rammed the Bayou Steel Company Pier. The Safety Board determined that the probable cause of the accident was a steering gear failure. 7/

The Safety Board notes that subsequent to the PALM PRIDE accident, NOBRA 50 was piloting the British bulk carrier PETERSFIELD when it was proceeding upbound in the Mississippi River and overtaking the BAYOU BOEUF which was pushing eight tank barges. The vessels collided on October 28, 1986 off 12 Mile Point above the Huey P. Long Bridge. After the accident, NOBRA 50 was relieved by another NOBRA pilot while the PETERSFIELD was being anchored. NOBRA 50 then disembarked and did not become available to Coast Guard or Safety Board investigators until 7 days later. The Safety Board is currently investigating the accident.

Vessel Information

PALM PRIDE.--The British-registered PALM PRIDE, formerly the AMSTELWAL, was owned by Progressive Company, Ltd., Pyreux, Greece, and operated by Thyson Cargo Metals Company, New York, New York. The vessel was a 22,617 gross ton bulk carrier with a deadweight capacity of 37,734 long tons. It was 674 feet long, 88 feet wide and had a bulbous bow. Propulsion was provided by a 16,000 horsepower diesel engine which drove a single propeller. The vessel had seven cargo holds all located forward of the navigation bridge. Cargo handling cranes were located on the centerline of the vessel between the deck hatches.

The vessel's navigation bridge and crew accommodations were located aft over the engine room. The helm with a steering gyrocompass was located at the centerline of the pilothouse. Gyrocompass repeaters were located at the forward pilothouse window conning position and the port and starboard bridgewings. The engine order telegraph was located to starboard of the helm. The vessel had two radar sets; one radar set was located to port of the helm, and the other set was located aft on the port side adjacent to the chart desk. Both radars had been inspected in Greece in March 1986. The radar set aft was in standby operating status during the downbound trip. The pilothouse conning position was about 490 feet from the bow. The pilothouse window arrangement provided good visibility except for the cargo cranes that obstructed the view directly forward down the centerline of the vessel.

The PALM PRIDE had maneuvering data available in the pilothouse that included engine maneuvering rpm/speed data for a normal ballast condition as follows:

<u>Engine Order</u>	<u>Rpm</u>	<u>Speed (knots)8/</u>
Full ahead	105	17.00
Half ahead	55	8.20
Slow ahead	35	5.25
Dead-slow ahead	25	3.73

7/ For more detailed information, read Marine Accident Report--"Ramming of the Bayou Steel Company Pier Facility. Two Miles South of LaPlace, Louisiana, by the Dutch Bulk Carrier M/V AMSTELVOORN, September 26, 1982" (NTSB/MAR-83/08).

8/ Variable, subject to wind and sea conditions, water depth, draft/trim, and the cleanliness of the hull.

The PALM PRIDE's full ahead maneuvering speed was normally set at 85 rpm which produced a speed about 13 knots (15 mph).

SCNO Barge Fleet.—The SCNO barge fleet is owned and operated by the SCNO Terminal Corporation. The corporation was issued a permit by the New Orleans District Corps of Engineers (COE) on January 23, 1979, to install and maintain permanently moored barges for barge repairs and fleetings along the right descending bank of the Mississippi River from about mile 122.2 AHP to about mile 123.3 AHP. The Coast Guard Captain of the Port, New Orleans, advised the COE that the Coast Guard had reviewed the barge fleet proposal and had no objections to issuing the permit. The SCNO barge fleetings area has a capacity for 160 barges consisting of 20 tiers each 8 barges wide. The barges are typically about 35 feet wide and about 200 feet long. There were about 97 barges in the SCNO fleet at the time of the accident.

The fleet mate testified that, with the assistance of the LADY G II's deckhand, he had made a check of the SCNO fleet barges after reporting for duty at 1730 on June 22. He had finished checking the battery-powered lights on the barges about 2100, and the barges were properly lighted at that time. In addition to lights on the corners of barges, a work shack located in the fleet was lighted, and there were flood lights on the drydock. The mate further testified that in the 8 to 10 months he had been employed with the SCNO fleet, barges had been struck twice by passing vessels. He and the operator of the LADY G II stated that downbound vessels take advantage of the river current in the bend and that the current sets toward the SCNO fleet. The mate further stated that the current causes vessels transiting the bend to "slide sideways."

Waterway Information

The Mississippi River at 26 Mile Point near mile 123 is about 2,300 feet wide. At mile 122, the river is about 2,600 feet wide. The river depth varies up to 130 feet at mile 123 and to about 100 feet at mile 122. The depth was about 70 feet in the vicinity of the collision. Two navigation lights, the Fashion Light at mile 123 and the Esperanza Plantation Light at mile 122.2, are located along the right descending bank and serve as navigation aids to mariners rounding 26 Mile Point. The fixed Luling-Destrehan highway bridge is clearly visible from 26 Mile Point. The bridge clearance is 133 feet under the 1,200-foot main span and 117 feet under the 460-foot east bank auxiliary span. The bridge was about 0.8 mile downriver from the collision site. Coast Guard records show that since 1980 there have been eight accidents in the river off 26 Mile Point between mile points 120 and 125.

Other Information

Inland Navigation Rules.—The Inland Navigation Rules apply to all vessels on the inland waters of the United States. (See appendix C.) The following rules in particular had a bearing in the investigation of this accident.

Rule 5 requires that a proper lookout be maintained; Rule 6 concerns safe speed and provides factors including traffic density, vessel maneuverability, radar use, and environmental conditions which shall be taken into account in determining safe speed; Rule 7 discusses the use of radar and compass bearings for determining the risk of collision; Rule 8 addresses close-quarters situations, safe passing distance, and prescribes slackening speed, stopping, or reversing the means of propulsion, if necessary, to avoid collision or to allow more time to assess a situation; Rule 13 defines an overtaking situation and establishes vessels' responsibilities and duties when overtaking; and Rule 34 prescribes how sound signals are to be used for signalling intentions when power driven vessels are in sight of one another and the use of the bridge-to-bridge radiotelephone to reach agreements when meeting, crossing, or overtaking.

Pilotage.—Federal statutes provide that states are authorized to regulate pilotage (46 U.S. Code Section 8501). Louisiana requires a state-licensed pilot to be aboard all foreign flag vessels when operating in its waters. The PALM PRIDE met the State's requirements, and a commissioned pilot assigned by the New Orleans-Baton Rouge Steamship Pilots Association was aboard. The assigned pilot took charge of the navigation of the vessel, downbound from Burnside terminal. The master of the PALM PRIDE was responsible for the safety of the vessel. The vessel's master may advise the pilot and, if necessary, relieve him when danger to the vessel is apparent. A Board of Steamship Pilot Commissioners composed of three members of the pilots' association appointed by the State governor has oversight of the association's pilots and is tasked to review incidents involving pilots. The pilots' Board of Commissioners is required to report any incident of incompetency to the governor. The governor in his discretion may remove, suspend, or reprimand a pilot based on the findings and recommendations of the commissioners.

Federal law (46 USC 7703) provides that the Coast Guard has the authority to suspend or revoke a license that it issues if, when acting under the authority of that license, the holder of the license violates, or fails to comply with marine safety laws or regulations, or commits an act of incompetence, misconduct, or negligence. However, the courts have decided that the provisions of this law do not apply to pilots who were operating under the authority of State credentials at the time that such violation or act was committed, even though the pilots held Coast Guard issued licenses and were piloting vessels on U.S. navigable waters at the time.

As a result of its investigation of an accident which occurred in 1980, 9/ the Safety Board issued recommendation M-81-14 to the U.S. Coast Guard:

Seek legislation to allow the Coast Guard to act against a pilot's Federal license for acts committed while serving under the authority of his State license.

In response to this recommendation the Coast Guard Commandant stated that legislation to extend Federal jurisdiction over state pilots was considered by the U.S. House of Representatives, Merchant Marine and Fisheries Committee in July 1978. The Coast Guard response further stated that the committee declined to approve the extension of authority with the following comment, "It is the present intention of the Committee to review this situation further and to permit proponents and opponents of expanded Federal jurisdiction over state licenses to furnish the Committee with the detailed information necessary to make a final evaluation of an appropriate change if any." The Coast Guard Commandant stated, however, that the Coast Guard was considering including an appropriate amendment to R.S. 4450 which would incorporate M-81-14 in the Coast Guard's proposed legislative program for the second session of the 97th Congress. The Safety Board will hold Safety Recommendation M-81-14 in an "Open--Acceptable Action" status pending completion of its investigation of the collision between British Bulk Carrier PETERSFIELD and the U.S. Towboat BAYOU BOEUF and tow, which occurred on the Mississippi River near New Orleans, Louisiana, on October 28, 1986.

The Safety Board is concerned about oversight of pilot performance and its effect on navigation safety on U.S. waters. The issue of oversight will be considered further in the Safety Board's upcoming PETERSFIELD report.

9/ For more detailed information, read Marine Accident Report--"Ramming of the Sunshine Skyway Bridge by the Liberian Bulk Carrier SUMMIT VENTURE, Tampa Bay, Florida, May 9, 1980" (NTSB-MAR-80-08).

Marine Casualty or Accident Procedures.--The Federal regulations at 46 Code of Federal Regulations, Part 4, prescribe the procedures to be followed in conducting Coast Guard and National Transportation Safety Board investigations. Subpart 4.05 requires the owner, agent, master, or person in charge of a vessel involved in a marine casualty or accident to give notice to the nearest Coast Guard Marine Safety or Inspection Office as soon as possible. (See appendix D.)

Vessel Traffic Service.--The Coast Guard operates a vessel traffic service (VTS) for the Mississippi River from the entrance buoy to southwest pass to mile 242.4 AHP. and along the Mississippi River-Gulf Outlet. The VTS is divided into sectors with each sector having a designated channel for VHF radiotelephone communication between vessels and the vessel traffic center (VTC) located in New Orleans. The VTS is a voluntary information system which informs participating vessels of other participating vessels in their area, expected weather conditions, and safety information. Vessel reports may include the name and type of vessel, present position and destination, speed, general nature of cargo aboard, maximum draft, overall length of tow, and other special information that may affect its navigation. Movement report data from vessels are entered into the VTC computer which generates a dead reckoning position for the vessels. Projected positions generated by the computer are adjusted as vessels report their passing of designated checkpoints along the river route. The Coast Guard cautions mariners that the accuracy of the information provided by the VTC is dependent on the accuracy of reports received. The VTS User's Manual states that participation in the VTS does not relieve any person from complying with:

- a. The navigation rules for harbors, rivers, and inland waters generally (33 USC 151-238);
- b. Vessel Bridge-to-Bridge Radiotelephone Regulations (33 CFR 26);
- c. Inland Navigation Rules Act of 1980 (33 USC 2001); or
- d. Any other laws or regulations.

On March 20, 1980, the Safety Board issued Safety Recommendation M-80-13 to the Coast Guard:

Reevaluate the proposed level of Vessel Traffic Service (VTS) on the Lower Mississippi River, and determine if an extended surveillance system is needed to overcome the severe limitations of the present VTS to provide useful, accurate information to participants.

A study was made for the Coast Guard by the Louisiana State University for Wetland Resources. ^{10/} The study recommended that the New Orleans VTS be upgraded to "exercise a limited management of river traffic and space. . . with ability to operate at the Automated Advanced Management level." The Coast Guard has obtained funding and intends to upgrade the New Orleans VTS with a combination radar and closed circuit surveillance system, and mandatory vessel participation. However, it will probably be several years before the system is operational. Therefore, the Safety Board has classified Safety Recommendation M-80-13 in an "Open--Acceptable Action" status.

^{10/} Lower Mississippi River Safety Study: Baton Rouge to the Gulf of Mexico, December 1981, Baton Rouge, Louisiana, 70803.

The PALM PRIDE accident occurred in VTS sector III. The PALM PRIDE, BILL JR, and HOPE M were not participating in the VTS. NOBRA 50 stated that the PALM PRIDE trip was the first instance that he had not participated in the VTS for a long time. He stated that the VTS information concerning vessel meeting locations was not always good. He further stated that at one time the "old" VTS would advise where overtaking situations would occur, but currently the VTS only provided meeting locations.

ANALYSIS

Piloting of the PALM PRIDE

After releasing the tugs off Burnside Terminal at 0208, the pilot of the PALM PRIDE used full maneuvering speed downbound until 0443, about 1 minute before the collision with the SCNO barge fleet. The pilot advised the operator of the HOPE M that the PALM PRIDE was making 17 mph but he had not checked the vessel's actual over-the-ground speed while en route. Based on the distance and running time from the Burnside departure to the collision, the PALM PRIDE averaged 18 mph over-the-ground for the run. Inland Navigation Rule 6 specifies that every vessel "shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions." To determine safe speed several factors must be taken into account including visibility, traffic density, vessel maneuverability, wind, current, the proximity of navigational hazards, and the availability and limitations of onboard radar. The Safety Board believes that 18 mph was not a safe speed for the pilot of the PALM PRIDE to overtake and attempt to pass the tows considering the limited space that was then available between the tows and the SCNO barge fleet. The vessel may have done more damage to the SCNO barges and possibly also struck the HOPE M if the PALM PRIDE's master had not expressed his concern about the vessel's speed, causing the pilot to reduce the speed.

The circumstances of this accident show a failure of the pilot of the PALM PRIDE to apply the Inland Navigation Rules to maneuvering the vessel while attempting to overtake two tows in a river bend where space available for passing was limited. Since the pilot was required to know the Inland Navigation Rules to acquire a Coast Guard license, he should have been familiar with the rules and routinely applied them while piloting. The Safety Board further believes that had the pilot observed the precautions prescribed in the rules, particularly Rules 6, 7, and 8, he would have realized that overtaking the tows under the conditions that existed was unsafe.

When the PALM PRIDE was approaching 26 Mile Point, it overtook the CAPT STEVE HEBERT tow. While overtaking the HEBERT tow, the pilot of the PALM PRIDE was unable to make contact by radiotelephone with the operator of the tow. Subsequently, he overtook the tow on its port side without an agreement by radiotelephone. Rule 34 of the Inland Navigation Rules concerning maneuvering and warning signals specifies that if an agreement is not reached by radiotelephone, whistle signals shall be exchanged in a timely manner for an overtaking agreement. Since the PALM PRIDE passed close to the HEBERT, whistle signals probably would have been heard and thus an overtaking agreement complying with the rules could have been made. Although the HEBERT was passed without incident, the Safety Board believes that the pilot of the PALM PRIDE should have used whistle signals to reach a passing agreement when he was unable to do so by radiotelephone. The Safety Board also believes that passing vessels at high speed without a passing agreement is a dangerous practice.

After overtaking the HEBERT tow, the PALM PRIDE's pilot maneuvered the vessel across the river toward the right descending bank intending to overtake the HOPE M and BILL JR tows on their starboard sides. Since the HOPE M and BILL JR tows were abreast of each other in the right half of the channel and were passing the SCNO barge fleet,

which extended about 300 feet into the river from the right descending bank, the PALM PRIDE had limited space available to pass to starboard of the tows. The distance between the HOPE M and the barge fleet would have varied because of the way the barges were secured to each other and the manner in which they were distributed along the river bank. When the PALM PRIDE's master used the radar to check the overtaking situation, it was already evident from visual observations that the PALM PRIDE was dangerously close to the tows and the SCNO fleet. Although the pilot broadcast a need to slow and back the PALM PRIDE, he reduced speed to only half ahead 1 minute before the collision. The speed reduction was made too late to have much effect before the collision. The pilot then ordered right rudder to avoid the tows, which further headed the vessel toward the SCNO barge fleet. If the master had not countermanded the pilot's rudder order, there probably would have been significantly more damage. The Safety Board believes that regular monitoring of the radar would have revealed the rapid closing rate between the PALM PRIDE and the tows ahead. The pilot could then have determined that the PALM PRIDE would pass perilously close to the SCNO barge fleet. It should have induced him to reduce the vessel's speed earlier. Earlier slowing of the PALM PRIDE would have delayed the passing until a straighter portion of the river had been reached and after the HOPE M had overtaken the BILL JR.

The pilot of the PALM PRIDE discussed the overtaking arrangement by radiotelephone with the operator of the HOPE M. However, a clear agreement had not been established for the PALM PRIDE to overtake the HOPE M. The operator of the HOPE M only cautioned the PALM PRIDE's pilot that the only way the bulk carrier could overtake the tows would be on one-whistle, "if the vessel could make that." The radio exchange allowed the pilot of the PALM PRIDE to decide whether to attempt to pass on the starboard side of the HOPE M, and he chose to do so. Shortly thereafter, the PALM PRIDE collided with the SCNO barges. The overtaking could have been delayed until safe passing could have been made. Rule 13(a) further obligated the PALM PRIDE to keep out of the way of the vessel being overtaken. In this instance, both the HOPE M and the BILL JR were being simultaneously overtaken by the PALM PRIDE. Although the pilot was able to maneuver the PALM PRIDE to avoid colliding with the tows, he was unable to control the vessel sufficiently to avoid striking the moored barges. The Safety Board believes that had the pilot maintained the PALM PRIDE at a safer distance from the tows until a proper overtaking agreement had been established, the collision with the SCNO barges would have been averted.

The pilot stated that he did not consider overtaking the BILL JR and the HOPE M tows on their port sides because of the danger of hitting the bridge. However, when the PALM PRIDE was about to pass the tows they were about 0.9 mile upriver of the bridge. The Safety Board believes that the pilot could have passed the tows at this location more safely on their port sides where the waterway space was less restricted than on their starboard sides.

Master-Pilot Relationship

Although the pilot directed the movements of the PALM PRIDE downbound, his presence on board did not relieve the master of his responsibility for the safety of the vessel. While vessels are on extensive trips, it is not uncommon for the master to leave the bridge and rely on the pilot and the bridgewatch for the safe navigation of the vessel. In this instance, the master remained on the bridge and observed the actions of the pilot and the movements of the PALM PRIDE. When it became obvious that the pilot was maneuvering the PALM PRIDE into a dangerous close-quarters overtaking situation near the SCNO barge fleet, the master advised the pilot to slow the vessel, and subsequently countermanded the pilot's maneuvering orders. Because the master had more experience

concerning the maneuverability of the PALM PRIDE, he might have cautioned the pilot earlier to slow the vessel. However, with the compulsory relationship between pilots and foreign-flag vessels, the master may have felt obligated to rely on the pilot's ability and judgment and, therefore, delayed his caution to the pilot on maneuvering of the vessel. The Safety Board believes that the master acted properly in relying on the pilot's expertise and in later taking control of the vessel from the pilot. Further, had the master not taken control when he did, the damages sustained by the PALM PRIDE and the SCNO barge fleet would have been greater.

Vessels Overtaking in River Bends

The Safety Board has investigated numerous accidents in which vessels collided when meeting or overtaking each other in river and channel bends. In this instance the pilot of the PALM PRIDE attempted to overtake two tows abreast at the riverbend off 26 Mile Point and close to barges moored adjacent to the shore. Despite the width of the river at 26 Mile Point, the pilot chose to overtake the tows on their starboard sides while both were proceeding in the right half of the channel, and passing space was limited. When towboats can maintain control and alignment of their tows and there is adequate river-width, passing should not be a problem. However, if control is lost, sudden swinging of a tow may make passing risky. Since towboats may use a flanking or steering maneuver ^{11/} while rounding a bend, more clearance should be allowed when passing in a bend. The Safety Board believes that a greater effort is needed by pilots of large vessels and operators of towboats to avoid vessel encounters at bends where feasible while transiting winding rivers and narrow channels, or to agree to passing arrangements which provide sufficient space between the passing vessels.

Use of Lookouts

A lookout was posted on the bow of the PALM PRIDE while the vessel was downbound, but the pilot was unaware of it. While the PALM PRIDE was overtaking the HEBERT tow, the lookout reported his sighting of the tow to the bridgewatch, but the lookout's report was not relayed to the pilot. Subsequently, the lookout left his post to call the relief helmsman, leaving the post unattended. The pilot stated that because of the tow's poor lighting, he was not aware of the tow until the PALM PRIDE was "right on top of it." Inland Navigation Rule 5 specifies that every vessel shall maintain a proper lookout at all times. Since the pilot was conning the vessel from a position about 490 feet aft of the bow, and the deck cranes obstructed his forward view to some degree, observations made from the lookout's vantage would have been helpful to the pilot. Lookout observations are critical to augment radar limitations. The Safety Board believes that pilots should ensure that vessels they are piloting maintain lookouts. They should also make more effective use of the valuable information lookouts can provide. The Safety Board further believes that masters and crews are obligated to relay observations and information affecting safe navigation of their vessels to pilots as a matter of routine, standard operations.

Use of the Bridgewatch

The pilot, master, and mate on the PALM PRIDE made use of pilothouse radar, but their observations were not systematic as the vessel proceeded downbound. Since pilots maneuvering vessels on winding rivers must devote most of their time to visual conning, they are often unable to spend time monitoring radar. Therefore, they should use the

^{11/} In a flanking maneuver the tow is maintained at an angle with the towboat's stern kept toward the point while the towboat uses the river current to carry the tow around the bend; in a steering maneuver the bow of the tow is headed toward the point.

vessel's watch personnel to monitor the radar. The mate in charge of the bridgewatch should be thoroughly familiar with the vessel's radar equipment and should use it to monitor the movements of nearby vessels and to take ranges to navigation aids and landmarks.

Inland Navigation Rule 7 states that proper use should be made of radar, and it stipulates the need for systematic observations to obtain early warning of the risk of collision. Had the pilot made regular observations of the radar or asked the mate to do so, he might have realized earlier that a risk of collision with the tows was developing and that some corrective maneuvering was needed.

As the result of its investigations, the Safety Board made three recommendations to require pilots to use the navigation bridgewatch to assist them while piloting. On December 22, 1970, ^{12/} the Safety Board issued Safety Recommendation M-70-9 to the American Pilots' Association:

Establish a policy whereby their member pilots will request masters of vessels which they are piloting to arrange for the monitoring of ship's radar when available, to assist in collision avoidance, even under conditions of good visibility.

The American Pilots' Association responded that it could not see any reason why pilots could not request the master of the vessels they are piloting to monitor the ship's radar. The Safety Board expected that the pending navigation regulations which would require a radar watch on vessels over 1,600 gross tons in U.S. navigable waters would resolve the problem. Consequently, the Safety Board classified the recommendation as "Closed-No Longer Applicable." However, the PALM PRIDE accident reveals that pilots on the Mississippi River may not be making use of the vessels' personnel to monitor radar.

As a result of its investigation of an accident near Pilottown, Louisiana, on October 3, 1978, ^{13/} the Safety Board issued Safety Recommendation M-80-7 to the Associated Branch Pilots:

Request member pilots to inform vessel masters concerning the requirements of 33 CFR 164, Navigation Safety Regulations, and advise member pilots to use the navigation bridge watch to keep themselves advised of the vessel's position and speed.

The Associated Branch Pilots responded that this recommendation has been put into effect, and that the pilots were following all of the Safety Board's recommendations. The Safety Board has classified this recommendation as "Closed--Acceptable Action."

^{12/} For more detailed information, read Marine Accident Report—"Collision Involving SS UNION FAITH (Taiwan) and Tug WARREN J. DOUCET and Tow in Mississippi River on April 16, 1969" (NTSB-MAR-70-04).

^{13/} For more detailed information, read Marine Accident Report—"Collision of the S/T TEXACO IOWA and the M/T BURMAH SPAR, on the Mississippi River, Pilottown, Louisiana, October 3, 1978" (NTSB-MAR-80-3).

As a result of its investigation of an accident near Beaumont, Texas, on February 25, 1979, 14/ the Safety Board issued Safety Recommendation M-80-41 to the Sabine Pilots:

Advise member pilots to review the Navigation Safety Regulations at 33 CFR 164 and urge pilots to make greater use of vessel's bridgewatch and electronic equipment in support of its navigational control while piloting.

The Sabine Pilots did not respond to the recommendation. The Safety Board has classified the recommendation as "Closed—Unacceptable Action." The Safety Board maintains that pilots should make effective use of the bridgewatch to ensure the safe navigation of vessels.

Siting of the SCNO Barge Fleet

The SCNO barge was located along the right descending bank, extended into the bend at 26 Mile Point, and created a potential hazard for vessels transiting the bend. Large, deep draft vessels proceeding downbound favor the deeper water, and all downbound vessels, including tows, tend to take advantage of the increased strength of current along the right descending bank in this bend. Consequently, such vessels normally pass close to the SCNO barge fleet. The river current at the bend was described by the operator of the the LADY G II and the SCNO fleet mate as setting toward the SCNO fleet. The mate stated that barges moored in the fleet have been struck and damaged before by downbound vessels rounding the bend. Although the SCNO fleet is authorized to have barges extending 8-wide from the river bank into the river, the fleet was not at its full width at the time of the accident. The precise positions of the tows as they proceeded downbound past the barge fleet are unknown. However, the nearer tow, the HOPE M, was reported to have passed about 200 feet from the drydock located in the SCNO fleet. Had the SCNO fleet not extended into the bend, there would have been more room for vessel maneuvering and damage to the barges may not have occurred.

As the result of its investigation of a freighter collision with a cargo handling facility located at Good Hope, Louisiana, 15/ the Safety Board issued Safety Recommendation M-80-33 to the Coast Guard:

Study the use of waterfront facilities, located in bends on the Mississippi River, for the transfer of cargoes of particular hazard listed in 33 CFR 124.14, and if necessary promulgate appropriate regulations to prohibit siting future facilities in bends.

The Coast Guard responded on February 11, 1981, that it did not concur with this safety recommendation.

14/ For more detailed information, read Marine Accident Report—"Collision of the S/T MOBIL VIGILANT and the S/T MARINE DUVAL on the Neches River near Beaumont, Texas, February 25, 1979" (NTSB-MAR-80-08).

15/ For more detailed information, read "Marine Accident Report—Collision of Peruvian Freighter M/V INCA TUPAC YUPANQUI and U.S. Butane Barge PANAMA CITY, Good Hope, Louisiana, August 30, 1979" (NTSB-MAR-80-7).

... Coast Guard policy towards reviewing plans for proposed facilities and marine traffic engineering is to take a critical look at the design of the system as a whole The Coast Guard's desire is to encourage high standards of performance and operation of the interrelated factors of vessel, cargo, crew, route, and terminal. By careful planning beforehand, port system development can avoid many future hazards. We do not believe that Federal regulations are the answer to proper port planning. A careful review by the Corps of Engineers, Coast Guard, Environmental Protection Agency, and other agencies prior to granting permits and licenses will help solve this problem in the future.

The Safety Board on May 15, 1981 classified the recommendation as "Open--Unacceptable Action." The Safety Board believes that the PALM PRIDE accident underscores the need to prohibit the positioning of barge fleeting facilities in river bends, where such facilities will create a hazard to vessels and tows navigating the bends.

Accident Reporting and Investigation

After the accident, the pilot of the PALM PRIDE promptly reported the accident by VHF FM radiotelephone to the Coast Guard. The Coast Guard requested the pilot to report additional information later by telephone. However, after the pilot was relieved on board the PALM PRIDE by another pilot, he left the New Orleans area without making the requested report to the Coast Guard. Subsequent efforts by the Coast Guard investigator to contact the pilot were unsuccessful. He did not become available for an interview by investigators from the Coast Guard and the Safety Board until 10 days after the accident. Consequently, the investigators were unable to develop immediately a complete picture of the events that led to the collision. The Safety Board is especially concerned that the pilot did not make himself available after the accident since he had been directly involved in the events that led to the collision and possessed information not known to others. In the previous 5 years, this pilot had been involved in three other significant marine accidents investigated by the Safety Board. Therefore, the pilot should have known that an investigation of this accident would require his presence; however, there is no Federal regulation that requires pilots to remain available for investigative interviews immediately following an accident. The Safety Board has been informed by the Coast Guard, New Orleans that this is not an uncommon occurrence. The Safety Board has encountered this problem recently with a pilot in Alaska State waters, and it has also occurred when foreign-flag vessel crewmembers, who are critical witnesses, are repatriated immediately after an accident. Therefore, the Safety Board believes that the U.S. Coast Guard should amend 46 CFR 4.05 to require that persons involved in major marine accidents be available to Federal investigators subsequent to an accident.

Vessel Traffic Service

Neither the PALM PRIDE nor the BILL JR and HOPE M tows were participating in the VTS. The pilot of the PALM PRIDE became aware of the tows when he overheard the radiotelephone communications between the upbound VIRGINIA M and the downbound BILL JR and HOPE M. He then expected to meet and overtake these towboats, but because he did not have accurate information as to their locations or speeds, he could not ascertain where the meeting and passing locations would occur. Time was lost in radiotelephone conversation with the towboat operators as the pilot located the tows and determined their speeds, and he became aware that the HOPE M was overtaking the BILL JR. The pilot expected that the PALM PRIDE would pass the BILL JR at the Luling-Destrehan bridge, and pass the HOPE M farther downriver. He proposed to

overtake both tows on one whistle, expecting to overtake them individually. However, when the PALM PRIDE closed with the tows the HOPE M was still passing and abreast of the BILL JR, and the tows were about 1 mile upriver of the bridge. Had the vessels been participating in the VTS, needed information concerning vessel identity, location, speed, size of tows, and destinations would have been readily available from the VTS. The VTS broadcast would have informed all of the vessels in the sector simultaneously and some of the time consumed in the intervessel communications would have been avoided. Although the VTS cannot currently provide precise locations, this shortcoming could have been resolved by the use of the radar as the vessels approached one another. Since the pilot of the PALM PRIDE was fully aware of the locations of the tows before the collision, VTS was not a factor affecting the outcome of the accident. However, the Safety Board believes that an upgraded VTS capable of providing more precise vessel locating information and a requirement for mandatory participation would be beneficial on the Mississippi River.

CONCLUSIONS

Findings

1. The PALM PRIDE collided with the SCNO barge fleet about mile 122.5 (AHP) in the river bend at 26 Mile Point while the pilot was attempting to overtake two tows that were abreast of each other.
2. The pilot of the PALM PRIDE did not take adequate precautions concerning the vessel's speed while overtaking the two tows in a river bend where passing space was limited by moored barges.
3. The pilot of the PALM PRIDE failed to recognize that a risk of collision existed until he was alerted to the situation by the master.
4. Although radar was available to the pilot, the master, and the mate on watch, it was not used effectively to assess the overtaking of the tows and the closing with the SCNO barges.
5. The pilot could have slowed the PALM PRIDE and overtaken the tows after they had cleared the bend and the SCNO barges, thereby greatly reducing the risk of collision.
6. The master of the PALM PRIDE acted properly in countermanding the pilot's orders and taking control of the vessel.
7. The pilot of the PALM PRIDE should have determined whether a bow lookout had been posted and asked to be informed by the bridgewatch of reports that were received from the lookout.
8. The PALM PRIDE's lookout should have been relieved on station before he left to call the relief helmsman so that the lookout post would not be left unattended.
9. The pilot should have used the PALM PRIDE's bridgewatch to monitor radar while he performed his piloting duties.
10. The precautions prescribed by Inland Navigation Rules 6 (Safe speed), 7 (Risk of collision), 8 (Actions to avoid collision), 13 (Overtaking), and 34 (Maneuvering signals) were not adequately applied by the pilot of the PALM PRIDE.

11. The operator of the HOPE M cautioned the pilot of the PALM PRIDE concerning the risk in the overtaking proposal.
12. The siting of the SCNO barge fleet in the river bend at 26 Mile Point interfered with the safe navigation of vessels in the bend. Had the barge fleet not been so sited, vessel maneuvering in the bend would have been less risky and the probability of collision with the barges would have been reduced.
13. The pilot of the PALM PRIDE should have telephoned the Coast Guard to provide requested additional information and remained available to investigators for an interview concerning the accident.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the accident was the attempt by the pilot of the PALM PRIDE to overtake two tows simultaneously in the Mississippi River bend at 26 Mile Point where the space available to pass was limited. Contributing to the accident and to its severity was the high speed of the PALM PRIDE under the conditions of the overtaking; also contributing to the accident was the failure of the pilot to have the navigation bridgewatch assist him by monitoring the radar.

RECOMMENDATIONS

As a result of its investigation of this accident, the National Transportation Safety Board made the following recommendations:

--to the U.S. Coast Guard:

Coordinate with the U.S. Army Corps of Engineers in establishing a policy that prohibits future siting of barge fleeting facilities in river bends where such facilities will create a hazard to safe navigation of the bend by transiting vessels and tows. (Class II, Priority Action) (M-87-13)

Modify 46 CFR 4.05-10 to require that pilots, masters, operators, and persons in charge of the piloting, navigation, and operation of commercial vessels operating in the navigable waters of the United States remain available for investigative interviews concerning a major marine casualty or accident for not less than 24 hours following the time of occurrence unless released by the Coast Guard. (Class II, Priority Action) (M-87-14)

--to the Board of New Orleans-Baton Rouge Steamship Pilot Commissioners:

Issue a notice to the association's pilots to encourage them to avoid whenever practicable passing or meeting of tows at river bends, and to exercise extra caution while maneuvering should such encounters occur unexpectedly. (Class II, Priority Action) (M-87-15)

Issue a notice to the association's pilots to encourage them to use the vessels' bridgewatch to perform routine functions that may assist the pilot in maneuvering vessels on the river. (Class II, Priority Action) (M-87-16)

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ JIM BURNETT
Chairman

/s/ JOHN K. LAUBER
Member

/s/ JOSEPH T. NALL
Member

PATRICIA A. GOLDMAN, Vice Chairman, did not participate.

March 31, 1987

APPENDIXES

APPENDIX A

INVESTIGATION

This accident was investigated jointly by the National Transportation Safety Board and the U.S. Coast Guard between June 26 and July 4, 1986, in New Orleans, Louisiana. No public hearing was convened. This report is based upon the evidence developed during the investigation. The Safety Board has considered all the facts that are pertinent to its statutory responsibility to determine the cause or probable cause of the accident and to make recommendations.

APPENDIX B

PERSONNEL INFORMATION

Master Kazimierz Araszkieviev

The master of the PALM PRIDE, 55, held an Extra Master's license for any vessel, any waters, issued by the government of Poland on April 9, 1976. He had been sailing since 1946. He had served as a master for the past 12 years, and as master of the PALM PRIDE for the past 7 months.

Chief Mate Jan Olszowiec

Mr. Jan Olszowiec, 41, had been the chief mate aboard the PALM PRIDE since March 10, 1986. He had held a license issued by the government of Poland since 1966. He had 20 years sea experience, and this was his fourth trip on the Mississippi River on similar vessels.

Helmsman Marian Brzezinski

Mr. Marian Brzezinski, 47, held a seaman's document issued by the government of Poland. He had 20 years sea experience and had been aboard the PALM PRIDE for 7 months.

Pilot Robert M. Karr

Mr. Robert M. Karr, 52, the pilot of the PALM PRIDE, was a member of the New Orleans-Baton Rouge Steamship Pilots Association. He was commissioned as a pilot by the State of Louisiana in 1974 and was serving aboard the vessel under this commission. He held a U.S. Coast Guard license as a mate of steam or motor vessels other than passenger vessels upon rivers, as first class pilot for portions of the Mississippi and Ohio Rivers, and as operator of uninspected towing vessels upon inland waters of the United States. The license included a radar observer endorsement. The pilotage covered the PALM PRIDE's route.

APPENDIX C

EXCERPTS FROM INLAND NAVIGATION RULES ACT OF 1980

—INLAND— Steering and Sailing Rules

PART B—STEERING AND SAILING RULES

Subpart I—Conduct of Vessels in Any Condition of Visibility

RULE 5

Look-out

Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.

RULE 6

Safe Speed

Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.

In determining a safe speed the following factors shall be among those taken into account:

(a) By all vessels:

- (i) the state of visibility;
- (ii) the traffic density including concentration of fishing vessels or any other vessels;
- (iii) the maneuverability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions;
- (iv) at night the presence of background light such as from shore lights or from back scatter of her own lights;
- (v) the state of wind, sea, and current, and the proximity of navigational hazards;
- (vi) the draft in relation to the available depth of water.

(b) Additionally, by vessels with operational radar:

- (i) the characteristics, efficiency and limitations of the radar equipment;
- (ii) any constraints imposed by the radar range scale in use;
- (iii) the effect on radar detection of the sea state, weather, and other sources of interference;
- (iv) the possibility that small vessels, ice and other floating objects may not be detected by radar at an adequate range;
- (v) the number, location, and movement of vessels detected by radar; and
- (vi) the more exact assessment of the visibility that may be possible when radar is used to determine the range of vessels or other objects in the vicinity.

RULE 7

Risk of Collision

(a) Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.

(b) Proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.

(c) Assumptions shall not be made on the basis of scanty information, especially scanty radar information.

(d) In determining if risk of collision exists the following considerations shall be among those taken into account:

- (i) such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change; and
- (ii) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

RULE 8

Action to Avoid Collision

(a) Any action taken to avoid collision shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.

(b) Any alteration of course or speed to avoid collision shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing visually or by radar; a succession of small alterations of course or speed should be avoided.

(c) If there is sufficient sea room, alteration of course alone may be the most effective action to avoid a close-quarters situation provided that it is made in good time, is substantial and does not result in another close-quarters situation.

(d) Action taken to avoid collision with another vessel shall be such as to result in passing at a safe distance. The effectiveness of the action shall be carefully checked until the other vessel is finally past and clear.

(e) If necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.

RULE 13

Overtaking

(a) Notwithstanding anything contained in Rules 4 through 18, any vessel overtaking any other shall keep out of the way of the vessel being overtaken.

(b) A vessel shall be deemed to be overtaking when coming up with another vessel from a direction more than 22.5 degrees abaft her beam; that is, in such a position with reference to the vessel she is overtaking, that at night she would be able to see only the sternlight of that vessel but neither of her sidelights.

(c) When a vessel is in any doubt as to whether she is overtaking another, she shall assume that this is the case and act accordingly.

(d) Any subsequent alteration of the bearing between the two vessels shall not make the overtaking vessel a crossing vessel within the meaning of these Rules or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear.

Sound and Light Signals

RULE 34

Maneuvering and Warning Signals

(a) When power-driven vessels are in sight of one another and meeting or crossing at a distance within half a mile of each other, each vessel underway, when maneuvering as authorized or required by these Rules:

(i) shall indicate that maneuver by the following signals on her whistle: one short blast to mean "I intend to leave you on my port side"; two short blasts to mean "I intend to leave you on my starboard side"; and three short blasts to mean "I am operating astern propulsion".

(ii) upon hearing the one or two blast signal of the other shall, if in agreement, sound the same whistle signal and take the steps necessary to effect a safe passing. If, however, from any cause, the vessel doubts the safety of the proposed maneuver, she shall sound the danger signal specified in paragraph (d) of this Rule and each vessel shall take appropriate precautionary action until a safe passing agreement is made.

(b) A vessel may supplement the whistle signals prescribed in paragraph (a) of this Rule by light signals:

(i) These signals shall have the following significance: one flash to mean "I intend to leave you on my port side"; two flashes to mean "I intend to leave you on my starboard side"; three flashes to mean "I am operating astern propulsion";

(ii) The duration of each flash shall be about 1 second; and

(iii) The light used for this signal shall, if fitted, be one all-round white or yellow light, visible at a minimum range of 2 miles, synchronized with the whistle, and shall comply with the provisions of Annex I to these Rules.

(c) When in sight of one another:

(i) a power-driven vessel intending to overtake another power-driven vessel shall indicate her intention by the following signals on her whistle: one short blast to mean "I intend to overtake you on your starboard side"; two short blasts to mean "I intend to overtake you on your port side"; and

(ii) the power-driven vessel about to be overtaken shall, if in agreement, sound a similar sound signal. If in doubt she shall sound the danger signal prescribed in paragraph (d).

(d) When vessels in sight of one another are approaching each other and from any cause either vessel fails to understand the intentions or actions of the other, or is in doubt whether sufficient action is being taken by the other to avoid collision, the vessel in doubt shall immediately indicate such doubt by giving at least five short and rapid blasts on the whistle. This signal may be supplemented by a light signal of at least five short and rapid flashes.

(e) A vessel nearing a bend or an area of a channel or fairway where other vessels may be obscured by an intervening obstruction shall sound one prolonged blast. This signal shall be answered with a prolonged blast by any approaching vessel that may be within hearing around the bend or behind the intervening obstruction.

(f) If whistles are fitted on a vessel at a distance apart of more than 100 meters, one whistle only shall be used for giving maneuvering and warning signals.

(g) When a power-driven vessel is leaving a dock or berth, she shall sound one prolonged blast.

(h) A vessel that reaches agreement with another vessel in a meeting, crossing, or overtaking situation by using the radiotelephone as prescribed by the Bridge-to-Bridge Radiotelephone Act (85 Stat. 165; 33 U.S.C. 1207), is not obliged to sound the whistle signals prescribed by this Rule, but may do so. If agreement is not reached, then whistle signals shall be exchanged in a timely manner and shall prevail.

APPENDIX D

MARINE INVESTIGATION REGULATIONS

Subpart 4.05—Notice of Marine Casualty and Voyage Records

§ 4.05-1 Notice of marine casualty.

The owner, agent, master or person in charge of a vessel involved in a marine casualty shall give notice as soon as possible to the nearest Coast Guard Marine Safety or Marine Inspection Office whenever the casualty involves any of the following:

(a) All accidental groundings and any intentional grounding which also meets any of the other reporting criteria or creates a hazard to navigation, the environment, or the safety of the vessel;

(b) Loss of main propulsion or primary steering, or any associated component or control system, the loss of which causes a reduction of the maneuvering capabilities of the vessel. Loss means that systems, component parts, sub-systems, or control systems do not perform the specified or required function;

(c) An occurrence materially and adversely affecting the vessel's seaworthiness or fitness for service or route, including but not limited to fire, flooding, or failure or damage to fixed fire extinguishing systems, lifesaving equipment, auxiliary power generating equipment, or bilge pumping systems;

(d) Loss of life;

(e) Injury causing a person to remain incapacitated for a period in excess of 72 hours;

(f) An occurrence not meeting any of the above criteria but resulting in damage to property in excess of \$25,000. Damage cost includes the cost of labor and material to restore the property to the service condition which existed prior to the casualty, but does not include the cost of salvage, cleaning, gas freeing, drydocking or demurrage.

§ 4.05-10 Report by person in charge of vessel.

(a) In addition to the notice required by § 4.05-1, the person in charge of the vessel shall, as soon as possible, report in writing to the Officer in Charge Marine Inspection, at the port in which the casualty occurred or nearest the port of first arrival. The written report required for vessel or personnel accidents shall be made on Form CG-2692. The Form CG-2692A (Barge Addendum) may be used as needed and appended to Form CG-2692.

(b) If filed without delay, the Form CG-2692 may also provide the notice required by § 4.05-1.