National Transportation Safety Board

Washington, D.C. 20594
October 22, 2007

Factual Report of Operational Factors

Accident No.:	DCA07FM013
Vessel:	Bahamas Flag Motor Tankship *Kition*, 798 feet (243.3 meters) long, 137 feet (41.8 meters) wide, gross tons 53829, O.N. 8000683; IMO No. 9074561, steel double hull construction, built in 1994
Accident Type:	Allision with I-10 bridge pier, Mississippi River, Mile 229.3 LMR [1]
Location:	Mississippi River at Baton Rouge, Louisiana
Date:	February 10, 2007
Time:	0737:30 Local [2]
Owner:	*Kition* Shipping Co. Ltd.. Monrovia, Liberia
Operator:	V.Ships USA/ V.Ships Switzerland SA ... Address:, P.O. Box 6165 CH-1211 GENEVA. Street Address:, Rue Du Clos 21-23. 1211 Geneva CP6165, Switzerland.
Property Damage:	Ship $726,500,[3] Bridge $2 million
Complement:	23
Injuries:	None

Synopsis

About 0730, on Saturday morning, February 10, 2007, the Bahamas Flag Tankship *Kition* was moved away from its berth at Apex Marine on the right descending (west) bank of the Mississippi River just upriver from the I-10 highway bridge by a State pilot. The pilot used three tugs, one pulling on the bow and two pushing on the stern to turn the vessel to the right for an intended trip

[1] Lower Mississippi River (LMR) mileposts are measured in statute miles above Head of Passes, an intersection of various passes or channels connecting the Mississippi River to the Gulf of Mexico.
[2] All times are central standard time based on the 24-hour clock.
[3] The shipping company also sustained $997,800 for storage of cargo during the repairs, and other costs including fuel costs, crew costs, and off hire costs (loss of charter income).

downriver and thence to sea. When the nearly 800-foot long vessel was about parallel to the bridge, which provided a horizontal clearance of about 1100 feet, the second officer on the bow reported that the bow of the vessel appeared to be headed toward collision with the bridge pier. The master and pilot both ordered the engine to full astern, but the vessel did not appear to move astern. Approximately two minutes later, about 0737:30, the underwater hull (bulbous bow) struck the bridge fender system around the pier and the fender system commenced to collapse. As the fender system was collapsing, the tug at the bow let go of its line and backed clear. Moments later the bulwark on the starboard bow of the *Kition* struck the bridge pier knocking a 2-3 foot section of concrete out of the bridge pier. The Kition's bulbous bow was holed and the forepeak tank quickly flooded to the waterline.

The vessel's stern swung downriver and the vessel resumed heading upriver. The pilot, aided by two tugs, anchored the vessel downriver of the bridge.

Events Before The Accident

The 798 feet (243.3 meters) long Bahamian Tankship *M/V Kition* arrived at the Apex 2 dock, Port Allen[4], Louisiana to load a cargo of carbon black[5] on February 7, 2007. The berth is located on the right descending (west) bank of the Mississippi River immediately upriver from the I-10 Bridge, which provides about 1100 feet[6] of horizontal clearance in the navigation span. At the time, the vessel was moored port side to the berth and as normal practice its bow was pointing upriver. There were four bow lines, two forward breast lines, two forward spring lines, four stern lines, two after breast lines, and two aft spring lines holding the

[4] Port Allen is located on the west bank of the Mississippi River opposite Baton Rouge, Louisiana.
[5] A petroleum product produced in the refining process that is used in production of such products as asphalt, rubber, and dye. Material Safety Data Sheet No. EJ-471 provides data on the product.
[6] Coast Guard records show that the horizontal clearance was 1109 feet.

vessel in its berth. The river current was estimated to be 3 to 4 knots. Figure 1, Photo of *Kition*.

Loading of the cargo was expected to be completed by early morning on February 10, and arrangements had been made for tugs and a pilot. Three tugs including the *Peggy H, Gladys B, and Margaret F. Cooper* arrived alongside the *Kition* about 0545. A State licensed pilot arrived on board the vessel at 0548. The pilot recalled that the crew was disconnecting the cargo hose when he came aboard. The pilot spoke by VHF/FM radio with the three tugs, and he instructed the tug *Peggy H* to take a position on the bow and to send a line up to the vessel. He instructed the *Gladys B* to take a position amidships and for the *Margaret F. Cooper* to take a position at the stern. (The *Gladys B and Margaret F. Cooper* were not connected to the *Kition* by lines.)

About 0630, the third mate, who had the deck watch from 0600 to 1200 commenced testing the various navigation equipment, pursuant to Federal regulations at 33 CFR 164.25, including the primary and secondary steering, main engine ahead and astern, emergency lighting, and communications equipment, such as radio, whistle, and telephones. At O636, the main engine was tested satisfactorily. The chief officer arrived on the bridge about 0645 and noted that the third officer was in the process of testing the gear in preparation for getting underway. The pilot noticed that the whistle was not working. The chief officer found that the third officer had not turned on the switch for the whistle; he turned the switch on and the whistle worked satisfactory. The chief officer checked the emergency whistle and found that it was operating satisfactorily.

Shortly before 0700, the second officer and three crewmembers, including the bosun, went to the bow to take in the forward mooring lines. The second officer stated that his personnel on the bow took a line from a tug and secured the line to a bitt on the starboard bow. He stated that after securing the line from

the tug, he and his crewmembers had no further dealings with the tug. The third officer and three crewmembers went to the stern to take in the stern mooring lines.

Master-Pilot Conference –The pilot met the master on the bridge and, according to the master, the pilot stated that that he planned to turn the vessel around at the berth in order to head down river. The master stated that he objected to turning the vessel from the berth because of the vessel's size and the close proximity of the bridge. The master urged the pilot to proceed upriver and then turn the vessel. The pilot, according to the master, stated the vessel could not be taken up the river because of its deep draft, and he assured the master that turning vessels at that location was standard procedure.

However, the pilot stated during his interview that he met with the master and presented him with NOBRA's Master/Pilot's Exchange Card, a pamphlet providing information on the waterway and procedures.[7] The pilot stated that the conversation with the master was essentially concerned with the order of taking in the mooring lines, rather than how he was going to maneuver away from the dock. Moreover, the pilot stated that he does not discuss with the master how he is going to maneuver the vessel unless the master asks. The pilot stated that it was difficult to understand the master.[8] The pilot stated that he had intended to move the vessel downriver through the bridge and then turn it; however, a failure on the part of the forward tug resulted in the tug being unable to exert enough power to hold the bow alongside the dock and that the ship developed a significant swing to the right away from the pier. According to the pilot, once the bow swung right and the current impacted on the port bow, he believed that he would be unable to straighten the vessel in the strong current, which he

[7] NOBRA provides an information pamphlet to ships that contains information on pilot embarkation requirements, readiness of vessel requirements, communications, bridge locations and clearances, and a table giving the location of some 150 various facilities, wharfs, anchorages, most of which are along the NOBRA route.

[8] The master was Croatian and spoke with a strong accident, but his speech was reasonably clear.

estimated at about 3 knots, and this had caused him to attempt to turn the vessel from the berth.

The pilot stated that because of a wrecked barge[9] on the west bank at the location upriver of the Apex dock where he would turn a vessel with a deep draft, he did not consider going up river to turn the vessel. The pilot was not able to pinpoint the location of the wrecked barge or specifically how he had been informed of it. He stated that he had taken several vessels to and from the Exxon Mobil terminal about three miles up river from the bridge, and that the wrecked barge posed no threat to passing vessels. The pilot stated that he considered the Apex dock to be a difficult dock to get underway from,

Both the master and pilot had signed the MASTER/PILOT EXCHANGE OF INFORMATION RECORD, a form from the *Kition*'s required international safety management system (ISM/SMS)[10], indicating a master/pilot conference had taken place. The pilot had also reviewed the vessel's Pilot Card that provided information about the vessel.[11]

The Accident

For getting underway, the vessel's navigation watch consisted of the master, chief officer, and a helmsman, and the State pilot who would direct the movements of the vessel and issue all orders to the navigation watch, and to the tugs. The chief officer was responsible for operating the bridge control for the main engine, keeping the bell book (a record of engine commands and a log of events associated with the undocking), monitoring the helmsman to ensure that

[9] No wreck was shown on the chart and no evidence of a wrecked barge was found..
[10] The International Maritime Organization (IMO), an organ of the UN. established an International Safety Management Code that requires vessels of 300 GT and greater, on international voyages to have a safety management system.
[11] Federal Regulations at 33 CFR 164.11K require vessels to inform the pilot of the following: "maneuvering characters and peculiarities of the vessel and of any abnormal circumstances on the vessel that may affect its safe navigation."

the pilot's orders were carried out correctly, and monitoring radio communications with the second and third officers.

At 0700 the bridge notified the engine room to standby engines (SBE). At 0705, the pilot ordered the three tugs standing by to come ahead "hard," meaning to push against the vessel at full power to hold the vessel alongside the dock so that the mooring lines could be taken in. The tug operators received their orders from the pilot by Channel 77, VHF/FM radio. The pilot and the tug masters stated that the radio communications were clear and readily understood.

When the forward bow lines were being taken in, one of the lines leading from the starboard bow dropped into the water near the tug *Peggy H* and the tug's master reported to the pilot that he would have to move his vessel to prevent the possibility of the mooring line fouling one of his propellers[12]. The *Peggy H* master stated that he moved aft about 5-10 feet and that the maneuver took thirty seconds or less, and by this time the line was clear of the water, and he resumed pushing at full power. The tug master stated that when he resumed pushing at full power, the bow of the *Kition* still appeared to be against the dock. However, the pilot estimated that the tug was not pushing for 1 to 2 minutes, and that it was during this time, according to the pilot, that the bow commenced to swing away from the dock.

The video recordings from the terminal security cameras show the bow starting to swing to the right away from the pier about 0726. At 0726:22, the pilot made the following information broadcast on Channel 67 VHF radio to warn other vessels: "38 coming off the dock at Baton Rouge I-10 Bridge turning south." [13]

[12] Two days after the accident, the tug company had a diver check the propellers on the *Peggy H* for any indication of a line fouling the propellers and no indication of any fouling was found.
[13] For text of other VHF communications see Radiotelephone Communications, Channel 67 in Other Information section.

About 0727[14], the pilot ordered the vessel to dead slow ahead to facilitate taking in the aft spring lines, which ran from a chock located near the deckhouse forward to a cleat on the pier, about midships. The helmsman stated that the pilot ordered the rudder to port 20 degrees. The pilot stated that one of the aft spring lines got caught on something under the pier and that this caused a brief delay. The video shows line handlers on the pier at the location where the aft spring lines were secured from about 0726 until about 0730. The pilot ordered all of the tugs to stop, probably about 0729.[15] About 0729 the video shows the stern starting to move away from the pier. About 0730,the aft spring line, the last line, was clear of the pier.

The second officer on the bow and the third officer on the stern stated that they did not experience any problems in taking in the mooring lines.

After the stern swung away from the dock, the vessel appeared to become approximately parallel to the dock and remained approximately parallel until about 0731.

Then the pilot ordered the *Peggy H*, to back half astern, which the *Peggy H* master stated was probably to move the bow away from the dock. About 0731 the pilot ordered the engine speed increased to slow ahead and the rudder increased to hard port. The pilot stated that the increase in engine speed and rudder angle was an attempt to control the swing of the bow to the right.

However, according to the master and officers of the *Kition*, after the aft spring lines were taken in, the pilot started maneuvering the vessel away from the dock and that the vessel remained approximately parallel to the dock until it

[14] Speed changes are from the *Kition* bell logger.
[15] The video shows the midships tug proceeding aft about 0730 indicating that it had already stopped pushing.

was about 20 to 30 feet off the dock and then started turning to the right.[16] The video shows the vessel approximately parallel to the dock from shortly after 0729 until 0731, when it started turning to the right.

According to the tug masters soon after the *Peggy H* started backing half, the pilot ordered the *Peggy H*, to "back hard" astern and he ordered .the other two tugs to move aft and push hard (full power) on the stern. The third officer recalled looking over the starboard quarter and seeing two tugs pushing on the stern as the vessel's head swung to the right. About this time the pilot ordered the rudder to hard starboard. As the vessel swung to the right, its stern moved slowly away from the berth in response to the slow ahead bell. See figure 2. Graphic of *Kition* moving from dock to allision with the bridge pier.

The master of the *Peggy H* stated that he had assisted in numerous dockings and undockings at the Apex terminal.[17] He estimated that 90% of large vessels departing the dock are moved downriver through the bridge and then turned and that the others are taken upriver either to the old ferry landing [about a mile] or up river to the Exxon Mobil terminal [about three miles] and turned. He said that he had assumed that the pilot would move the *Kition* downriver through the bridge and then turn it. He stated that when the vessel had been moved away from its berth, it appeared to be positioned for being moved either upriver or downriver through the bridge for turning, and that the first indication that the pilot intended to turn at the berth was when the pilot ordered him to back hard and for the other two tugs to push hard on the stern. He stated that the vessel started turning as soon as he started backing hard. He said because the vessel was above the bridge and was turning, he recognized that the pilot was attempting to turn the vessel around.

[16] The master estimated 5 to 10 meters, the chief officer and third officer estimated that the vessel remained approximately parallel with the dock until it was about 10 meters off the dock, before the vessel started to turn to the right. Also, the video recordings indicate that the vessel moved away from the dock, and remained approximately parallel to the dock for about 2 minutes.

[17] The tug master stated that he had 25 years of experience on tugs assisting in the docking/undocking of ships. He estimated that he had assisted vessels at the Apex dock about 200 times and that probably half were undockings.

At 0733:30, the pilot reduced speed to dead slow ahead and at 0734 he ordered the engine stopped. At 0735 the pilot ordered the engine to dead slow astern, quickly followed by slow astern and half astern. As the vessel's bow continued to swing to the right it appeared to the second officer on the bow that the bow might strike the bridge pier and he informed the master. The master and the pilot both immediately ordered the engine to full astern, which was about 0736. Moments later the second officer reported that the bow would strike the bridge pier and he urged the master to back the vessel. At this time the engine was already at full astern rpm. The rudder was still at hard right. The master stated that the engine quickly reached full astern rpm; however, the vessel did not appear to move astern. About 0737:30,[18] a couple minutes after ordering the full astern, the vessel's underwater hull (the bulbous bow) made contact with the fender system causing the fender system to start collapsing. A section of the fender system fell on the after starboard side of the tug *Peggy H*, causing the tug to heel briefly. The tug let its line go and backed clear. Moments later, the *Kition*'s starboard bulwark near the bow struck the pier, knocking a 2-3 foot section of concrete out of the pier.[19] The vessel's forepeak tank was holed and started flooding. It was later determined that the bulbous bow had sustained most of the damage and was holed near the stem of the vessel. See Figure 3. Photo of damage to *Kition*'s bulbous bow; Figure 4. Photo of damage to bulwark on starboard bow of *Kition*, Figure 5. Photo of Damage to I-10 bridge fender system and concrete pier.

The master of the *Peggy H* estimated that the *Kition* was approximately parallel to the bridge at the time of collision, but that the vessel's stern may have drifted slightly under the bridge.

[18] The AIS indicates about 0737, the video indicates 0737:40, and an extract of bell log prepared by the chief officer indicates 0737:30.

[19] The bridge was inspected by Louisiana DOT bridge inspectors and found to be safe for use. Early estimates for reconstructing the fendering systems were approximately $2 million.

The contact with the bridge pier abruptly stopped the right swing of the vessel and the stern commenced to drift down river resulting in a left swing of the vessel. According to the helmsman, immediately after the allision, the pilot ordered the rudder to midships. The pilot ordered the two tugs at the stern to take station on each side of the bow to control the vessel. Immediately after the allision the master of the *Peggy H* took his vessel to a berth to inspect for possible damage. A survey of the *Peggy H* by its crew revealed that the only damage was some paint damage on the aft starboard bulwark where some of the collapsing fender system had landed.

The pilot then using the vessel's engine and rudder and assisted by the two tugs controlled the left swing that developed after the accident, and then maneuvered the vessel into the Meal Anchorage immediately downriver from the bridge. However, after the vessel was anchored, the vessel's heading yawed back and forth, alternately putting tension on one anchor chain and then the other. At 1000, another pilot, NOBRA 67, boarded the *Kition* and relieved the pilot (NOBRA 38). When the ship occupying the anchorage astern of the *Kition* departed the anchorage for a berth at a dock, the pilot shifted the *Kition* downriver to that anchorage. Efforts to obtain a secure anchorage, involving moving the location of the anchors continued into the afternoon until the vessel was securely anchored by both anchors about 1448. After observing that the vessel for over two hours, the pilot was finally satisfied that he vessel was securely anchored and he departed the vessel at 1735

Weather

The weather was clear and sunny, with light winds.

Waterway Information

The Mississippi River from just below New Orleans to Baton Rouge is characterized by numerous bends and a navigation channel that shifts from one bank to the other. This section of the river has a large number of berths, anchorages, barge fleeting areas, and industrial facilities. The Coast Pilot states that the Port of New Orleans has more than 100 berths. The NOBRA Board of Examiners estimate that there are some 120 berths along the NOBRA route from New Orleans to Baton Rouge, and that the NOBRA route is one of the longest pilotage routes in the nation. The route is characterized by high ship and barge traffic serving the numerous terminals, which include berths for shipment petroleum products, minerals, grain, steel, and general cargo. Industrial facilities include shipyards, chemical plants, and refineries. Four bridges cross the river above New Orleans, including the I-10 bridge at Baton Rouge; also, and five vehicular ferries and one pedestrian ferry cross the river between New Orleans and Baton Rouge.

"The channel between New Orleans and Baton Rouge for the most part deep and clear. However at low river stages there are sections of the river that have been improved by dredging to accommodate deep-draft vessels. These sections are called crossings."[20] There are 13 such crossings and they are dredged to provide a 45-foot channel.

At the time of the allision, the river height was 26 feet on the Baton Rouge gage and decreasing. River current was estimated at 3 to 4 knots. High water includes river stages 28 feet on the Baton Rouge gage and higher, Medium water conditions include gage readings from 28 feet down to 10 feet, and low water conditions include gage readings less 10 feet. The following regarding the dock where the *Kition* was moored is quoted from the United States Coast Pilot, Volume 5, titled Gulf of Mexico, Puerto Rico and Virgin Islands, page 441:

[20] United States Coast Pilot 2004 Mid-year Update, Volume 5, titled Gulf of Mexico, Puerto Rico and Virgin Islands, page 435-436.

"Dangers

Mariners departing Greater Baton Rouge Port Commission Dock No. 2 are advised to use extreme caution when turning vessels downstream. Strong currents associated with high water have caused vessels departing this facility to be set down upon the fender system of the Interstate Route 10 fixed highway bridge causing extensive damages. The New Orleans-Baton Rouge Steamship Pilots report that currents in excess of 7 knots have been observed. Mariners should consider moving vessels well above or below the bridge before turning downstream."

Personnel Information

Master --The master, age 60, stated that he had been a third mate for about two years, second mate for about 2 years, chief mate for about 10 years, and master for about 13 years. He was a 1970 graduate of the Dubrovnik Nautical College (Visa Pomorska Skola). He had been in command of the *Kition* for about two days when the accident occurred. He had 7 years of experience as master on ships of this size/type, and approximately another 5 years experience on such ships as chief officer. The ship had been doing lightering[21] to Baton Rouge for the last three years. The master had been to destinations in the Mississippi River on at least 10 other occasions and he had been to the Apex dock about 5 years ago on the Sadet Erkol (length approximately 130 meters), but he had never departed from the berth before.

The master stated that he departed Dubrovnik, Croatia on February 6 at 1900, departed Rijeka, Croatia on February 7 at 0400, and traveled through Trieste, Italy, Munich, Germany, and on to the United States, arriving on board the *Kition* late on February 7, 2007. The ship had arrived in Baton Rouge on Feb 7. He took command of the vessel at around 1800 or 1900 on Feb 9, 2007. He stated he was in good health and was not taking any medication.

Pilot – The pilot, age 48, had been a pilot with the New Orleans Baton Rouge Steamship Pilots Association (NOBRA) for five years. NOBRA pilots pilot vessels in foreign commerce navigating from mile 88 LMR in the New Orleans

[21] A barge or smaller vessel loads cargo from a larger vessel and transports the cargo into port, or sometimes to reduce the draft of the larger vessel so it can enter port.

Area to mile 235 LMR in the Baton Rouge area. NOBRA pilots are each assigned a number and the pilot had acquired the number 38, hence his identity for communications was NOBRA 38.

The pilot's entry-level training, along with about forty one other apprentices, comprised a one-year apprentice program, which require piloting experience on 300 vessels under various pilots of the pilot association. NOBRA requires each applicant for the apprentice program to hold a Federal Pilots license[22] for the NOBRA route. He and other apprentice pilots also received simulator shiphandling training, Bridge Resource Management (classroom and simulator) at the Paul Hall Maritime Center at Piney Point, Maryland. [23] The pilot also had taken training in use of marine radars and obtained a Radar Observer Certification, and training in Basic and Advanced Ship Firefighting. On May 1, 2002, he received a State Pilots Commission, which authorized him to pilot small vessels over the NOBRA route. The pilot described small vessels as vessels 400 to 450 feet in length and 8,000 to 10, 000 gross tons. He progressed in 8-month intervals to pilot lager vessel. After two years of successful piloting, he was certified to pilot all classes of vessels over the route from New Orleans to Baton Rouge. The pilot stated that the largest vessels that he has piloted were in the 900 foot long range and that he preferred to pilot larger vessels, often volunteering for pilot assignments on such vessels. The pilot did not recall piloting a vessel from the Apex 2 dock and his review of his records did not indicate any previous experienced departing that terminal. He stated that he had piloted many large vessels to and from the Exxon Mobil terminal a few miles above the I-10 bridge.

The pilot stated that he had been involved in one prior marine accident, which occurred in 2005. At that time he had boarded a ship with a Russian crew

[22] A Federal Pilots license, issued by the Coast Guard, covering their respective pilotage route, is held by nearly all State pilots and authorizes them to pilot US vessels in domestic commerce, e.g., coastwise vessels, and public vessels, such as Navy vessels.
[23] Seafarers Harry Lundeberg School of Seamanship operated by the Seafarers International Union, a maritime union representing unlicensed U.S. merchant mariners.

at White Castle anchorage. The master wanted to heave up the anchor and the plot had agreed for the master to do so while he was checking bridge clearances and talking with the Vessel Traffic Center. As the anchor was heaved in, the ship gained headway and collided with another vessel anchored up river. The Coast Guard report did not contain a reason for the accident or assign blame.

After high school, the pilot had worked in the offshore industry on small vessels and tugs for about three years. Then he was engaged in various jobs ashore until 1985 when he became a policeman in Slidell, Louisiana. In 1996 he returned to the marine industry on towing vessels, and acquired a U.S. Coast Guard license. In 2001, he was accepted into the pilot apprentice program for NOBRA.

He was in good health, had sufficient rest, and felt fine. He was controlling high blood pressure, high cholesterol, and excessive stomach acid with doctor prescribes medications taken each morning.

Pilotage Oversight

The Board of New Orleans Baton Rouge Steamship Pilots Examiners for the Mississippi River (Board of Examiners) stated that each of the four State pilot associations in Louisiana has a board of examiners (or commissioners), appointed by the Governor. The Boards of Examiners or Commissioners for the three pilot associations on the Mississippi River are comprised of three pilots of the respective pilot association. (The Board of Examiners for the Lake Charles pilots is comprised of one pilot, a local businessman, and the president of he Port Board for Lake Charles.) The Board of Examiners is responsible for approving the acceptance of apprentice pilots, their training, eventual commissioning, continuing training, and oversight of performance such as investigating accidents involving pilots.

The Board of Examiners stated that they had rewritten the State regulations governing pilotage for NOBRA within the past 4 to 5 years, and have inaugurated several changes to improve the quality of pilotage. The Board of Examiners administers the testing program for post accident toxicology testing as well as random testing for drugs in the workplace. In addition to the testing for drugs and alcohol prescribed by the U.S. Department of Transportation, the Board of Examiners requires each pilot to provide a sample of hair for drug testing twice per year, and the regulations require each pilot to inform the Board of Examiners of any prescribed medications that may adversely affect performance. If a random testing or a physical exam reveals medications that could be harmful to performance, a pilot will be required to obtain a clearance from a doctor specializing in occupational medicine before being allowed to continue piloting. The Board of Examiners requires each pilot to turn in a copy of his annual physical examination to continue piloting, and the Board of Examiners submits copies of the physical exams to the Coast Guard on an annual basis. The Board of Examiners requires that each pilot be afforded at least six hours of rest between turns, not including travel.

The Board of Examiners determines the currency training requirements including Bridge Resource Management (BRM) that it requires pilots to take at least every five years. An integral part of BRM is the master pilot exchange of information. However, the Board of Examiners stated that because pilots are independent contractors, they couldn't require the pilot to actually conduct a Master Pilot exchange of information.

Oversight of the four Boards of Examiners, or Commissioners – According to State law oversight of pilotage matters is to be provided by the Board of Louisiana River Pilots Review and Oversight (Board of Review).[24] The Board of Review is comprised of 11 individuals, including three retired

[24] The Board of Louisiana River Pilots Review and Oversight was established during the State Legislative Session of 2004

judges, four representatives from industry, and four pilots drawn from the four pilot groups. One of the three retired judges is named to be chairman of the Board of Review. The members of the Board or Review were appointed in October 2006; however, the Board of Review has not yet been funded and according to its chairman is not capable of carrying out its mission.

The Chairman of the Board Of Review stated that the Board of Review was established because industry, the press, and to some extent, the public felt that pilots, who were involved in accidents on the Mississippi River were often treated leniently by the Boards of Examiners, or Commissioners. Also there were complaints that in some instances post accident toxicological testing after an accident was not always done. It was considered that an independent Board of Review was needed to review pilot related incidents and to review the investigations and actions by the respective Board of Examiners or Commissioners. The independent Board of Review, would review the record of each investigation conducted by the Boards of Examiners or Commissioners, and could remand the record of the investigation back to the Board of Examiners or Commissioners for reconsideration or additional investigation. Also, the Board of review could initiate its own independent investigation and issue corrective action deemed more appropriate for the pilot's action.

However, because the Board of Review has not been funded it has only been able to have a few procedural meetings, and has been unable to exercise any oversight over the Boards of Examiners or Commissioners. The Board has obtained legal assistance from a law firm, which provides legal advice, and filing space for records, with the anticipation that the Board of Review will eventually be funded and that the law firm will be paid. According to the Chairman, regulations have been drafted, with assistance of lawyers from the pilot associations, and the draft regulations have been passed out to the four State Pilot Associations, Boards of Examiners, or

Commissioners, and to all State pilots. However for the regulations to be enforceable they must be promulgated for a period of public review, followed by a review of public comments received, and modification of the draft regulations to comply with public comments that are considered appropriate. The Board of Review lacks funds for the promulgation of the regulations for public review; hence, the regulations remain in draft. The Chairman stated that an annual budget of $168,000, based on anticipated expenses, including the hiring of an investigator on a part time basis, had been developed and that he had been seeking funding by correspondence with the Governor. The Chairman has also been in contact with the Chairman of the Pilot Fee Commission[25] to ascertain if the Review Board could be funded from charges to vessels calling at ports in Louisiana, similar to funding that supports the Pilot Fee Commission. The Attorney General for Louisiana found that the Pilot Fee Commission did have the power to assess a tariff on shipping to fund the Board of Review. The case was considered by the Pilot Fee Commission, but was tabled because of the lack of a quorum.

An Office of Marine Safety investigator recently interviewed the Chairman of the Board of Review, and interviewed a Lake Charles pilot, who is a member of the Review Board and a Commissioner for the Lake Charles Pilots (Calcasieu River), an industry representative on the Board of Review, and the executive counsel for the Governor, all of whom expressed the opinion that an independent Board of Review was a good idea and there is a need to fund the Board.

The Chairman of the Board of Review also stated that one of the three retired judges appointed to the Board of Review had resigned and that he had corresponded with the Governor for appointment of a replacement. He had not received a response from the Governor. The Chairman also stated

[25] The Pilot Fee Commission, like the Board Of Review, was established by the 2004 State legislature to set rates imposed on vessels to pay for pilotage services. The Public Service Commission had previously performed this function.

that having three retired judges would facilitate a majority vote of at least six votes as required by State law in case the four pilots were to vote one way and the four industry representatives to vote the other way.

Accident investigation -- When an accident occurs which may be attributable to performance of a pilot, the Board of Examiners investigates the cause of the accident to determine if the pilot is at fault. In cases where fault is found, the Board of Examiners may, in serious circumstances, recommend revoking or suspending the pilot's State commission, or prescribe another punitive or remedial action.[26] Normally, some form of remedial training will be recommended rather than punitive action. The Board of Examiners employs an attorney who investigates accidents involving NOBRA pilots. The investigator conducts interviews and collects documents and presents the evidence to the Board of Examiners, which reviews the material and then interviews the pilot and determines what action to take. In some accidents, the accident may be recreated on a simulator to ascertain how the accident occurred and to identify the steps to prevent recurrence. If the accident is serious the interview of the pilot may be conducted publicly.

The President of the Board of Examiners indicated that when the Board of Examiners completes an investigation the record of the investigation and recommendations are forwarded to the Board of Review. The Board of Review is authorized by State law to review the investigative record and recommendation/s. The Board of Review is authorized to concur with the investigation and recommendations or remand the case back to the Board of Examiners for further investigation or reconsideration. Further the Board of Review is authorized to conduct its own investigation. Also, a pilot has the right to appeal any disciplinary action imposed by the respective Board of Examiners/Commissioners to the Board of Review. However, because the

[26] The Governor must approve recommendations for punitive action like revoking or suspending a pilot's State commission.

Board of Review has not been funded it is largely nonfunctional and no reviews of records or investigations by the Review Board have taken place. Notwithstanding the lack of funding, the Board of Review does receive records of actions against pilots taken by the Boards of Examiners or /Commissioners and compiles the information into an annual report, which is sent to the Louisiana Department of Transportation.

Toxicology

Tugs - The master and crewmembers of the tugs were tested for alcohol and the five illicit drugs.[27] When the E.N. Bisso management learned of the accident, the tug masters were instructed to conduct alcohol testing using the saliva test kits carried on board. This testing was conducted between 1000 and about 1200, as operations permitted. The company immediately dispatched its contractor to the area to collect urine specimens required for testing for the five illicit drugs. When the *Kition* was finally anchored securely, the contractor collected urine specimens for drug testing and tested for alcohol. Alcohol testing of the tug crews by the contractor was conducted about 1530.

Pilot –A contractor (same as for the tugs) tested the pilot for alcohol about 1156 and collected a urine specimen.

The results of all testing of the pilot and tug crews were negative for alcohol and drugs.

Kition- The master, three deck officers, and the deck crewmembers were tested for alcohol and drugs. However the testing for alcohol was not conducted until after more than eight hours had elapsed. All of the tests for drugs were negative.

[27] Federal regulations at 46 CFR 4.06 require post accident testing for alcohol and drugs, and 46 CFR !6.115 specifies testing for the following drugs: Marijuana, Cocaine, Opiates, Phencyclidine (PCP), and Amphetamines

The Coast Guard investigator, who arrived on board the Kition after the accident, informed the officers on the bridge that post accident testing for alcohol and drugs was required. A representative of the owner stated that there were kits for collecting the urine specimens for drug testing and saliva kits for alcohol testing on board the vessel. However, the vessel operator was concerned that the post accident testing be conducted properly, such as the maintenance of an accurate chain of custody, and he arranged for a professional drug and alcohol testing company to conduct the testing. He stated that he informed the Coast Guard investigator that a testing company would be conducting the post accident testing. The Coast Guard investigator did not recall being informed that saliva alcohol testing kits were on board. The investigator stated that he did not insist on alcohol testing because the crew was busy trying to get the ship safely anchored, and that other crewmembers were assessing the damage. The maneuvering of the vessel continued until 1448 when the vessel was anchored for the last time, but the pilot and crew continued to monitor the vessel's position in case further maneuvering was required until after 1700. The pilot was finally satisfied that the vessel was secure in its anchorage and he departed the vessel at 1735.

A professional collector from the drug and alcohol testing company arrived on the vessel late that evening, and the alcohol testing was conducted between 2309 and 2344, which was more than 15 hours after the accident. The alcohol tests were negative. Urine specimens for drug testing were collected and the test results for drugs were all negative.

The Coast Guard investigator stated that he had observed the navigation watch during the maneuvers to secure the vessel in the anchorage and he had detected no indications of any impairment of the Kition crewmembers, or any indication that anyone had ingested alcohol or drugs. He stated that he did not consider it appropriate to insist that alcohol testing be conducted while the vessel

was being maneuvered, nor did he believe the ship's failure to test for alcohol clearly warrant a fine.

Other information:

Apex Terminal --The Director of Operations of the Port Authority of Baton Rouge stated that he had been employed at the berth for some 20 years and had had observed numerous vessels arrive and depart the Apex Terminal, and that he had never seen a large vessel turn from the berth. He stated that some small vessels have been turned at the berth, but no large vessels like the *Kition*. He stated that large vessels departing berth No. 2 are normally moved downriver of the I-10 bridge and then turned. He was aware that vessels are taken upriver and turned. He considered large vessels to include vessels that are 650 to 700 feet long. He stated that some very large crude carriers destined for the Exxon Mobil terminal moor at berth No 2 to wait until a berth at Exxon Mobil becomes available. Statistics provided by the Port Authority indicate that about 14 vessels dock at the Apex dock each year.

The Apex Terminal manager, who is also Manager Gulf Coast Area for Apex Oil, stated that he had worked at the Apex Terminal since 1981 and had observed numerous vessels arrive and depart the Apex terminal. He stated that large ships are either taken upriver and turned or taken downriver and turned around, but that large ships are not turned from the berth. He stated that tank ships have drafts ranging from 36 to 45 feet. (The *Kition* Pilot Card listed the vessel's draft as 44' 07")

Video Coverage—The Port Authority, Port of Greater Baton Rouge has security cameras on the piers, and the video coverage from four cameras covering the *Kition*'s berth was reviewed. The video shows the *Kition*'s bow coming away from the dock at a small angle and then the stern moving away from the dock until the vessel is nearly parallel with the dock. A minute or more

later the vessel starts turning to the right and continues turning until the allision occurs. One camera located down river shows a significant distance between the stern of the vessel and the dock when the vessel was approximately cross ways to the river. A study of the video indicated that the stern was 315 to 325 feet from the dock. The video also indicated that the vessel was approximately parallel to the bridge at collision, and that the allision occurred about 0737:40.

Kition course recorder –The course recorder trace showed the vessel on a steady heading of 259.5° until about 0724[28] when the trace shows a right heading change to about 002°. And, about 0725 the heading changes left to about 000°, and about 0728, the heading started changing to the right and continued swinging right until the allision occurred at 0734:30. Because the course recorder time appears to be about 2 to 3 minutes slower than the times of the AIS and video, the heading change to 002° and the left course change to 000° probably occurred when the bow and then the stern swung away from the dock.

AIS – AIS data recorded by the Coast Guard indicated that the allision occurred about 0737.

Radiotelephone Communications Channel 67 VHF –The pilot of the *Kition* was involved in the following radiotelephone transmissions:

NOBRA38: Kition Pilot
NOBRA77: Southbound State Pilot
TOW: Operator of a northbound towboat

0716:20	NOBRA38	NOBRA38 to I-10 Bridge, Baton Rouge. Working 77. Have a loaded tanker, Let.. go lines, turning southbound. 38 at Baton Rouge I-10 bridge. 77
0716:38	NOBRA77	This is 77. Are you there at City dock at I-10 bridge?
0716:44	NOBRA38	Roger. Starting to let go lines.
0716:45	NOBRA77	Good I am south…Placid oil…….

[28] The *Kition*'s course recorder time appeared to be 2 to 3 minutes slower the times of the AIS and Video

0717:00	Tow	….just come past anchored ship…What ever you need….going to Exxon…
0717:18	NOBRA38	Ok. Yeah, if you will just stay over by the center pier or east side of center pier; that, would be good. I will be crossways at the bridge.
0717:18	Tow	It will be another 20-30 minutes before I get up to the bridge.
0717:26	NOBRA38	OK it will be about that before I turn out of here.
0726:22	NOBRA 38	38 coming off the dock at Baton Rouge I-10 Bridge turning south.

The American Pilots Association (APA) policy on Master Pilot Information Exchange – On October 8, 1997, the Board of Trustees of the APA adopted the following policy:

1. *Master Pilot conference*

- *Each pilotage assignment should begin with a conference between the pilot and the master.*
- *The initial conference is an opportunity not only to exchange information that the pilot and master each needs, but also for the pilot and the master to establish an appropriate working relationship.*
- *The conference should convey, and be consistent with, the principle that the pilot and the master/bridge crew each has an important role in the navigation of the vessel.*
- *The amount and subject matter of the information to be exchanged in the initial conference should be determined by the specific navigation demands of the pilotage operation.*
- *For some vessel movements, particularly those involving a long run or difficult maneuvers at the beginning of the movement, not all relevant information must, or should, be exchanged in the initial conference; additional information can be exchanged as the movement proceeds.*

Figure 1. *Kition*

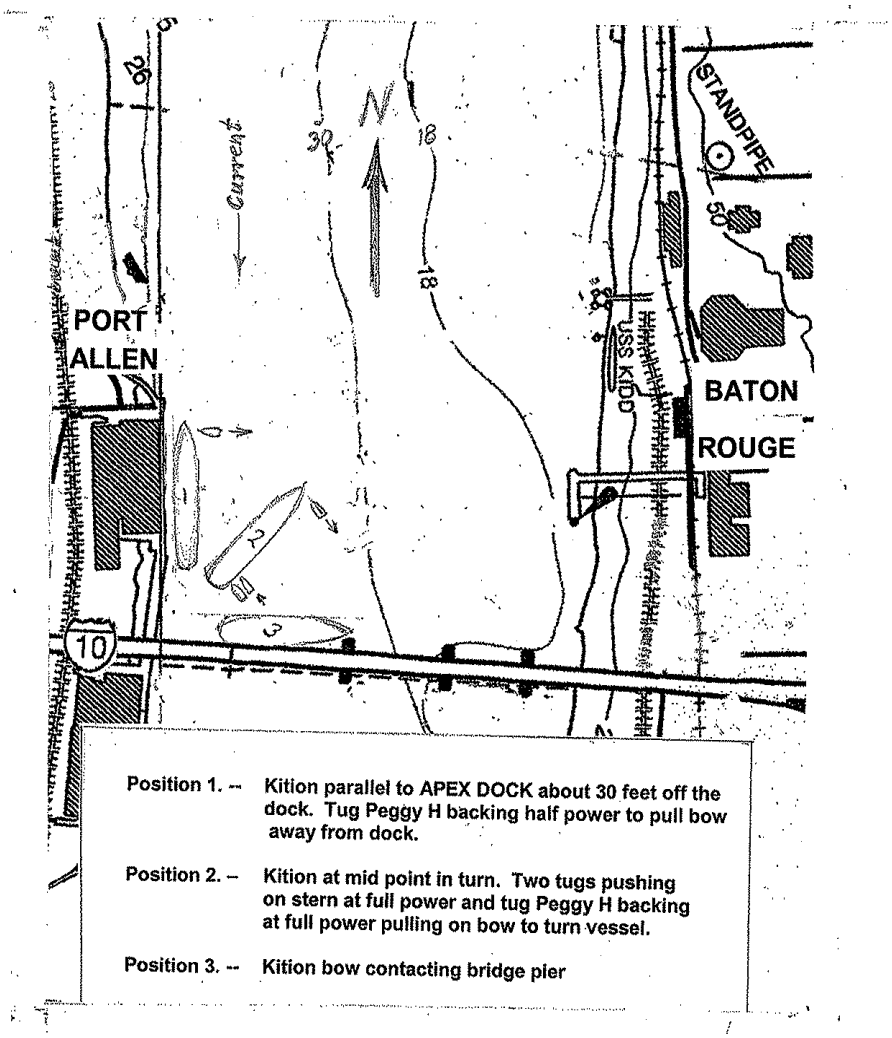

Figure 2. Graphic of *Kition* Moving from the Dock to Allision with the I-10 Bridge Pier

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Figure 3. Damage to *Kition*'s Bulbous Bow

Figure 4. Damage to Bulwark on *Kition*'s Starboard Bow

Figure 5. Damage to Bridge Fender System and Section of Concrete Knocked out of Bridge Pier