April 22, 2025 MIR-25-17

# Contact of Towing Vessel *Cocodrie* with Valero St. Charles Refinery Walkway

On March 15, 2024, about 1355 local time, the towing vessel *Cocodrie* was pushing an empty tank barge, maneuvering away from a Valero St. Charles Refinery dock at mile 124.7 on the Lower Mississippi River, near Norco, Louisiana, when it struck a walkway for another nearby dock (see figure 1 and figure 2).[1] There were no injuries, and no pollution was reported. Damage to the vessel and the dock was estimated at $663,000.[2]


**Figure 1.** *Cocodrie* moored after the casualty on March 19, 2024.

[1] In this report, all times are central daylight time, and all miles are statute miles.

[2] Visit ntsb.gov to find additional information in the public docket for this NTSB investigation (case no. DCA24FM028). Use the CAROL Query to search investigations.

## Casualty Summary

| | |
|---|---|
| **Casualty type** | Contact |
| **Location** | Lower Mississippi River, mile 124.7, near Norco, Louisiana<br>29°58.85′ N, 090°23.67′ W |
| **Date** | March 15, 2024 |
| **Time** | 1355 central daylight time<br>(coordinated universal time –5 hrs) |
| **Persons on board** | 5 |
| **Injuries** | None |
| **Property damage** | $663,000 est. |
| **Environmental damage** | None |
| **Weather** | Visibility 10 mi, overcast, thunderstorms in area, winds southwest 10 kts, gusts 16 kts, air temperature 80°F, water temperature 58°F |
| **Waterway information** | River; width 0.5 mi, depth 37 ft, current about 2 mph, river stage 7.7 ft at Bonnet Carrè (mile 126) |

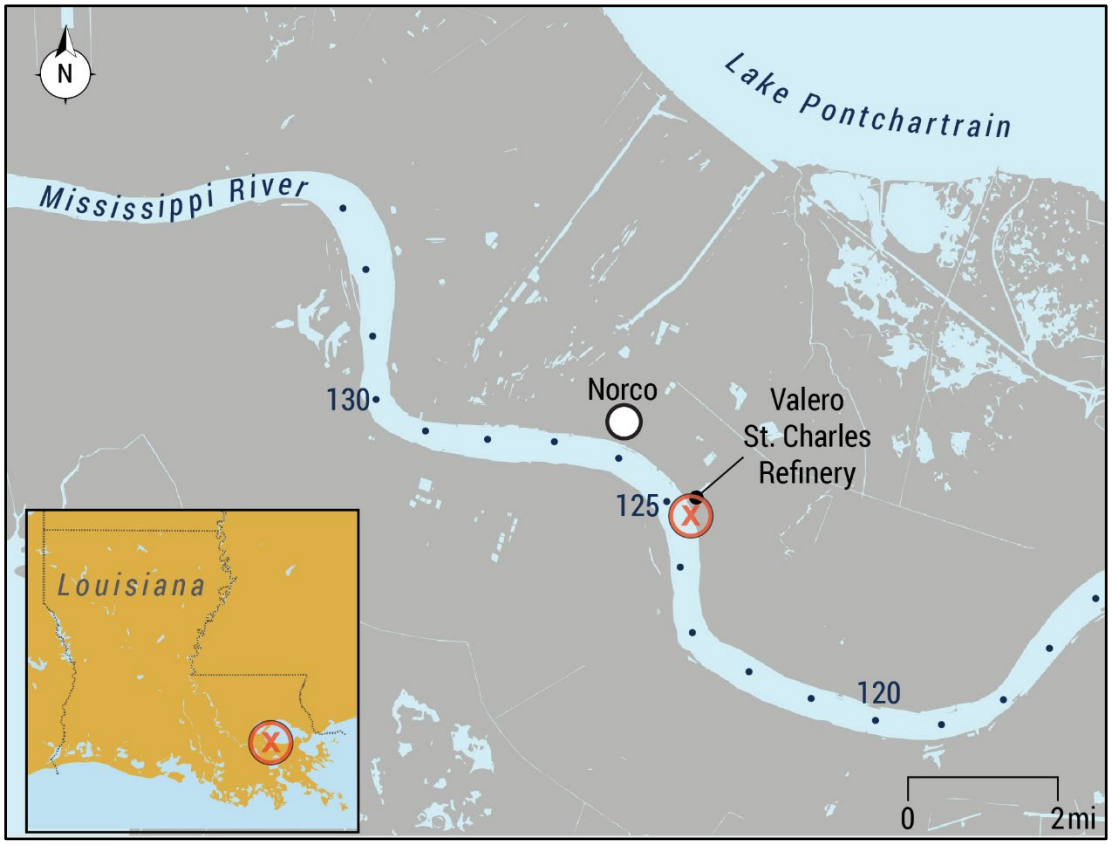


**Figure 2.** Area where the *Cocodrie* contacted the Valero St. Charles Refinery walkway and pilings, as indicated by a circled *X*. (Background source: Google Maps)

# 1 Factual Information

On March 15, 2024, about 0236, the 2,000-hp, twin screw, 69-foot-long, steel-hulled *Cocodrie* and its tow, the 297-foot-long, 54-foot-wide tank barge *Kirby 29161*, moored starboard side to dock no. 5 at the Valero St. Charles Refinery at mile 125 on the Lower Mississippi River near Norco, Louisiana, to discharge petroleum product. Five crewmembers were aboard, including a pilot, relief captain, deckhand, and two tankermen.[3] The *Cocodrie* was faced up to the barge, and the total length of the tow was 366 feet (see figure 3).

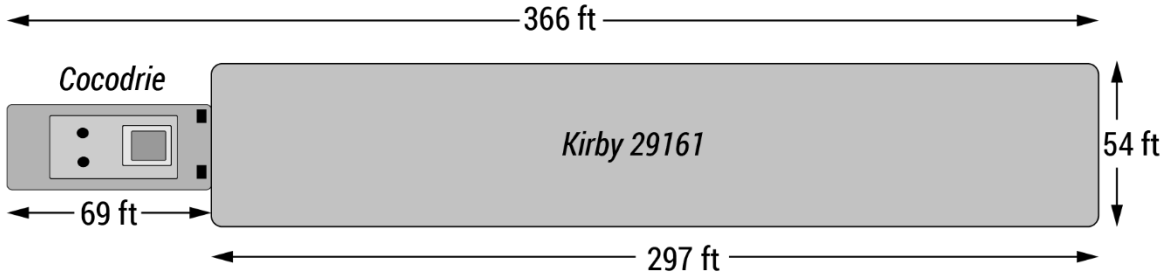


**Figure 3.** *Cocodrie* towing arrangement.

About 1145 on March 15, while the tow was alongside dock no. 5 and offloading product, the *Cocodrie* pilot relieved the relief captain in the wheelhouse for their scheduled watch change. The relief captain and pilot discussed the weather for the day and a frontal system that was due to pass through the area that evening.

Offloading of the barge's cargo was completed at 1220. The crew planned to bring the empty barge to the Kirby fleet at mile 127 (per dispatch orders). However, because of thunderstorms in the area, they were prohibited from disconnecting the cargo hose, so their departure was delayed. According to the deckhand on watch, there was a "little shower" about noon, but it was not raining at the time they departed.

About an hour before getting underway, the pilot checked the weather forecast on his phone, which predicted winds about 10–12 mph. The forecasted winds were within the limitations of the operating company's guidance, which, according to the pilot , prohibited tows from getting underway when winds were 20–25 mph. The pilot, who had worked on the *Cocodrie* about a year, stated that the wind "wasn't a factor that [he] couldn't handle." He added that the barge was

[3] *Pilot* is a term used aboard towing vessels on inland waterways for a person, other than the captain, who navigates the vessel

scheduled to be dropped off at its destination, about 2 miles away, before the cold front was due to arrive in the area. The pilot had previously docked starboard side to docks at the Valero St. Charles Refinery but had not undocked from the no. 5 dock before.

The pilot conducted a pre-departure brief with the deckhand and a tankerman in the wheelhouse. They discussed how to maneuver the tow away from the dock and where the deckhand and tankerman would be positioned on the tow (the more experienced tankerman would be on the starboard side of the barge, and the deckhand would be on the port side). The current was about 2 mph. The draft of the *Cocodrie* was 8 feet 6 inches, and the draft of the 12-foot-deep empty barge was about 2 feet (additionally, the barge had a 5-foot-high trunk on its main deck, meaning that the barge had about a 15-foot-high profile out of the water).

The deckhand and tankerman began to let go the lines, starting with lines at the aft end of the barge. The last lines—at the head of the tow—were let go about 1338, and the pilot began to get the tow underway. About 350 feet aft of the boat was a support piling for dock no. 6 walkways (at mile 127.4). The deckhand and tankerman went to their assigned positions on the barge. According to the pilot, his preferred method to leave the dock would have been to pivot out (angle the barge to starboard) to move away from the dock. The tankerman, however, informed him that the rake of the barge would go over the dock and could damage the railings. Further, two mooring buoys on the port side of the barge (the closest was about 70 feet off the port side and about 90–100 feet aft from the bow of the barge) and a mooring dolphin ahead of the dock meant the pilot could not come off the dock and move ahead. Instead, the pilot said he "walked it [the barge] out" (moving the barge to port with use of the propulsion and rudders) toward the closest of the buoys to the port side of the tow. The pilot then began backing the tow out, and, about that time, he noticed on the vessel's anemometer that the wind had increased to 15 mph. The pilot stated that he did not "have the angle" he needed and the wind was on the tow's port side, pushing it directly toward the dock (CCTV from dock no. 5 showed clouds moving across the river from the west-southwest).

The pilot opted to maneuver the tow back to its original position (against the dock) so that he could regroup and try departing again. About 1351, the tow was back alongside dock no. 5 (no lines were sent to the dock). Seconds later, the pilot began to walk the tow off the dock and ahead to about 5–15 feet away from the buoy nearest the port side of the barge. About 1354, the tow began to move astern, downriver with the current. The pilot said he angled the stern of the *Cocodrie* out toward the river because he knew dock no. 6 was aft of the vessel. However, the barge moved to starboard toward the dock structures on the bank. Still moving astern, the pilot saw on the anemometer that the wind had increased to 20 mph—

directly off the tow's port side. The pilot stated that he attempted to "twist" and turn the head of the tow out toward the river, but the wind had increased again to 25 mph "and climbing," noting that it "maxed out at 31 [mph]." The barge continued to swing to starboard toward the bank and dock no. 6. The pilot told investigators that if the wind was at that speed before he got underway, he would not have attempted to move the barge.

About 1354:30, the vessel was moving at a speed of 4.7 mph astern, and the tow was swinging at a rate of turn about 25° per minute to starboard. About 15 seconds later, when the vessel was about 110 feet from the dock no. 6 walkway piling, the astern speed was 5.3 mph. CCTV video from dock no. 6 captured propeller wash from the stern of the boat. The pilot said he came full ahead on the starboard engine, moved the flanking rudder to starboard, and moved the main rudders to port to try to avoid hitting the no. 6 dock's 100-foot-long walkway. At 1355:05, the stern of the *Cocodrie* began to swing to starboard and close on the dock no. 6 walkway, and, at 1355:19, the starboard-side aft corner of the wheelhouse of the *Cocodrie* struck the dock no. 6 walkway(see figure 4).

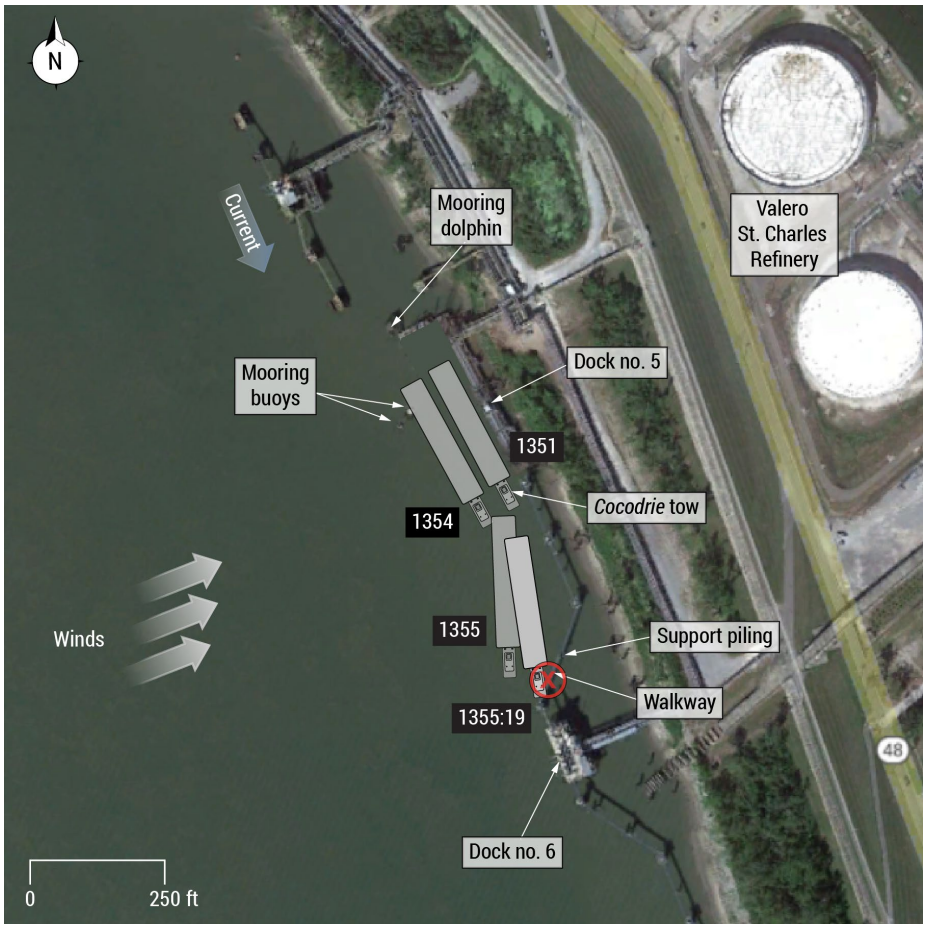


**Figure 4.** Path of *Cocodrie* tow up to and when the *Cocodrie* contacted the dock no. 6 walkway. (Background source: Google Earth; vessel data source: *Cocodrie* Rose Point)

Designed to be removeable, the walkway came completely away from its mountings to a breasting dolphin and support piling and fell onto the open aft second deck of the *Cocodrie* (see figure 5). The *Cocodrie* made headway momentarily until the walkway got caught on the support piling to which it had been mounted, arresting the vessel's forward movement. No one was on the walkway at the time of the contact, and none of the *Cocodrie*'s crew were injured. After the contact, the relief captain, who was off watch and sleeping at the time, went to the wheelhouse, where he relieved the pilot at the helm.


**Figure 5.** *Cocodrie* with the walkway resting across the deck of the aft main deck structure. (Source: US Coast Guard).

Damage to the dock no. 6 walkway was estimated at $429,000, not including loss of use. The dock was out of service for about 45 days. The walkway support piling was displaced and was no longer vertical. Support framing and cable tray supports at each side of the walkway were damaged as well. The *Cocodrie* sustained damage to its second deck—including multiple broken railings, buckled and fractured deck surface, and damage to the vessel's stacks—estimated at $234,000. The total estimated damage to the dock and vessel was $663,000.

# 2 Analysis

While the *Cocodrie* pilot was attempting to undock the empty tank barge *Kirby 29161* from dock no. 5 at the Valero St. Charles Refinery, the *Cocodrie* struck a walkway for dock no. 6, which then fell onto the aft second deck of the *Cocodrie*.

A mooring dolphin in front of the tow prevented the pilot from moving the tow forward from dock no. 5, and mooring buoys to port near the bow of the barge prevented him from moving the tow laterally off the dock into the river before proceeding ahead. Additionally, there was a risk of the barge's rake contacting dock no. 5 (the upper portion of the barge's bow sweeping above the dock) if the pilot attempted to angle the barge to starboard to pivot the tow away from the dock. Given these factors, the pilot explained that his best option was to walk the barge out toward the buoys and back away. However, about 350 feet aft of the *Cocodrie* was dock no. 6 and its walkway.

The pilot stated that when he initially got the tow underway, winds were 12–15 mph off the port side of the tow (pushing the tow toward the dock), but he was not concerned about the effect of the winds on the tow. These winds were within company guidelines, which prohibited tows from getting underway when winds were 20–25 mph. However, as the pilot attempted to maneuver the tow away from the dock a second time, winds increased to 25 mph, with gusts to 31 mph. Thunderstorms were in the area, and, with convective activity, wind speed and wind direction can be highly variable, even in the absence of precipitation. Because the *Kirby 29161* was empty, its draft was only about 2 feet, leaving about 10 feet of the barge—combined with the 5-foot-high trunk that spanned most of the barge's main deck—out of the water and exposed to the wind. As the pilot attempted to maneuver the tow away from dock no. 5, wind acting on the port side of the barge set the tow toward dock no. 6 and its walkway. Although the pilot attempted to correct the tow's position, the sudden onset of strong beam winds acting on the port side of the empty barge increased the difficulty of the maneuver, preventing him from appreciably moving the tow away from dock no. 5.

In an attempt to "twist" the head of the tow to port (away from the dock and its walkway), the pilot came full ahead on the starboard engine, moved the flanking rudder to starboard, and moved the main rudders to port. However, given the *Cocodrie*'s proximity to the dock no. 6 walkway, the pilot's action was too late to arrest the vessel's astern momentum, and the aft corner of the *Cocodrie* wheelhouse struck the walkway, causing it to come away from its mountings and fall onto the *Cocodrie*.

# 3 Conclusions

## 3.1 Probable Cause

The National Transportation Safety Board determines that the probable cause of the contact of the towing vessel *Cocodrie* with the Valero St. Charles Refinery dock no. 6 walkway was the sudden onset of strong beam winds, which increased the difficulty of the undocking maneuver with an empty barge.

## Vessel Particulars

| Vessel | *Cocodrie* | *Kirby 29161* |
|---|---|---|
| **Type** | Towing/Barge (Towing vessel) | Towing/Barge (Tank barge) |
| **Owner/Operator** | Kirby Inland Marine (Commercial) | Kirby Inland Marine (Commercial) |
| **Flag** | United States | United States |
| **Port of registry** | Houma, Louisiana | N/A |
| **Year built** | 2015 | 2011 |
| **Official number** | 1259043 (US) | 1234348 (US) |
| **IMO number** | N/A | N/A |
| **Classification society** | American Bureau of Shipping (Third-party organization) | N/A |
| **Length (overall)** | 69.1 ft (21.1 m) | 297.5 ft (90.7 m) |
| **Breadth (max.)** | 30.0 ft (9.1 m) | 54.0 ft (16.5 m) |
| **Draft (casualty)** | 8.5 ft (2.6 m) | 2.0 ft (0.6 m) |
| **Tonnage** | 99 GRT | 1,619 GRT |
| **Engine power; manufacturer** | 2 x 1,000 hp (746 kW); Cummins QSK 38 | N/A |

NTSB investigators worked closely with our counterparts from **Coast Guard Sector New Orleans** throughout this investigation.