



National Transportation Safety Board

Marine Accident Brief

Contact of Crane Barge *Troy McKinney* with Overhead Power Lines

Accident no.	DCA17FM016
Vessel name	<i>Troy McKinney</i>
Accident type	Contact with power lines
Location	Harvey Canal, Harvey, Louisiana; 29°51.5' N; 090°03.9' W
Date	June 7, 2017
Time	2018 central daylight time (coordinated universal time – 5 hours)
Injuries	None
Property damage	About \$440,000
Environmental damage	None reported
Weather	Good visibility, winds north at about 8 mph gusting to nearly 20 mph; air temperature 80°F ¹
Waterway information	The Harvey Canal is part of the Intracoastal Waterway, maintained by the US Army Corps of Engineers, and is located opposite the city of New Orleans, Louisiana. The canal connects the Mississippi River to extensive inland waterways south of the city.

On the evening of June 7, 2017, the unmanned crane barge *Troy McKinney* broke free from its mooring and struck overhead power lines crossing the Harvey Canal in Harvey, Louisiana. No pollution or injuries were reported. Damage to the crane barge was negligible, but damage to the power lines totaled about \$440,000.



Troy McKinney. The A-frame boom is mounted on the barge's stern. (Photo by McKinney Salvage and Heavy Lift)

¹ Readings from station KNBG, about 5 miles from the accident site, about 1900.

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Satellite image of the accident area near New Orleans, with the site of the allision overlaid by a red triangle. Inset in the lower right is an image of the northeast Gulf of Mexico coastline, with the accident site marked. (Background by Google Earth)

Accident Events

The crane barge *Troy McKinney*, also called a derrick barge, was used in heavy lift and salvage operations. The A-frame-type crane or derrick sat atop the barge and, when raised to its maximum listed load-chart height, the boom tip reached about 130 feet above the deck or about 136 feet above the water. When not in use, the crane boom could be lowered to reduce its overall height. The barge was typically moved to different locations by a towboat.

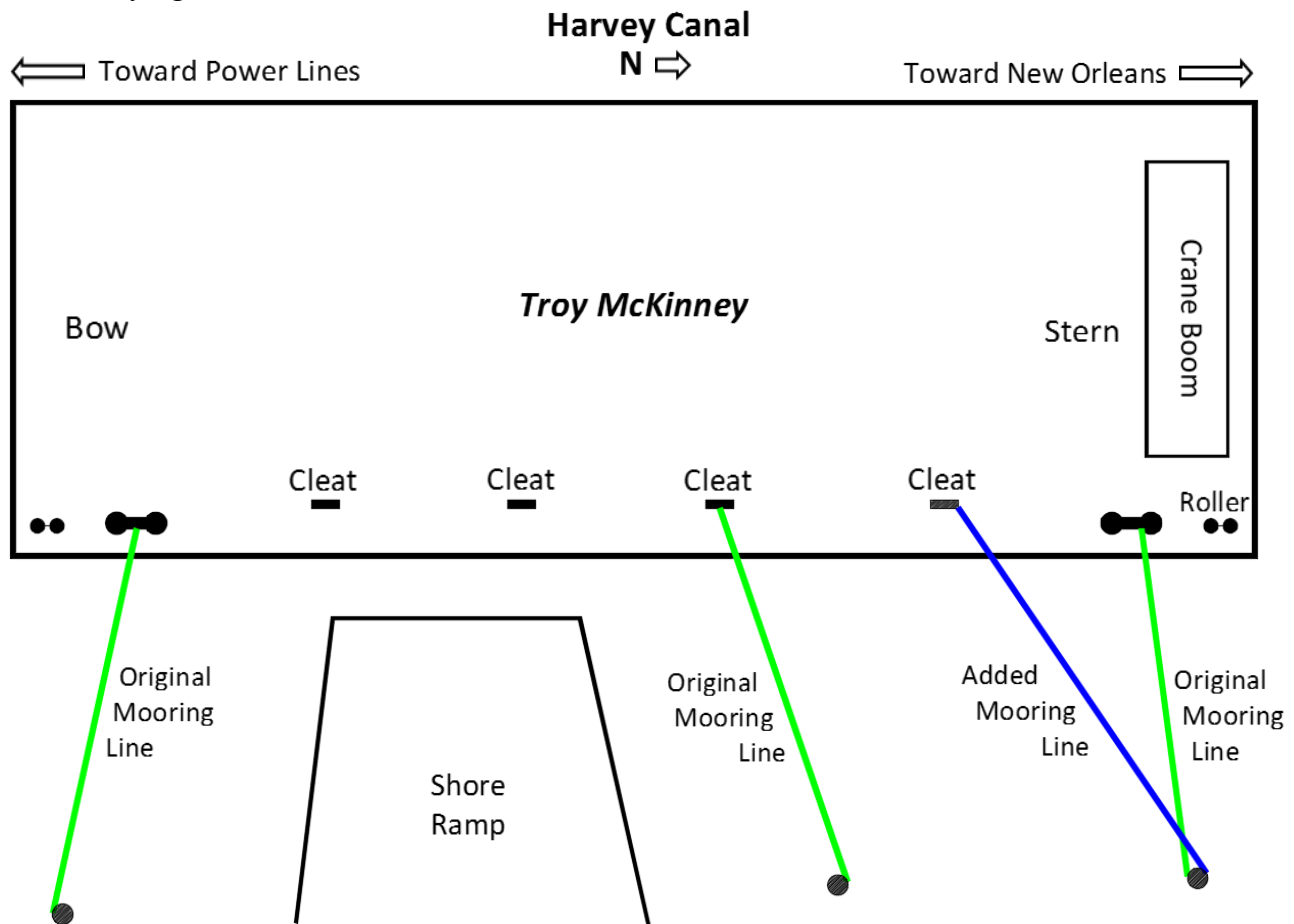
After completing lift work on May 16, 2017, the crew of tugboat *Tuscaloosa* moved the *Troy McKinney* to a temporary dock on the Harvey Canal. On the morning of May 17, the *Tuscaloosa* moved the barge to a Chet Morrison Contractors facility to have the crane pressure-washed, blasted, and painted. The facility was located on the east bank of the Harvey Canal, about 3.6 miles south of where the canal meets the Mississippi River. At the Chet Morrison berth, the *Tuscaloosa* crew and shipyard personnel tied up the *Troy McKinney* (stern facing north) with three mooring lines to the shore and two mooring lines to another barge north of the *Troy McKinney*. At some time on May 21, the other barge was moved, and the *Troy McKinney* was left with the three lines to shore.

About half a mile south of the Chet Morrison facility, high-voltage power cables crossed the canal. The cables, owned and operated by Entergy New Orleans, LLC, had a charted vertical clearance of 124 feet.

On June 1, the president of McKinney Salvage and Heavy Lift—the company that owned the *Troy McKinney*—boarded the barge and raised the crane boom so that photos could be taken with it in the topped position and so that shipyard personnel could paint otherwise inaccessible areas of the crane. Also while aboard, the president (who had operational towing experience) added

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another mooring line to shore, in addition to the three lines already placed on May 17. He told investigators he had “no idea” why he attached the additional line, only that he did so because the line was lying on the deck.



Mooring-line arrangement for *Troy McKinney* on June 1 (6 days before the accident). (Image based on original drawing by the president of McKinney Salvage and Heavy Lift)

According to the president, the shipyard was responsible for making sure the vessel was properly moored. Shipyard personnel whom investigators interviewed stated that emails between the owner and shipyard contained the scope of work to be performed on the barge and that the agreement stated the only services provided by the shipyard were for pressure-washing and painting. The shipyard project manager who oversaw work on the *Troy McKinney* told investigators that the owner was responsible for mooring the barge and that this was “fairly typical” when other vessels moored at the facility. The project manager also stated that vessel owners would occasionally specify (in the contract with the shipyard) that the shipyard would be responsible for the vessel’s mooring. *Troy McKinney*’s operation and safety manual stated that masters on watch had the ultimate responsibility for ensuring that vessels and barges were adequately moored at facilities. However, at the time of the accident, the *Troy McKinney* was moored with no attending towboat.

According to automatic identification system (AIS) data, on June 7, about 2005 in the evening, the towboat *Gail Cecilia*, pushing ahead the tank barge *Gonsoulin 127*, passed the *Troy McKinney* at a speed of about 4.8 knots. The tow was moving from north to south, and the draft of the *Gonsoulin 127* was 9 feet 6 inches. A video taken from a towboat moored about three tenths of a mile away showed that, shortly after the *Gail Cecilia* tow passed, the *Troy McKinney* started

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to break away from the berth. The *Troy McKinney*'s stern (northern end) moved away from the berth first and then, about a minute and a half later, the rest of the barge moved off the berth and drifted south. About 16 minutes later, the video showed flashes in the direction of the barge and the Entergy New Orleans power lines.



***Troy McKinney*'s crane resting against power lines. (Photo by Coast Guard)**

Postaccident, investigators observed the *Troy McKinney* after it had been moved back to the Chet Morrison facility and noted that the barge was moving forward and aft (called surging) despite no marine traffic in the area and only little wind. The boom was in a lowered position at the time of this observation.

Analysis

The *US Coast Pilot 5* does not mention a speed restriction for the Harvey Canal.² According to *Gail Cecilia*'s captain, who said he had made about 200 trips as towboat captain with tows in the Harvey Canal, 4.8 knots was his normal speed in that part of the waterway. However, the president of McKinney Salvage and Heavy Lift told investigators that, although he could not give an exact speed for transiting the canal (because speed depended on “what’s moving, what the movement is around” the tow), the fastest speed at which he recalled having taken a loaded barge

² The *US Coast Pilot*, issued by the National Oceanic and Atmospheric Administration, is a 9-volume book series pertaining to navigation on US coastal and intracoastal waters and the Great Lakes. The accident area is covered in volume 5.

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through Harvey Canal was about 2 mph. Investigators viewed the AIS data for the *Troy McKinney*'s May 16 transit en route to the Chet Morrison facility and noted that tugboat *Tuscaloosa* (which towed the barge) traveled at speeds as high as 4.9 knots in the Harvey Canal en route to the berth.

Further, with regard to wind speed near the time of the accident, an automated weather station at the New Orleans Lakefront airport, about 10 miles north, recorded northerly winds of 18 knots (almost 21 mph) at 1953 local time. Investigators also noted white caps on the water in the video footage that captured the *Troy McKinney* breakaway. Comparing images from this video to pictures of sea conditions for Beaufort wind scale speeds, investigators determined that the wind speed at the time of the breakaway was between 11 and 16 knots. However, neither the prevailing wind conditions nor the speed and wake of the *Gail Cecilia* tow appeared to be extraordinary circumstances that would have caused a properly moored vessel to break free from its mooring.

In addition, investigators looked to sources of information pertaining to mooring arrangements and found passages relating to proper mooring in Charles F. Chapman's *Piloting, Seamanship, and Small Boat Handling* and R.S. Crenshaw's *Naval Shiphandling*. According to Crenshaw, spring lines run parallel to the keel of the vessel and prevent the vessel from moving forward and aft. According to Chapman, bow lines are led from a bitt on the vessel and run forward as far as possible to prevent the vessel from moving astern; "conversely, a stern line, properly, leads from the after bitt to a distant pile or bollard on the dock astern of the boat, to check [the vessel] from going ahead." Investigators compared the way the mooring lines were led from *Troy McKinney* to the berth at the Chet Morrison facility to illustrations found in Crenshaw and Chapman. The barge's stern line (which could have prevented the vessel from moving ahead/to the south) had a nearly perpendicular lead from the barge to the shore and did not lead to a distant shoreside piling or bollard. The extra line placed by the president, although offering a more secure mooring, had a northerly lead of about 45 degrees to the vessel's keel, rather than nearly parallel to the keel. Investigators therefore believe that the *Troy McKinney*'s mooring lines were led from vessel to shore at an angle insufficient to prevent the barge from moving forward, or to the south, as the *Gail Cecilia* tow passed. Forward and aft movement is best prevented by forward- and aft-leading lines.

Probable Cause

The National Transportation Safety Board determines that the probable cause of crane barge *Troy McKinney* striking and damaging overhead power lines was its insufficient mooring arrangement, which did not prevent the barge from excessive movement and breaking away.

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Vessel Particulars

Vessel	<i>Troy McKinney</i>
Owner/operator	McKinney Salvage and Heavy Lift
Home port	Baton Rouge
Flag	United States
Type	Industrial derrick/heavy lift crane barge
Year built	1976
Official number (US)	577384
IMO number	N/A
Classification society	N/A
Construction	Steel
Length	192 ft (58.5 m)
Depth	14 ft (4.3 m)
Beam/width	70 ft (21.3 m)
Gross/net tonnage	1,810 gross tons
Engine power; manufacturer	N/A
Persons on board	0

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

For more details about this accident, visit www.nts.gov and search for NTSB accident ID DCA17FM016.

Issued: May 2, 2018

The NTSB has authority to investigate and establish the probable cause of any major marine casualty or any marine casualty involving both public and nonpublic vessels under Title 49 *United States Code*, Section 1131. This report is based on factual information either gathered by NTSB investigators or provided by the Coast Guard from its informal investigation of the accident.

The NTSB does not assign fault or blame for a marine casualty; rather, as specified by NTSB regulation, “[NTSB] investigations are fact-finding proceedings with no formal issues and no adverse parties . . . and are not conducted for the purpose of determining the rights or liabilities of any person.” Title 49 *Code of Federal Regulations*, Section 831.4.

Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by conducting investigations and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report. Title 49 *United States Code*, Section 1154(b).
