



National Transportation Safety Board

Marine Accident Brief

Capsizing and Sinking of Towing Vessel *Ricky J Leboeuf*

Accident no.	DCA16FM037
Vessel name	<i>Ricky J Leboeuf</i>
Accident type	Capsizing and subsequent sinking
Location	San Jacinto River, Kirby Inland Marine fleeting area, Channelview, Texas
Date	April 19, 2016
Time	0752 central daylight time (coordinated universal time – 5 hours)
Injuries	One fatality and one minor injury
Property damage	Constructive total loss of vessel, estimated at \$900,000
Environmental damage	Less than 100 gallons of petroleum products and cleaning solvents were released into the river
Weather	Clear, visibility 10 statute miles, winds north-northwest at 7 knots, temperature 74°F
Waterway information	The San Jacinto River originates near Huntsville, Texas, and flows through Lake Conroe and Lake Houston, then joins the Houston Ship Channel and continues to Galveston Bay. At the time of the accident, the river gauge was 15 feet (major flood stage), and the current was 3.5 knots or greater.

About 0752 local time on April 19, 2016, the uninspected towing vessel *Ricky J Leboeuf* capsized and later sank while attempting to remove a barge from a fleeting area in the San Jacinto River near Channelview, Texas. Four of the five crewmembers survived, but one deckhand died. The vessel sustained an estimated \$900,000 in damage, rendering it a constructive total loss. Less than 100 gallons of diesel oil, lubricating oil, and other contaminants were released into the river when the vessel sank.



Pre-accident photo of the *Ricky J Leboeuf*. (Photo by D&S Marine Service)

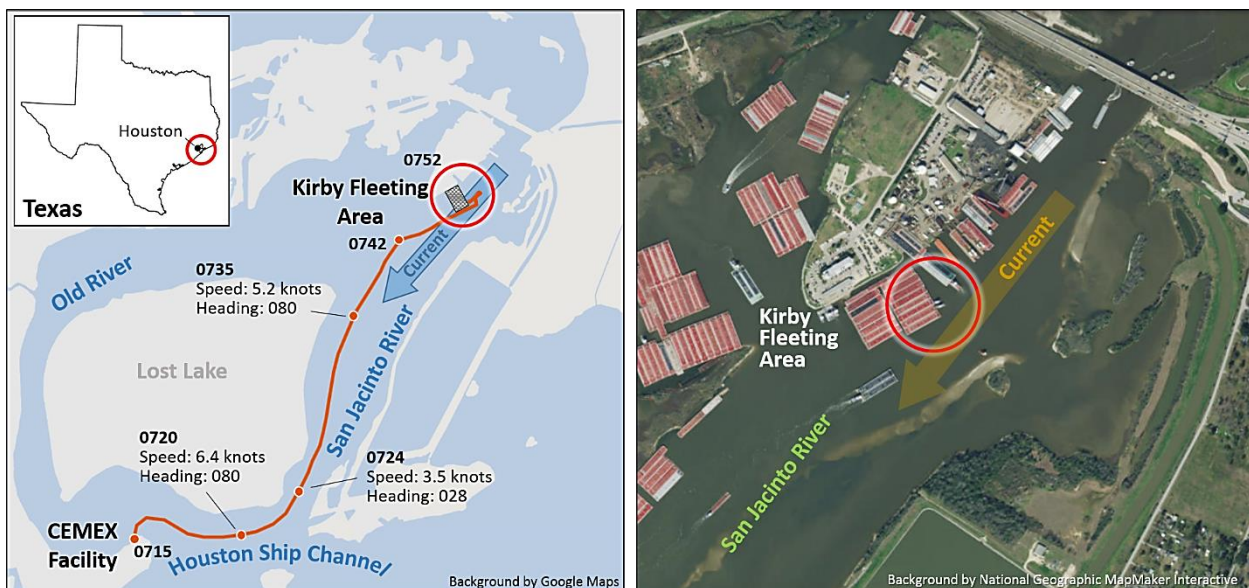
*Unless otherwise noted, all miles in this report are statute miles, and all speeds are over the ground.

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On April 18, 2016, the day before the accident, the geographic area northeast of Houston, including the watershed of the San Jacinto River, received a significant amount of rain—a total of 5.17 inches according to the National Weather Service. This rain and runoff from severe storms that had occurred earlier caused the San Jacinto River to rise to an unusually high water level. According to National Oceanographic and Atmospheric Administration data, the river stage was 15 feet, 5 feet above flood stage.

As a result of these weather and flooding events, the US Coast Guard Vessel Traffic Service (VTS) Houston/Galveston issued advisories warning mariners about the severe weather, flooding, and various risks associated with vessel operations, including increased river current velocity resulting from higher water levels. D&S Marine Service, the *Ricky J Leboeuf*'s operator, also issued advisories, via e-mail, to towing vessels operating within the impacted area, including the *Ricky J Leboeuf*. These advisories included restrictions on a maneuver known in the industry as “downstreaming” and a requirement to use assist towing vessels while operating in barge fleeing areas. The advisories also reminded crews that main deck watertight doors and hatches were to be closed on towing vessels. According to the *Ricky J Leboeuf* crewmembers, this information was received on board the vessel, and both the captain and relief captain discussed with the crew how these conditions impacted vessel operations and the extra care needed to reduce the risk.

On the morning of the accident, the *Ricky J Leboeuf* was moored at the CEMEX facility on the Old River in Channelview, Texas, standing by for tasking from the dispatch office at Kirby Inland Marine. The vessel was manned by five crewmembers: a captain, a relief captain, a senior tankerman, a senior tankerman/steersman, and a deckhand. About 0700, the vessel received an order from the dispatch office to proceed to the Kirby Inland Marine fleet staging area, pick up two empty tank barges, and proceed to Beaumont, Texas.

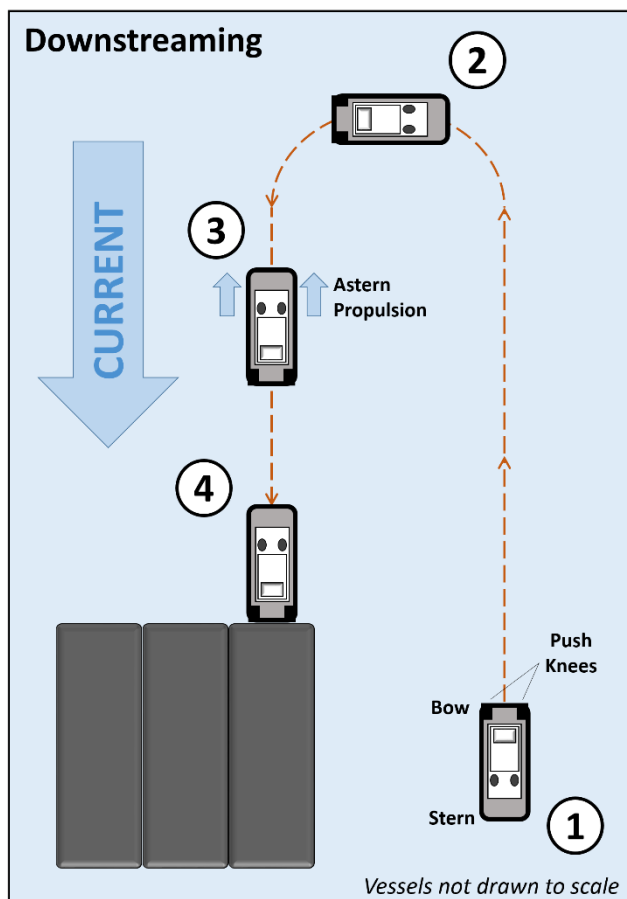


Left is the trackline of the *Ricky J Leboeuf* as the vessel transited from the CEMEX facility to the Kirby Inland Marine fleeting area. Right is a close-up satellite image of the fleeting area (image is not from accident date). In both images, the accident site is indicated by a red circle.

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At 0715, the *Ricky J Leboeuf* departed the CEMEX facility with the relief captain in charge of the watch, the senior tankerman/steersman at the helm, and the deckhand performing various functions in preparation for taking the tank barges under tow. The relief captain held a valid merchant mariner credential as master of towing vessels, unlimited tonnage (domestic waters only), and had approximately 12 years of marine experience. The captain and senior tankerman were off watch and in their staterooms. The total voyage was about 2.6 miles and required the vessel to transit from the Old River, into the Houston Ship Channel, and then into the San Jacinto River.

According to automatic information system (AIS) data, the vessel's speed over ground was 6.4 knots when transiting in the Houston Ship Channel but dropped rapidly to 3.5 knots as the vessel entered the San Jacinto River. The speed reduction was caused by the vessel steering upstream into the strong river current produced by the high water. According to the *Ricky J Leboeuf's* senior tankerman/steersman, both he and the relief captain noticed the impact of the current. As the vessel continued up the San Jacinto River, the *Ricky J Leboeuf's* speed ranged from 3.5 to 5.5 knots.



Downstreaming: 1) the towing vessel moves to a position upstream of the barge, 2) turns downstream, then 3) uses the current to move toward the barge while operating astern propulsion to approach at a slower speed than the current, before 4) squaring up and meeting the barge.

When the *Ricky J Leboeuf* arrived at the barge fleeting area at 0746, its heading was 061 degrees and its speed was 4 knots. The relief captain expressed concern regarding the stronger-than-average current and, given the prevailing conditions, took control of the vessel from the senior tankerman/steersman because he wanted to demonstrate the proper way of performing the downstreaming maneuver.

Downstreaming is a procedure in which a towing vessel moves downstream with the current of a river in order to approach and land on another object such as a barge or a dock. Downstreaming is used in barge fleets to remove barges from the upstream end of a tier of barges. In a successful downstream maneuver, a towing vessel will proceed upstream of the fleet before turning downstream, also known as "topping around." The vessel will then move downstream toward the fleet, preferably with the engines in reverse to allow the towing vessel to move toward the barges at a slower speed than the current. As it approaches, the towing vessel must face up to the barge squarely; that is, the flat bow of the towing vessel must be parallel to the flat bow or stern of the barge as they meet up.

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If the towing vessel meets the barge at an angle and there is a strong-enough current, the towing vessel may be turned sideways and pinned against the barge. A significant risk is present for the towing vessel in this instance. Water may rise up onto the deck and enter into the vessel through open doors, windows, hatches, and ventilation systems, thus causing rapid downflooding, capsizing, and sinking. An earlier National Transportation Safety Board (NTSB) report involving the uninspected towing vessel *Miss Natalie* addressed this same type of accident.¹

Given the dangers associated with downstreaming, the Coast Guard and the American Waterways Operators (AWO) conducted a joint risk assessment and made recommendations for reducing accidents in a 1997 report titled *Reducing Downstreaming Incidents*.² Among several recommendations, the report urged crewmembers of small towing vessels to:

- recognize the risks involved in downstreaming under high current conditions and be prepared to abort the maneuver if necessary;
- ensure that doors and windows on the first deck are closed and secured;
- ensure that the vessel has adequate freeboard aft;
- notify crewmembers of intentions; and
- position crewmembers to climb to safety in the event of a downstreaming casualty.

The report further recommended that towing companies:

- stress the need for safe operations during periods of high water, to include raising awareness as to the risks of downstreaming;
- conduct daily crew meetings and communications at watch changes to identify and discuss downstreaming “close calls”;
- in advance of high water conditions, work with vessel operators to determine whether downstreaming should be prohibited at specific river stages; and
- institute high water procedures to address the need to close and secure doors and windows on the first deck.

Investigators found evidence that D&S Marine Service was aware of the risk associated with performing a downstreaming maneuver and addressed the risk in its safety management system (SMS). The SMS prohibited downstreaming during certain river conditions without permission from the company port captain; required vessel crews to seek assistance from other towing vessels when performing the maneuver; and required all watertight doors, hatches, and other openings to be properly secured before attempting the maneuver. According to the captain

¹ NTSB, *Collision and Sinking of Towing Vessel Miss Natalie*, NTSB/MAB-16/17 (Washington, DC: National Transportation Safety Board, 2016).

² Description and hazards of downstreaming adapted from US Coast Guard/American Waterways Operators, *Reducing Downstreaming Incidents*, 1997. For an online copy of the report, visit <http://www.americanwaterways.com/initiatives/safety-environmental-sustainability/coast-guard-awo-safety-partnership>, where it is listed under “Mid-America Regional Quality Steering Committee.”

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and the senior tankerman/steersman, these policies were known on board by all crew, including the relief captain, and discussed on multiple occasions leading up to the accident.

The relief captain maneuvered the *Ricky J Leboeuf* upstream of the barge fleet, then at 0748 turned the vessel to port and initiated his downstream transit to approach the barge fleet at a speed of 1.6 knots and a heading of 212 degrees. The *Ricky J Leboeuf*'s port push knee, one of two large vertical steel structures on the port and starboard bow, made contact with the stern of a barge on the outermost corner of the approximately 20-barge fleet at 0750. Using the two main diesel engines, the rudders, and the flanking rudders, the relief captain attempted to pivot the vessel to square it up on the barge. However, his efforts were unsuccessful.

A downstreaming safety video produced by the Coast Guard and the AWO recommends that towing vessel operators performing the maneuver and approaching a fleet should always line up with the current, not the fleet, because "the fleet may sit at an angle to the current."³ When the *Ricky J Leboeuf* was squaring up to the barge, the current was at an angle and applied force on the vessel's starboard side instead of its stern. This caused the vessel to pivot to starboard. The vessel turned starboard to a heading of 355 degrees and moved forward at a speed of less than 0.5 knots, with its port side hull-fendering in contact with the boxed stern of several barges.

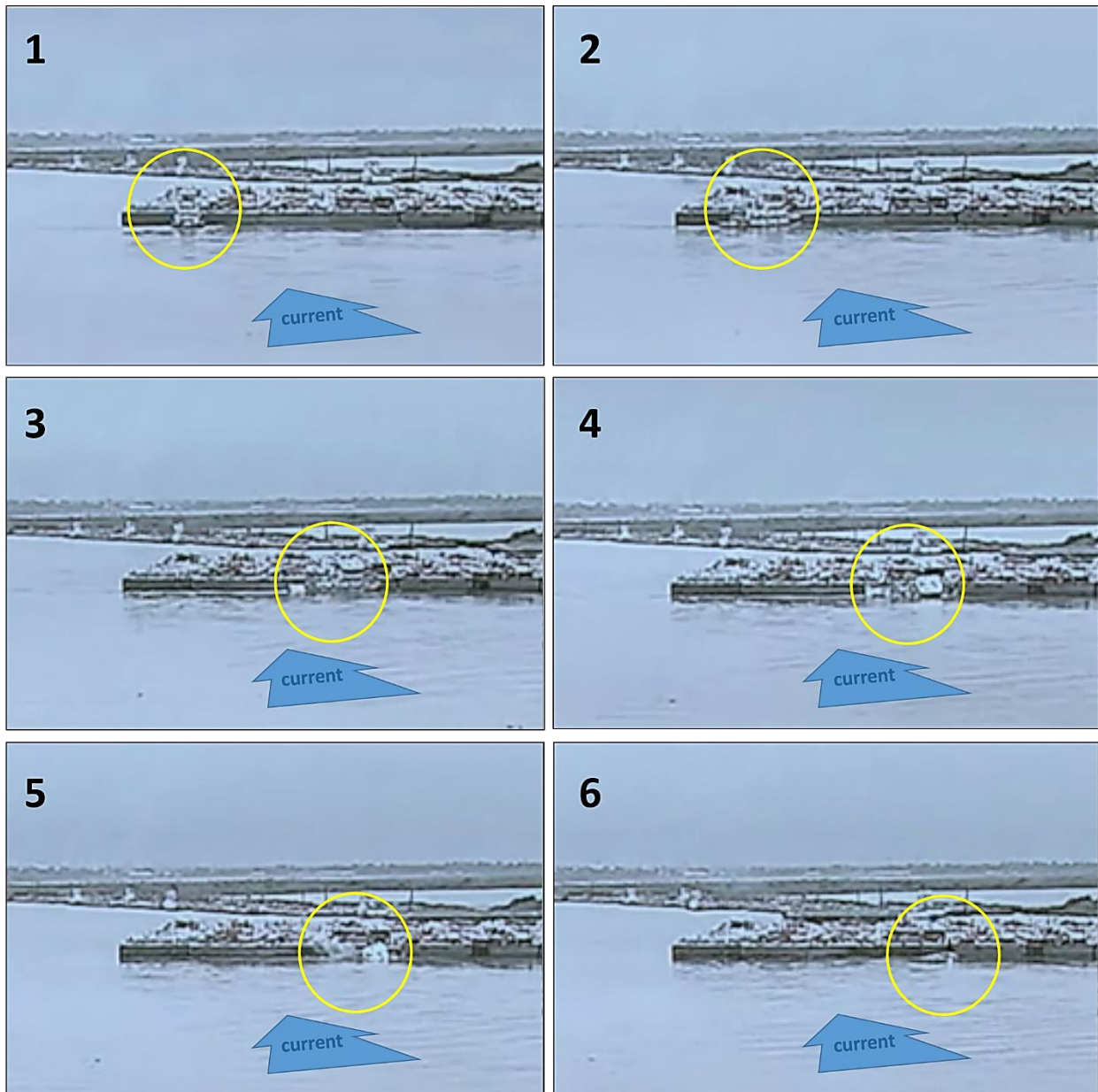
At 0752, the force of the river current acting on the *Ricky J Leboeuf*'s starboard-side hull, combined with the force applied above the water line on the vessel's port side from its contact with the stationary barges, caused the vessel to heel to starboard. Water then rapidly entered the vessel through two open doors on the main deck, flooding the hull. Consequently, the vessel rolled onto its starboard side and partially submerged, with just a small portion of its port bow remaining above water. Video of the accident captured by two separate sources shows that the starboard engine room and galley doors were open as the vessel sank. Investigators could not determine if the two doors on the port side were also open at the time of the accident.

Prior to the capsizing, the relief captain sounded the vessel's general alarm to alert the captain and senior tankerman who had been sleeping in their respective staterooms. The captain stated to investigators that he had been awakened before the alarm sounded by the heeling of the vessel or another abnormal sound or vibration he had sensed, and he began to dress when the general alarm sounded. The alarm awakened the senior tankerman, and both he and the captain managed to escape from their staterooms via a door on the port side of the first deck before the vessel rolled 90 degrees to starboard.

The senior tankerman used the portside hand railing, deck framing, and gunnel to move forward to the bow and push knee area of the vessel and then jumped to safety on the barge fleet. The captain used the same structures on the port side to stay above water and remained with the capsized vessel.

³ Coast Guard/AWO, *Downstreaming Techniques for the Inland Waterways: Better Safe than Sorry*, 1999. To view the video, visit <https://vimeo.com/134966988>.

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Still-images from video of the capsizing and sinking. Image 1 shows the towing vessel attempting to face up to the first barge in the fleet. However, in image 2, the vessel has been turned to starboard where the force of the current acting on the hull below the waterline is the greatest. In images 3–5, the vessel begins to heel over, and then capsizes. In image 6, the vessel has sunk. (Video by Harris County Sheriff Department)

The relief captain and the senior tankerman/steersman escaped from the wheelhouse via the port wheelhouse door. The deckhand, who had been forward on the main deck preparing to make fast the towing vessel to the barge at the time the *Ricky J Leboeuf* capsized, was observed by the senior tankerman/steersman and captain to be holding onto the port push knee and wearing a buoyant work vest. The captain stated to investigators that he instructed the deckhand to “come up, come up, come up” in an attempt to get him to relocate from the port push knee to the higher point of the submerged hull where the captain was located. According to the senior tankerman/steersman,

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he last saw the deckhand in the water attempting to swim toward the area where he and the other two crewmembers had sought refuge on the bow gunnel.

Towing vessels *Mr Farrel* and *Tommy E* were nearby and responded to assist the crewmembers of the capsized *Ricky J Leboeuf*. At 0757, the *Mr Farrel* pushed bow first onto the barge fleet, with the partially submerged *Ricky J Leboeuf* just off its port side. Between 0802 and 0804, crewmembers from the *Mr Farrel* used a ladder and a rescue line to recover the senior tankerman/steersman, the relief captain, and the captain from the vessel's port bow gunnel near the vessel's nameplate.

The deckhand's body was located downriver and recovered by marine search units from the Harris County Sheriff's Office and the Coast Guard at approximately 1000. When the deckhand's body was recovered, he was not wearing a buoyant work vest.

The *Ricky J Leboeuf* completely sank shortly after the surviving crewmembers were rescued. Several barges were moved to accommodate search vessels, and at 0800 the following morning the sunken vessel was located on the river bottom using multi-beam sonar. A salvage team successfully raised the *Ricky J Leboeuf* on April 26, 2016, and transported the vessel to a nearby shipyard.

Investigators determined that the navigation equipment on the *Ricky J Leboeuf* was operating satisfactorily, and crewmembers stated there were no known concerns with steering, propulsion, or other vital systems at the time of the accident. All crewmembers in safety-sensitive positions were tested for alcohol and other drugs, and the results were negative.

According to interviews with other crewmembers, the relief captain was fully aware of the risks associated with performing the downstreaming maneuver in the prevailing conditions, the company's SMS policy and requirements that were in place to manage the risk, and caution advisories issued by both the company and VTS Houston/Galveston. Yet the relief captain decided to attempt the maneuver despite the risks and without consulting the vessel's captain or the company port captain, as required by company policy.

The relief captain refused to be interviewed by both the NTSB and the Coast Guard, thus investigators could not determine what factors, reasoning, and logic he considered before attempting the maneuver without implementing or adhering to any of the established safety precautions. Regardless, his decision was ill-advised and resulted in the death of a crewmember.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the capsizing and sinking of the towing vessel *Ricky J Leboeuf* was the relief captain's ill-advised decision to perform a downstreaming maneuver in high water conditions without implementing the operating company's risk mitigation strategies or other safeguards.

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Vessel Particulars

Vessel	<i>Ricky J Leboeuf</i>
Owner/operator	Taira Lynn Marine Limited No. 7, LLC (owner) D&S Marine Service (operator)
Port of registry	Houma, Louisiana
Flag	United States
Type	Towing vessel
Year built/builder	1962/Main Iron Works Houma, Louisiana
Official number (US)	289759
IMO number	None
Construction	Welded steel
Length	67 ft (20.4 m)
Draft	8 ft (2.4 m)
Beam/width	24 ft (7.3 m)
Gross/net tonnage	108/86
Engine power	1,800 hp (750.2 kW); 2 – Caterpillar D379 Diesels
Persons on board	5

NTSB investigators worked closely with our counterparts from Coast Guard Sector Houston/Galveston throughout this investigation.

For more details about this accident, visit www.nts.gov and search for NTSB accident ID DCA16FM037.

Adopted: January 23, 2017

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*, 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*, 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*, 1154(b).