



National Transportation Safety Board

Marine Accident Brief

Collision between *Cooperative Spirit* Tow and *RC Creppel* Tow

Accident type	Collision	No. DCA20FM012
Vessel name	<i>RC Creppel</i> , <i>Cooperative Spirit</i> , <i>Glory First</i> , and multiple barges	
Location	Lower Mississippi River, mile 123, Destrehan, Louisiana 29°57.41' N, 90°23.65' W	
Date	January 26, 2020	
Time	0533 central standard time (coordinated universal time – 6 hours)	
Injuries	3 fatal, 1 minor	
Property damage	\$3,781,126 est.	
Environmental damage	8,000 gallons of diesel fuel on board the <i>RC Creppel</i> at the time it sank; sulfuric acid cargo escaped into the atmosphere	
Weather	Visibility 10 miles, overcast, winds south-southeast 7 knots, air temperature 55°F, water temperature 49°F, morning twilight 0630, sunrise 0654 ¹	
Waterway information	The Lower Mississippi River at 26 Mile Point, near Destrehan, Louisiana, is about 0.5 miles wide. Barge anchorages line both sides of the navigable channel.	

On January 26, 2020, at 0533 central standard time, the towing vessel *Cooperative Spirit* was pushing 40 barges upbound on the Lower Mississippi River, and the towing vessel *RC Creppel* was pushing two barges downbound when the two tows collided at mile 123, near Destrehan, Louisiana. The *RC Creppel* capsized as a result of the collision. Minutes later, the upbound dry bulk carrier *Glory First* made contact with the starboard side of the *Cooperative Spirit*'s tow. All 42 barges from both tows broke free and were later recovered. One of the four *RC Creppel* crewmembers was rescued; the remaining three were never recovered and are presumed dead. The accident resulted in the release of about 8,000 gallons of diesel fuel into the river and sulfuric acid vapors into the atmosphere, and an estimated \$3,781,126 in property damage to the 3 vessels and 11 barges.



***RC Creppel* under way before the accident. (Source: ©Photo by Jeff L. Yates)**

¹ All miles in this report are statute miles.

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Cooperative Spirit moored after the accident.



Glory First anchored after the accident.

Background

The *RC Creppel* was a 69-foot-long, twin-propeller towing vessel built in 2012 by Intracoastal Iron Works in Bourg, Louisiana, and owned by Elite Towing, Inc. The vessel was powered by two diesel engines that produced a combined 1,700 horsepower (hp). The vessel's two steering rudders and four flanking rudders were controlled by tillers in the wheelhouse.

The 200-foot-long towing vessel *Cooperative Spirit* was a line-haul boat built in 1975 by St. Louis Shipbuilding and Steel Co. in St. Louis, Missouri.² The vessel had been owned and operated by the American River Transportation Company, LLC, (ARTCO) since 1992. The *Cooperative Spirit* had three propellers, each driven by a 3,500-hp diesel engine, for a combined

² A *line-haul boat* is generally a larger towing vessel with higher horsepower used for towing over large distances between major ports. Line-haul tows usually consist of multiple barges and can be as large as 40+ barges.

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10,500 hp. The vessel's three steering rudders and six flanking rudders were controlled by tillers in the wheelhouse.

The 738-foot-long, 106-foot-wide, Republic of the Marshall Islands-flagged *Glory First* was a dry bulk carrier built in 2014 and owned by Glory First Ltd. The vessel was powered by a slow-speed, direct-drive diesel engine with 12,968 hp.

The *RC Creppel*, *Cooperative Spirit*, and *Glory First* were each outfitted with an automatic identification system (AIS), an electronic charting system (ECS), and radar. In addition, the *Cooperative Spirit* was fitted with cameras: one in the wheelhouse focused on the control panel, and others on the exterior providing views ahead, astern, to port, and to starboard.



Area of accident where the *RC Creppel*'s tow collided with the *Cooperative Spirit*'s tow, as indicated by the red triangle. (Background source: Google Maps)

Accident Events

At 0433 on January 26, 2020, the *Cooperative Spirit* finished picking up barges at Kenner Bend at mile 115.4 of the Mississippi River and departed with 40 barges (22 empty and 18 loaded with salt, dry bulk fertilizers, potash, and urea) arranged six across (wide) and seven long (the first two rows each consisted of five barges), en route to pick up more barges up river at a fleeting area in Geismar, Louisiana (mile 183). The total length of the *Cooperative Spirit* and its tow was 1,600 feet long, and the tow was 210 feet wide at its widest point. The vessel had a crew of ten, and the pilot was in the wheelhouse for his regular 0000–0600 watch, which had begun at 2330 the previous day.³ The pilot stated that he was comfortable with the size of the tow.

At the same time, the *Glory First* was transiting upbound at mile 113.8 at a speed of 7.5 mph destined for Convent, Louisiana (mile 159). The vessel was fully loaded with a cargo of

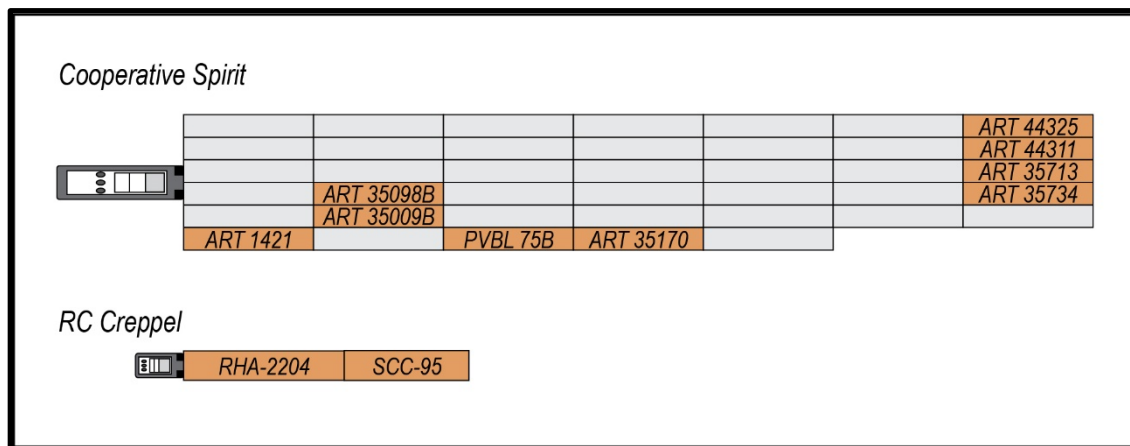
³ *Pilot* is a term used aboard towing vessels on inland waterways for a person, other than the captain, who navigates the vessel.

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phosphate rock to a draft of 40 feet. A New Orleans–Baton Rouge Steamship Pilots Association (NOBRA) pilot, the master, the chief mate, and the helmsman were on the bridge.

At 0511, the *Cooperative Spirit* passed through the Hale Boggs Memorial Bridge (also known as the Luling Bridge) at mile 121.6. Shortly afterward, at 0514:08, the NOBRA pilot on board the *Glory First*, which was about 2.4 miles away, contacted the *Cooperative Spirit* to arrange an overtaking agreement. The pilot on board the *Cooperative Spirit* told the *Glory First* pilot that he was going to start out underneath 26 Mile Point and then move into the bend after passing the point.

About the same time, the *RC Creppel* departed Hahnville, Louisiana, at mile 126.9, headed down river with two barges: the *SCC-95*, an empty hazardous cargo barge, as the lead barge, ahead of the *RHA-2204*, a barge loaded with sulfuric acid. The *RC Creppel* and its tow measured 514 feet long and 42 feet wide at its widest point. The vessel had a crew of four, and the vessel’s pilot, who was standing his 0000–0600 watch, was at the helm.



Approximate arrangement of the *Cooperative Spirit* and *RC Creppel* tows. (Note: The barges in orange were damaged in the accident.)

At 0522:47, the *Cooperative Spirit* pilot used the vessel’s very high frequency (VHF) radio to call the *RC Creppel* pilot on channel 67 (the frequency used for ship-to-ship communications at that area of the river). They were about 3.5 miles apart and agreed to meet “on the one,” meaning a port-to-port meeting. During the call, the *RC Creppel* pilot described the size of his tow; the *Cooperative Spirit* pilot did not. Six minutes later, at 0528:42, the pilot of the *RC Creppel* (at mile 124.1), received a radio call from the *Glory First* pilot (at mile 121.1) in which they agreed to a port-to-port meeting.

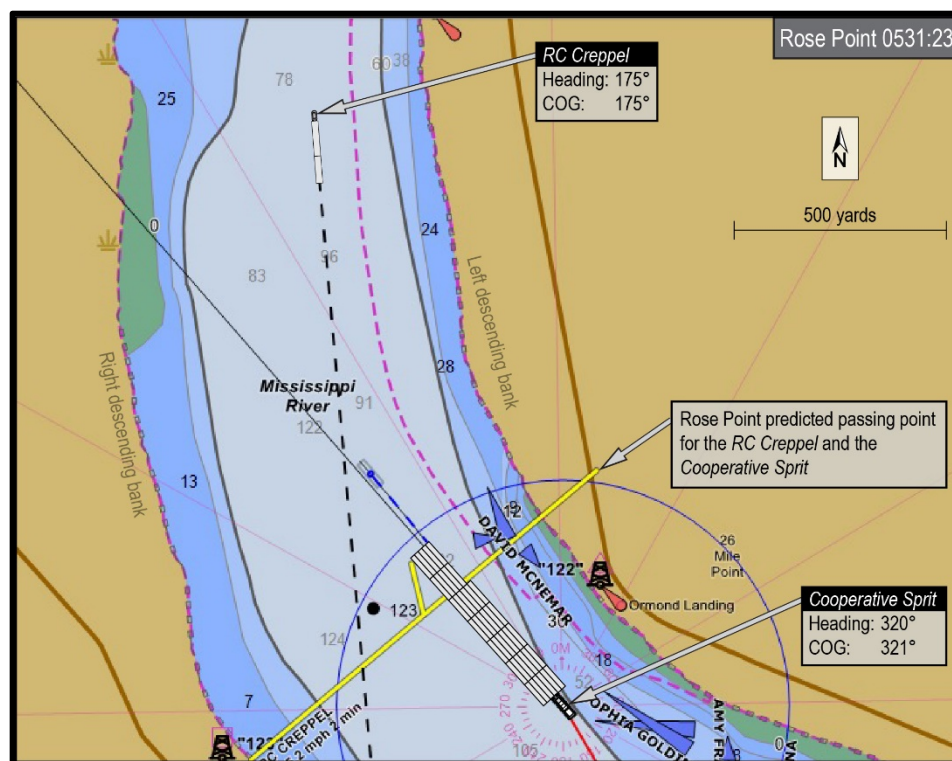
By 0530:13, the *Cooperative Spirit* was approaching 26 Mile Point up river, and the pilot used small increments of right rudder to keep the tow’s heading parallel to and about 200 feet away from barges and vessels moored in the Magnolia fleeting area along the left descending bank at

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26 Mile Point.⁴ At 0530:57, the pilot increased the rudder more to starboard, and the vessel's rate-of-turn indicator showed an increase in a rate of turn to port about 5° per minute.⁵

At the same time, the *RC Creppel* was continuing downbound about 15 mph, approaching the *Cooperative Spirit*. Video recorded by the *Cooperative Spirit*'s cameras showed that, from the wheelhouse, the navigation lights of the *RC Creppel* and its barges were visible. At 0531:05, the *RC Creppel* tow's flashing yellow light—located on the centerline of the bow of the lead barge *SCC-95* and required by the inland navigation rules to indicate that a tow was being pushed ahead—came into view on the right side of the forward-looking centerline wheelhouse camera, moving from the *Cooperative Spirit*'s right to left.

At 0531:23, even as the pilot used right rudder angles of 15-20° to round the point, the *Cooperative Spirit*'s course over ground began to move to port toward the right descending bank at a speed of 4.6 mph, away from its course of 320°. At that time, the *Cooperative Spirit*'s lead barges were about 810 yards (about 0.5 miles) from the *RC Creppel*'s lead barge. The rate-of-turn indicator continued to show a rate of turn to port.



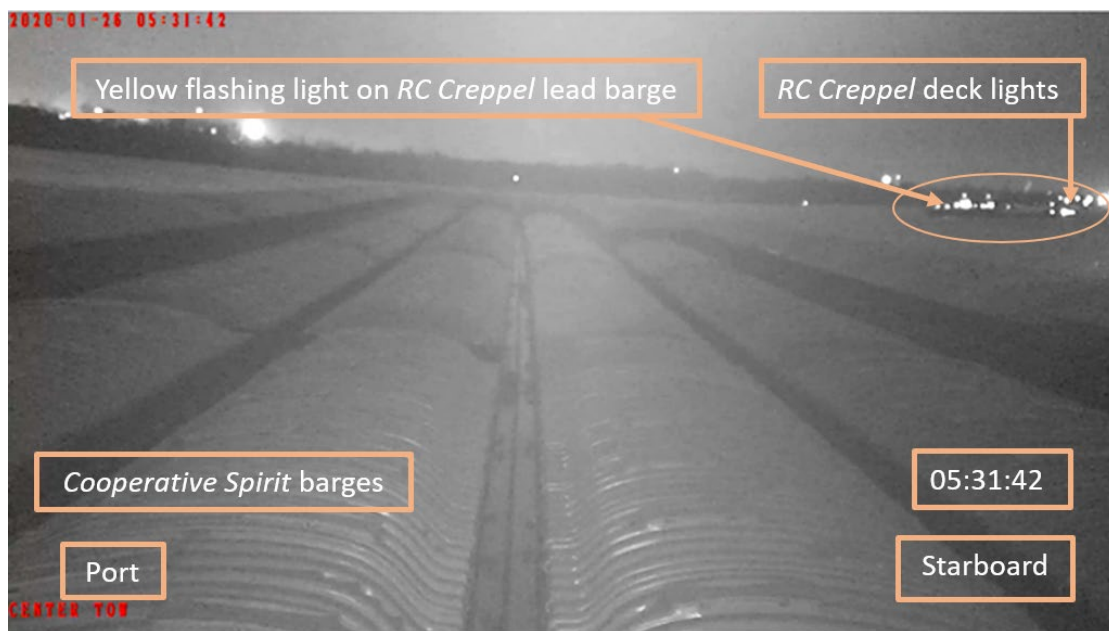
Screenshot of *Cooperative Spirit* Rose Point at 0531:23 when the vessel's course and heading began to swing toward the right descending bank (with *Cooperative Spirit* tow and *RC Creppel* tow icons added to show overall tow dimensions to approximate scale). (Source: ARTCO, annotated by NTSB)

⁴ (a) The inland towing industry refers to the shorelines of western rivers as the left and right banks when traveling (facing) downstream. The left bank is called the left descending bank, and the right bank is called the right descending bank. (b) The Magnolia fleeting area was located at mile 122 on the left descending bank.

⁵ Rudder angles estimated based on the position of the steering/flanking rudder tillers from the wheelhouse video.

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The *RC Creppel* was downbound and on a heading of 175° at a speed of 15.2 mph. Looking from the *Cooperative Spirit* up river, video from the vessel's center camera showed lights from vessels and the shore in the background (behind the *RC Creppel*) in the vicinity of Hahnville Landing at mile 124. The video showed that, at 0531:42, the flashing yellow light on the *RC Creppel*'s lead barge, *SCC-95*, cleared the background lighting, and the *RC Creppel*'s navigation and deck lights, astern of the two barges, were visible against the lights in the background. About 0532, the *Cooperative Spirit*'s rate of turn began to increase to starboard as the pilot continued to apply 15–20° right rudder.



Screenshot from *Cooperative Spirit* center camera looking northwest at 0531:42. Image shows the *RC Creppel* navigation and deck lights against lighting in the background from vessels in the vicinity of Hahnville Landing. (Source: ARTCO annotated by NTSB)

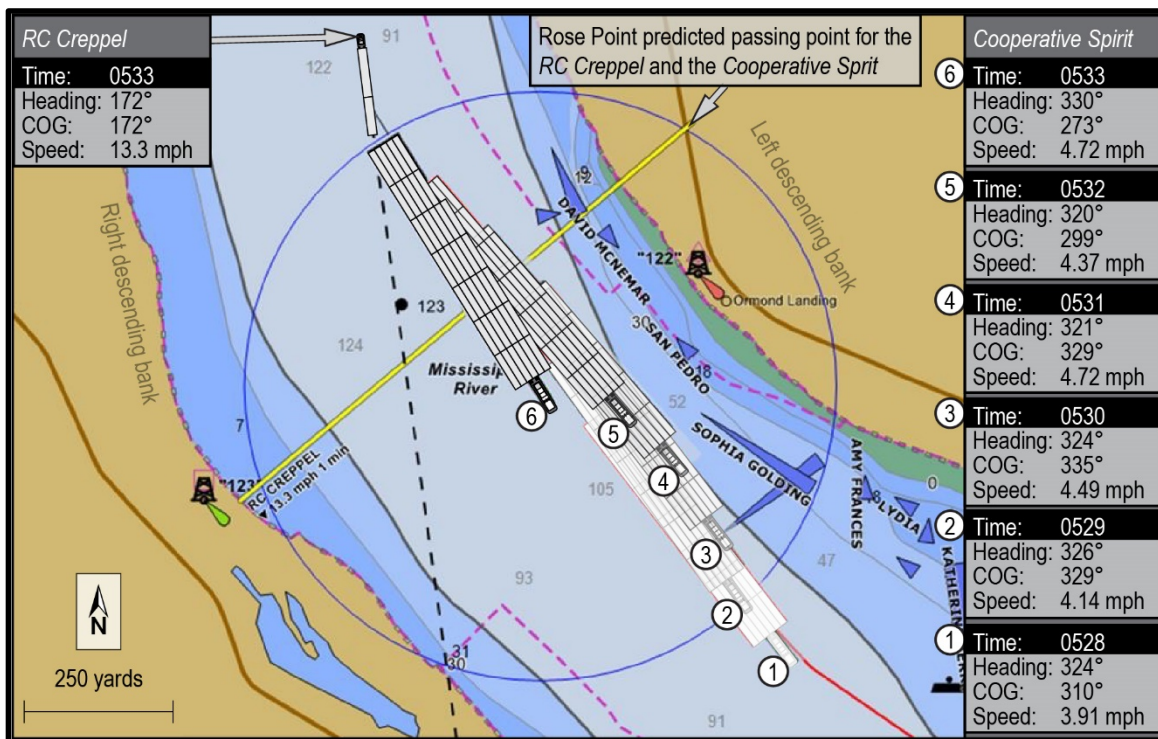
At 0532:06, the *Glory First* passed through the Hale Boggs Memorial Bridge, moving up river at a speed of 8 mph. The distance between the bow of the *Glory First* and the stern of the *Cooperative Spirit* was 1.1 miles.

Seconds later, video from the *Cooperative Spirit*'s center camera showed the *RC Creppel*'s navigation and deck lights clearing the background lighting. The distance between each tow's lead barges at that time was about 400 yards (0.23 miles). The *Cooperative Spirit* pilot told investigators that as he was maneuvering through the bend at 26 Mile Point, "I really thought he, with his small tow he would be—have a better visual to be able to come around, steer around on the one whistle, because there was plenty of room available for it."

Based on AIS information from the *Cooperative Spirit*'s Rose Point ECS, as the downbound *RC Creppel* and the upbound *Cooperative Spirit* approached each other, the *RC Creppel*'s speed decreased from 15.2 mph to 13.8 mph between 0532:24 and 0532:45, and its course changed slightly, moving from 176° to 172°. About the same time, the *Cooperative Spirit*'s rate of turn was 10° per minute to starboard, and video from its center camera showed that the yellow flashing light on the bow of the *RC Creppel*'s lead barge was dead ahead.

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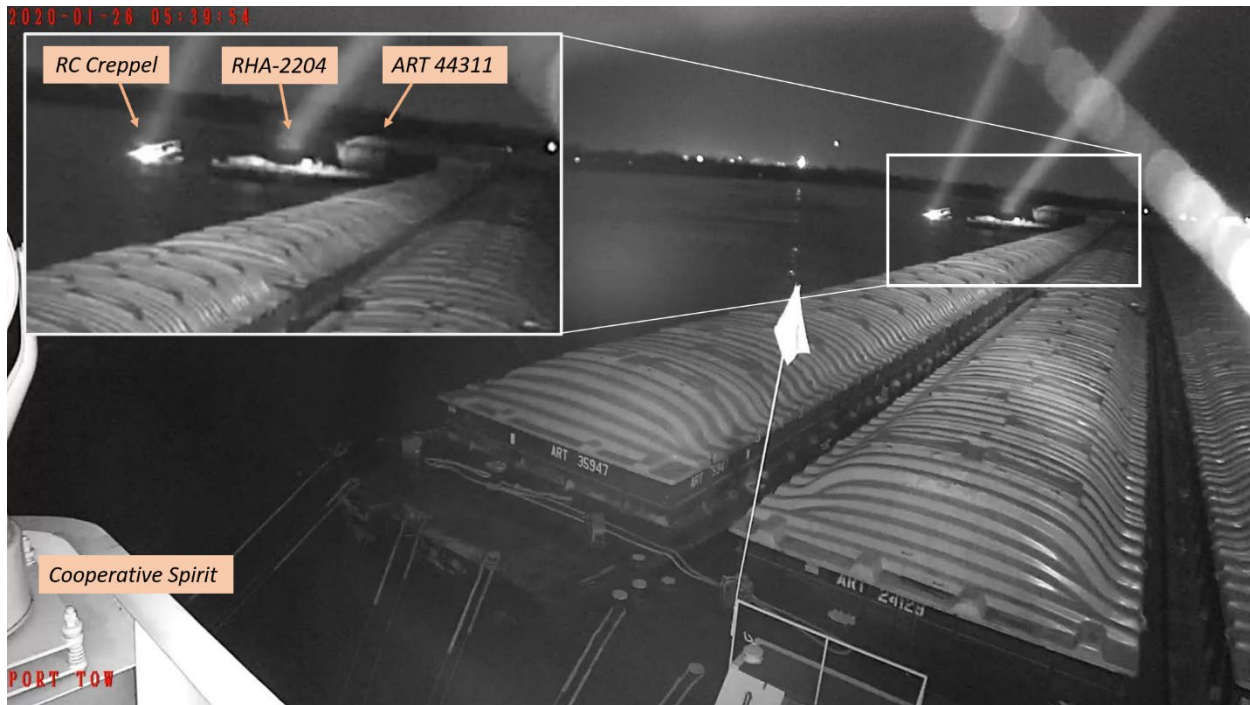
On board the *RC Creppel*, one of the two deckhands was in the galley when he heard the general alarm sound. He immediately grabbed a lifejacket and felt an impact afterwards as an empty hopper barge (*ART 44311*) in the front row of the *Cooperative Spirit* tow collided with the *RC Creppel*'s empty lead barge, the *SCC-95*, at 0533:04. Subsequently, the *RC Creppel*'s tow crossed the bow of the *Cooperative Spirit* at 13.8 mph, and the *Cooperative Spirit*'s tow swung to the right and moved ahead at 3.6 mph. The *SCC-95* separated from the tow, and the *ART 44311* rode up and over the *RHA-2204*, rupturing one of the *RHA-2204*'s pressure relief valves on the deck, releasing sulfuric acid vapors into the atmosphere, and separating the *RHA-2204* from the *RC Creppel*.



Rose Point ECS display at 0533 screenshot from the *Cooperative Spirit*, with previous positions of the *Cooperative Spirit* starting at 0528 (with *Cooperative Spirit* tow and *RC Creppel* tow icons added to show overall tow dimensions to approximate scale). (Source: ARTCO, annotated by NTSB)

The impact separated towing lines connecting the *Cooperative Spirit*'s first and second string of barges and created sparks. The port string of seven barges broke away from the *Cooperative Spirit*. At 0533:21, the *Cooperative Spirit*'s center camera captured the *RC Creppel*'s crossing masthead light as it began to drop, and within 5 seconds, the light had disappeared in front of the *Cooperative Spirit*'s lead barges as the *RC Creppel* capsized and began to sink.

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Cooperative Spirit port camera screenshot of the mostly submerged *RC Creppel* and barge *ART 44311* on top of barge *RHA-2204* at 0539:54. (Source: ARTCO, annotated by NTSB)

The *RC Creppel* deckhand, who was in the galley, saw water enter through the galley's open main deck starboard weathertight door, and the vessel listed to starboard. The deckhand swam "up" in the galley toward the portside door, where he saw the other deckhand come down and then go back up the stairs between the accommodation area to the galley. He then pushed the portside door open and entered the water as the *RC Creppel* slipped beneath the water. He swam to a nearby barge and grabbed and held onto a wire hanging from the barge.

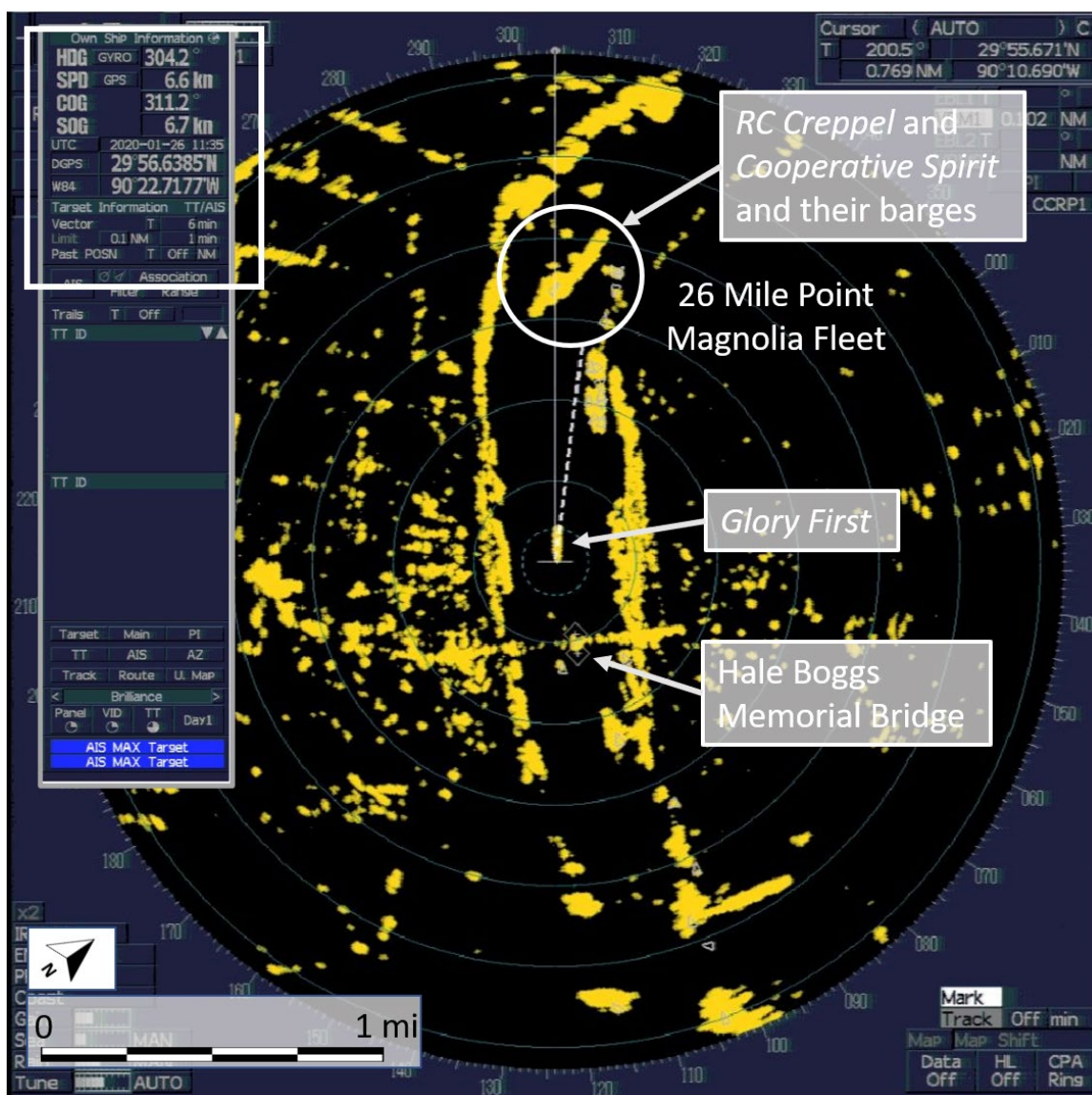
The *Cooperative Spirit* pilot moved the steering rudder tiller to adjust the rudder from right 20° to amidships, then pulled back the throttles from full ahead to neutral. At 0533:18, the rudder was amidships, and the *Cooperative Spirit* and its barges slowed and then began moving down river and swinging perpendicular with the current, blocking much of the river. At 0534:20, the *Cooperative Spirit* pilot moved the throttles to full astern and then began using the flanking rudders.

At 0534:23, the *Cooperative Spirit* pilot radioed the *RC Creppel*, but there was no answer. The *Cooperative Spirit*'s captain, who had heard his vessel's general alarm, went immediately to the wheelhouse to assist the pilot, and, as he arrived, the portside string of seven barges was drifting down the *Cooperative Spirit*'s port side.

At 0535:07, the *Glory First* was about 0.75 miles from the *Cooperative Spirit*. The NOBRA pilot on board the *Glory First* overheard the *Cooperative Spirit* pilot's call to the *RC Creppel* and radioed the *Cooperative Spirit* at 0535:02 to ask if they were having trouble. The *Cooperative Spirit* pilot replied, "You may want to stop down there. I cannot find this boat [the *RC Creppel*] down here in front of me." He did not mention anything about barges that had broken loose from the *Cooperative Spirit*'s tow.

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The *Glory First*'s radar showed the *RC Creppel*, *Cooperative Spirit*, and their barges as one entity about a 45° angle within the bend, blocking the river with the ends equidistant from the riverbanks. The NOBRA pilot stated that his first thought was to stop the *Glory First*, but he decided not to because the vessel would lose steerage as it slowed, and there was a potential for collision with the many boats and hazardous cargo barges in the Magnolia fleeting area below and along the left bank at 26 Mile Point. He stated that he considered maneuvering the *Glory First* into the mud along the left descending bank but did not because he assessed that there was not enough room. He reported back to the *Cooperative Spirit* pilot that he was going to slow down as much as he could. At 0537, the *Glory First* was 1,000 yards (about 0.6 miles) from the breakaway barges and traveling at 6.3 knots (7.2 mph). The radar showed that the distance from the *RC Creppel* and *Cooperative Spirit* tows to the right descending bank was decreasing, and by 0538:31, there was no space between the tows and the right descending bank.



Glory First radar at 0537:07, when the pilot called the *Cooperative Spirit*. (Source: *Glory First*, annotated by NTSB)

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As the *Glory First* was steering to overtake the *Cooperative Spirit* on its starboard side, the *Cooperative Spirit* pilot asked if the *Glory First* pilot could stop his ship. The pilot replied, “I cannot get stopped cap’. I am going to come up point side and . . . and do what I can.” About 0540, with about a 200-yard (600 feet) opening between the radar contact and left descending bank, the pilot on the *Glory First* directed the mate to sound the “danger” signal (five short, rapid blasts of the ship’s whistle) and ring the general alarm. Shortly afterwards, the port side of the *Glory First* collided with the starboard sides of two empty hopper barges still attached to the *Cooperative Spirit*’s tow, and the remaining barges broke loose from the tow.

At 0537, the *Cooperative Spirit* pilot radioed the US Coast Guard to inform them of the collision. Coast Guard Sector New Orleans Command Center immediately issued an urgent marine information broadcast to alert nearby vessels of the emergency and the possible presence of people in the water. Coast Guard Station New Orleans and Air Station New Orleans launched a helicopter and a 29-foot response boat—small to the scene. The Coast Guard also closed the river to marine traffic between miles 121 and 123.

The crew of the towing vessel *Louisiana* pulled the surviving deckhand from the water at 0623 near the right descending bank at mile 122.2, over one mile from where he initially entered the water. Responders continued searching for the remaining three *RC Creppel* crewmembers until sunset on the following day, January 27, 2020, when search and rescue efforts were suspended by the Coast Guard. None of the missing crewmembers were found. The crews of the helicopter and vessels reported oil sheens in the area.

Later in the day on January 27, the US Army Corp of Engineers used side scan sonar to locate the *RC Creppel* at a depth of 91 feet. However, river currents associated with high water prevented salvage teams from recovering the vessel, and because of the strong currents and poor visibility, an underwater examination was not possible.

Additional Information

Damage. Both of the *RC Creppel*’s barges, the *SCC-95* and the *RHA-2204* (both tank barges), sustained damage in the accident. Nine of the *Cooperative Spirit*’s 40 barges were damaged, including the *ART 44325*, *ART 35713*, *PVBL 75B*, and *ART 1421* (all hopper barges), as well as the *ART 44311* (a freight barge). The barges sustained varying levels of damage consisting of insets, cracks, and penetrations. Additionally, sulfuric acid (99.4% concentration) vapors escaped into the atmosphere from the *RC Creppel*’s loaded barge (*RHA-2204*), which was later capped to contain the acid vapors.

The *Glory First* sustained external hull damages on its portside outer shell plating with indentations and a set-in (a deformation of steel plate[s]) located near the bow (cargo hold no. 1) and farther aft around cargo hold no. 7.

Crew Information. The pilot of the *Cooperative Spirit* held a valid Coast Guard credential as master of towing vessels upon Western Rivers. He had worked in the towing industry for 29 years and had been a wheelman (a steersman, pilot, or captain) since 1995. He had been hired by ARTCO in 2005 and since that time had been piloting progressively larger, higher-horsepower line-haul boats until he joined the crew of the *Cooperative Spirit* about 4 months before the accident. He stated that he had piloted tows of 40 barges or more through the bend at 26 Mile

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Point, north- and southbound, nearly 100 times; he estimated about half of those transits occurred during high-water conditions. According to his most recent performance evaluations, he had “good experience” and was “very safety conscious.”

The pilot worked a regular schedule of 28 days on duty, followed by 28 days off. On the day of the accident, he had been on board for 11 days. He slept for 5 hours prior to the start of his watch and had 10 hours of sleep in the 24 hours before the accident.

The captain and pilot of the *RC Creppel* each held a credential as master of towing vessels upon Western Rivers. The captain had worked on board the vessel for 8 years, the pilot for 13 months. The owner told investigators that the pilot had been operating towing vessels for at least 10 years for two operators prior to his employment on board the *RC Creppel*.

The results of postaccident drug and alcohol testing of the *Cooperative Spirit* pilot and captain and the *Glory First* pilot were negative. The *RC Creppel* pilot and captain were never recovered after the accident.

High Water. On the day of the accident, the river stage was 15.18 feet at the Carrollton Gage 20 miles down river in New Orleans. Water levels above 12 feet were considered high water, and 17 feet were flood stage. The Coast Guard estimated a current speed of 5.5 knots (6.3 mph) at 26 Mile Point, which was consistent with historical current data for the high-water level.

On January 24, 2020, Coast Guard Sector New Orleans issued a Marine Safety Information Bulletin, warning operators of the river water level as measured at the Carrollton Gage. The bulletin highlighted additional requirements for barges moored in fleeting areas but did not include operating restrictions for tows, such as the minimum towing vessel horsepower or the maximum number of barges.

ARTCO’s towing safety management system did not limit or specify the number of barges that could be in a tow either up- or downbound during high-water conditions in that area.

AIS. The regulations in Title 33 *Code of Federal Regulations* 164.46 stated that, as of March 2016, towing vessels 26 feet or longer and engaged in commercial service were required to “have on board a properly installed, operational Coast Guard type-approved AIS Class A device.” The regulations further defined operating condition to include the accurate input and upkeep of all AIS data fields and system updates. The regulations did not require a towing vessel to include barges when broadcasting its AIS dimensions. To assist AIS users, the Coast Guard published *Automatic Identification System: USCG AIS Encoding Guide* in which they encouraged users to include barge dimensions (if applicable) when encoding their AIS devices. Neither the *RC Creppel* nor the *Cooperative Spirit* was broadcasting the total overall length of the vessels and their tows to other AIS users. The *RC Creppel*’s AIS broadcast showed its length at 69 feet (the overall length of the vessel and its tow was 514 feet). The *Cooperative Spirit*’s AIS broadcast showed the length at 200 feet (the overall length of the vessel and its tow was 1,600 feet). A postaccident review of the *Cooperative Spirit*’s ECS data showed that the length entered into the ECS was also 200 feet. Neither vessel was broadcasting the overall width of the vessel and tow.

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As a result of the accident, on May 13, 2020, the Coast Guard published Safety Alert 04-20, *Automatic Identification System (AIS) – Accurate Broadcasts Don’t Happen Automatically*. In the alert, the Coast Guard stated, “The accurate display of a vessel’s full length becomes particularly important in situations that prevent vessels from seeing each other until they are in very close proximity,” and recommended that vessel operators “ensure that accurate and up to date information is entered into the AIS, including, but not limited to, the overall dimensions of the vessel and its tow.”

In March 2014, the bulk carrier *Summer Wind* and the *Miss Susan* tow collided in the Houston Ship Channel in Houston, Texas. In its investigation of the accident, the NTSB noted that the *Miss Susan* and its tow were depicted in AIS as being 70 feet long, when the vessel and tow actually totaled about 670 feet in length. Additionally, investigators found no evidence that any of the tows working in the area that day depicted the complete dimensions of their configurations in AIS. The NTSB found that “Consistently entering the complete dimensions of tow configurations for individual transits into automatic identification systems would alleviate misinterpretation and possible confusion from inaccurate information, and thus enhance safety.”

In 2016, the NTSB published *An Assessment of the Effectiveness of the US Coast Guard Vessel Traffic Service System*, which examined the Coast Guard Vessel Traffic Service’s (VTS) ability to detect and recognize traffic conflicts and other unsafe situations. The NTSB found that “the Coast Guard may be limited in its ability to detect the potential for collisions, allisions, and groundings in VTS areas when VTS watchstanders do not have accurate information regarding vessel size, tow size, and tow configuration for VTS users engaged in towing operations.” As a result of this safety study, the NTSB issued Safety Recommendation M-16-15 to the Coast Guard to “work with the Radio Technical Commission for Maritime Services and the American Waterways Operators to modify regulations, procedures, and equipment standards, as necessary, to ensure that vessels engaged in towing operations broadcast accurate automatic identification system information regarding tow size and tow configuration as well as vessel size.” The NTSB issued similar safety recommendations to the Radio Technical Commission (M-16-24) and American Waterways Operators (M-16-25). As of the publication of this report, the two safety recommendations to the Coast Guard and American Waterways Operators are classified as “Open—Acceptable Response,” while the safety recommendation issued to the Radio Technical Commission is classified as “Open—Awaiting Response.”

Analysis

The Mississippi River near New Orleans is a busy waterway with large tows frequently moving past each other as they travel up and down river. When the *Cooperative Spirit* and *RC Creppel* pilots agreed at 0522:47 (about 10 minutes before the accident) to a port-to-port meeting, each knew that they would have to make their way around the bend at 26 Mile Point during the passing, a course change about 55°.

Because the *RC Creppel* and *Cooperative Spirit* tows planned to meet in a bend, the high water and strong current increased the risk of an accident occurring as both vessels were maneuvering for the turn at the same time. The Coast Guard had issued an MSIB 2 days before the accident, warning vessel operators of the high river level, and on the day of the accident, the current speed was estimated at 5.5 knots. Additionally, due to the nature of the bend, both operators would

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have been able to see each other's tows and visually assess the situation only for a short time as they approached each other and would have little time to react, if necessary.

In such a situation—where two vessels are approaching a bend from opposite directions—navigational tools can help to mitigate the risk of collision. Although both the *RC Creppel* and *Cooperative Spirit* were equipped with AIS, ECS, and radar to assist with navigation, each pilot had entered only the size of his vessel into AIS, rather than length of both the vessel and tow. Because each vessel's ECS pulled information about other vessels from AIS, each vessel's ECS showed the *RC Creppel* and its tow as being 69 feet (instead of 514 feet) and the *Cooperative Spirit* and its tow as 200 feet (instead of 1,600 feet). Since the *Cooperative Spirit* pilot did not inform the *RC Creppel* pilot of the size or length of his respective tow when they planned their meeting, nor did the *RC Creppel* pilot inquire as to its size, the *RC Creppel* pilot was likely unaware of the length of the *Cooperative Spirit* tow, and the two pilots had arranged the meeting without a complete understanding of the developing situation. An improved picture of the vessels nearing each other would have occurred if either vessel's AIS included the accurate size of the tows.

As the *Cooperative Spirit* began to transit the bend, the vessel was tight on the left descending bank about 200 feet from the Magnolia fleeting area. The *Cooperative Spirit*'s pilot used 15-20° starboard rudder for more than 90 seconds to execute the turn around the bend at 26 Mile Point. However, the force of the current set the vessel and its tow to port (toward the right descending bank) and into the path of the downbound *RC Creppel*, which was in the center of the river as it approached the bend. As the *Cooperative Spirit*'s tow rounded the bend and became visible, the *RC Creppel*'s pilot would have likely seen the yellow flashing light and red and green side lights on the lead barges of the *Cooperative Spirit*'s tow.

Once in sight of one another, about 50 seconds before the accident, there was minimal time for either pilot to react or respond to the other vessel's movements to avoid collision. The *Cooperative Spirit* pilot had to assess the risk of collision from more than 1,400 feet behind the head of the tow. He assumed that the pilot of the smaller *RC Creppel* tow would maneuver his tow closer to the right descending bank because the *RC Creppel* tow was on a steady course down the river, was in a better location for viewing and assessing their meeting, and had plenty of room to move toward the right descending bank if he was concerned with the movement of the *Cooperative Spirit*. A radio call to the other vessel would have helped both pilots identify each other's expectations, but neither pilot made a radio call after their initial call to arrange a meeting. The absence of a radio call or "danger" signal indicates that neither pilot was aware of the impending collision.

After the collision, according to the surviving deckhand, water rapidly entered through the open starboard main deck weathertight door to the galley on the *RC Creppel*. While the vessel was not salvaged and could not be examined under water, it is likely that the ingress of water into the vessel through the main deck weathertight door may have been prevented or slowed had the door been closed and properly dogged, thus allowing the three other crewmembers more time to escape before the vessel sank.

When the pilot on board the upbound bulk carrier *Glory First* was notified of the situation, he had to make an immediate choice on how to proceed due to the proximity of the *Cooperative Spirit* tow only 0.75 miles ahead; additionally, he was not fully informed of the severity of the accident. He could have tried to slow from his vessel's speed of about 6.7 knots,

Collision between *Cooperative Spirit* Tow and *RC Creppel* Tow

stop, and possibly anchor, or he could have taken the seemingly open pathway around the starboard side of the *Cooperative Spirit* and the right descending bank and fleeting area as seen on his radar to maneuver around the *Cooperative Spirit*. The *Glory First* pilot chose the second option. Because the *Cooperative Spirit* continued to drift down and across the river into the upbound *Glory First*, which had slowed and evasively maneuvered toward the right descending bank, the pilot's observed clear path on radar closed, and the *Glory First* struck the aft corner of the starboard string of barges pushed by the *Cooperative Spirit*.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the collision of the *Cooperative Spirit* and *RC Creppel* tows was the two pilots' insufficient radio communication before meeting in a bend and not broadcasting accurate AIS information regarding tow size.

Communication When Meeting in a Bend

When meeting or overtaking a vessel in a bend, especially where high-water conditions can increase the risk of a collision, early and effective communication is critical to ensuring a successful meeting. The use of VHF radio can help to dispel assumptions and provide bridge teams and towing vessel operators with the information needed to better assess each vessel's intentions.

Updating the Overall Dimensions of a Tow in AIS

The NTSB has previously noted the importance of ensuring that vessels engaged in towing operations broadcast accurate AIS information regarding tow size. The overall dimensions of a vessel and its tow may change significantly with each transit. For vessels towing ahead or alongside, the dimensions in AIS should reflect the overall rectangular area of the vessel and its tow. Consistently entering the complete dimensions of a tow configuration into AIS for each transit helps to alleviate possible misinterpretation and thus enhances the situational awareness of all waterway users.

Collision between *Cooperative Spirit* Tow and *RC Creppel* Tow

Vessel Particulars

Vessel	<i>RC Creppel</i>	<i>Cooperative Spirit</i>	<i>Glory First</i>
Owner/operator	Elite Towing	American River Transportation Co, LLC	Glory First Ltd./Glory Ships(s) PTE. LTD.
Port of registry	New Orleans, Louisiana	St. Louis, Missouri	Majuro, Marshall Islands
Flag	United States	United States	Marshall Islands
Type	Towing vessel	Towing vessel	Bulk carrier
Year built	2012	1975	2014
Official number (US)	1240427	569226	N/A
IMO number	N/A	N/A	9713909
Classification Society	N/A	N/A	ClassNK
Construction	Steel	Steel	Steel
Length	69 ft (21 m)	200 ft (61 m)	200 ft (61 m)
Draft	10 ft (3 m)	10 ft (3 m)	13 ft (4 m)
Beam/width	30 ft (9.1 m)	54 ft (16.5 m)	35 ft (10.7 m)
Tonnage	98 GRT	1,309 GRT	764 GRT
Engine power; manufacturer	2 x 840 hp (1,268 kw); Cummins k38-M diesel engines	3 x 3,500 hp (2,610 kW); EMD 16-710G7C II diesel engines	1 x 12,968 hp (9,670 kW); HITACHI ZOSEN CORPORATION ARIAKE WORKS
Persons on board	4	10	22

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 DCA20FM012.

Issued: August 12, 2021

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(b)(1). 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).