



UNITED STATES COAST GUARD

THE REPORT OF INVESTIGATION
INTO THE
**COLLISION BETWEEN TOWING VESSEL *RC CREPPEL* (O.N. 1240427), TOWING VESSEL
COOPERATIVE SPIRIT (O.N. 569226) AND
BULK CARRIER *GLORY FIRST* (IMO # 9713909)
RESULTING IN THREE LOSSES OF LIFE AND
LOSS OF A VESSEL ON THE LOWER
MISSISSIPPI RIVER NEAR MILE MARKER 122
ON
JANUARY 26, 2020**



U.S. Department of
Homeland Security

United States
Coast Guard



Commandant
United States Coast Guard

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16732/IIA #6896329
12 January 2023

**COLLISION BETWEEN TOWING VESSEL RC CREPPEL (O.N. 1240427), TOWING
VESSEL COOPERATIVE SPIRIT (O.N. 569226) AND BULK CARRIER GLORY FIRST
(IMO 9713909) RESULTING IN THREE LOSSES OF LIFE AND LOSS OF A VESSEL
ON THE LOWER MISSISSIPPI RIVER NEAR MILE MARKER 122
ON JANUARY 26, 2020**

ACTION BY THE COMMANDANT

The record and the report of the investigation convened for the subject casualty have been reviewed. The record and the report, including the findings of fact, analysis, conclusions, and recommendations are approved subject to the following comments. This marine casualty investigation is closed.

ACTION ON RECOMMENDATIONS

Recommendation 1: It is recommended that Commander, U.S. Coast Guard Eighth District, convene a Port and Waterways Safety Assessment (PAWSA) for reevaluation of hazardous navigational areas located within the LMR for designation as special areas.

Action: I concur with this recommendation. A PAWSA was conducted in New Orleans, LA on 9-10 March 2022. The geographic study area of interest for this workshop was for the Lower Mississippi River, extending from Baton Rouge, Louisiana to the Southwest Pass. The final report from this workshop is in final clearance and I anticipate that it will be finalized by February 2023.



A. M. BEACH
Captain, U.S. Coast Guard
Director of Inspections and Compliance



MEMORANDUM

16732
10 Feb 2020

From: J. P. Nadeau, RADM
CGD EIGHT (d)

To: Mr. [REDACTED]
Lead Investigating Officer

Subj: FORMAL MARINE CASUALTY INVESTIGATION CONCERNING COLLISION
BETWEEN ITV COOPERATIVE SPIRIT, ITV RC CREPPEL AND M/V GLORY
FIRST

1. Pursuant to the authority contained in Title 46, United States Code (U.S.C.), Section 6301 and the regulations promulgated thereunder, you are to convene a formal investigation for the collision between the ITV COOPERATIVE SPIRIT, the ITV RC CREPPEL, and the M/V GLORY FIRST, which occurred near Mile Marker 122 on the Lower Mississippi River on January 26, 2020. In conducting your investigation, you shall adhere, as closely as possible, to the policy, guidance, and operational procedures for the Coast Guard Marine Investigations Program, as found in the Marine Safety Manual, Volume V, COMDTINST M16000.1A.

2. Due to the scope and complexity of the investigation, I have assigned the following persons to assist you with your investigation. For purposes of this investigation, the below persons are all designated as Investigating Officers as defined under 46 C.F.R. § 4.03-30, and therefore, shall enjoy the powers outlined in 46 C.F.R. § 4.07-5:

- LT [REDACTED] Assistant Investigating Officer
- LTJG [REDACTED] Assistant Investigating Officer
- Mr. [REDACTED] Investigations NCOE Technical Advisor

3. Upon completion of the investigation, you will issue a report to me with the collected evidence, the established facts, and conclusion and recommendations. Conclusions and recommendations concerning commendatory actions or misconduct that would warrant further inquiry shall be referred to me, by separate correspondence, for consideration and action as appropriate. If a public hearing is convened, a daily summary of significant events shall be transmitted to me via CGD Eight (dp) while the hearing is in session.

4. You will complete and submit your investigative report to me within 210 days of the convening date. If this deadline cannot be met, you shall submit a written explanation for the delay and notice of the expected completion date. You are highly encouraged to submit any interim recommendations intended to prevent similar casualties, if appropriate, at any point in your investigation.

5. If a public hearing is convened, you will preside over it. LT [REDACTED] District 8 Legal, will serve as your legal advisor, and may assist you and your team as you direct. If a public hearing is convened, a Recorder will be identified for assistance. Further, at your discretion, you may utilize the services of Coast Guard and other Government-employed subject matter experts.
6. The National Transportation Safety Board (NTSB) is also charged with the responsibility of determining the cause or probable cause of this casualty by the Independent Safety Board Act of 1974 (49 U.S.C. 1901, et. seq.) and may designate a representative to participate in this investigation. The NTSB representative may make recommendations regarding the scope of the inquiry, may identify and examine witnesses, and/or submit or request additional evidence.
7. CGD Eight will furnish such funding and technical assistance as may be required by the Investigation when deemed appropriate and within the requirements for the scope of the investigation. Your point of contact for funding and technical assistance is LCDR [REDACTED], CGD Eight (dpi).

#

Copy: CG-INV
INCOE



16732
JAN 04 2023

**COLLISION BETWEEN TOWING VESSEL *RC CREPPEL* (O.N. 1240427), TOWING
VESSEL *COOPERATIVE SPIRIT* (O.N. 569226) AND BULK CARRIER *GLORY FIRST*
(IMO # 9713909) RESULTING IN THREE LOSSES OF LIFE AND LOSS OF A VESSEL
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JANUARY 26, 2020**

**ENDORSEMENT BY THE COMMANDER,
EIGHTH COAST GUARD DISTRICT**

After careful review, I approve the record and the report of investigation, including the findings of fact, analysis, conclusions, and recommendations. My comments and endorsements are noted below. I recommend this marine casualty investigation be closed.

COMMENTS ON THE REPORT

1. The loss of multiple crewmembers was a tragic and preventable accident. I offer my sincere condolences to the families and friends of the mariners who lost their lives.
2. The investigation and report contain valuable information which can be used to address the preventable chain of events that caused this marine casualty, and to prevent similar incidents from occurring in the future.

ENDORSEMENT ON RECOMMENDATIONS

Safety Recommendation 1: Recommend Commander, U.S. Coast Guard Eighth District, convene a Port and Waterways Safety Systems Assessment for the re-evaluation of hazardous navigational areas located within the LMR for designation as Special Areas.

Endorsement: I concur with this recommendation. The area in vicinity of "26 Mile Point" on the Lower Mississippi River (LMR) should be reevaluated for designation as a Vessel Traffic Service (VTS) Special Area as defined by Title 33, Code of Federal Regulations (CFR) §161.2 and regulated by §161.13. VTS Special Areas are designated and prescribe special operating requirements based on factors such as vessel congestion, traffic density, and environmental conditions. The last assessment completed in 1997 did not designate 26 Mile Point as a VTS Special Area. However, the Ports and Waterways Safety Systems Committee completed an

JAN 04 2023

assessment of "26 Mile Point" for designation as a VTS Special Area in March of 2022 and results are pending.



R. V. TIMME
Rear Admiral, U.S. Coast Guard
Commander, Eighth Coast Guard District

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LIST OF ACRONYMS

Acronym	Title
AIS	Automatic Identification System
ARTCO	American River Transportation Company
CFR	Code of Federal Regulations
COTP	Captain of the Port
ECS	Electronic Charting Software
GT	Gross Ton (Gross Registered Tonnage)
HP	Horsepower
IMO	International Maritime Organization
LA	Louisiana
LMR	Lower Mississippi River
MM	Mile Marker
MMC	Merchant Mariner Credential
MSIB	Marine Safety Information Broadcast
NOBRA	New Orleans-Baton Rouge Steamship Pilots Association
NTSB	National Transportation Safety Board
O.N.	Official Number
PII	Parties-in-Interest
US	Towing Vessel Safety Management System
TSMS	United States
USC	United States Code
USCG	United States Coast Guard
VHF	Very High Frequency; Marine Band Radio, typically found on vessels
VMRS	Vessel Movement Reporting System
VTs	Vessel Traffic Service
WAP	Waterways Action Plan



16732
26 April 2022

**COLLISION BETWEEN TOWING VESSEL *RC CREPPEL* (O.N. 1240427), TOWING
VESSEL *COOPERATIVE SPIRIT* (O.N. 569226) AND BULK CARRIER *GLORY FIRST*
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EXECUTIVE SUMMARY

On January 26, 2020, at 0510, the U.S. flagged towing vessel *RC CREPPEL* departed Upper St. Rose Fleet, located at mile marker 126, on the Lower Mississippi River headed southbound (downriver) travelling at 15 knots with two red flag barges. At 0511, the U.S. flagged towing vessel *COOPERATIVE SPIRIT* was travelling northbound (upriver) at 4 knots with 40 dry cargo barges and had passed the Luling Bridge at mile marker 121.5. At 0514, also headed northbound, the Marshall Islands flagged bulk carrier *GLORY FIRST* was behind the *COOPERATIVE SPIRIT* and had made passing arrangements to pass the *COOPERATIVE SPIRIT* on her starboard side at or above 26 Mile Point, located at mile marker 123.

At 0522, *RC CREPPEL* and *COOPERATIVE SPIRIT* made passing arrangements to pass port to port once they met around 26 Mile Point. As both vessels were rounding 26 Mile Point at 0533, the *COOPERATIVE SPIRIT*'s tow collided with *RC CREPPEL*'s tow. The impact caused the *RC CREPPEL* to roll to her starboard side, capsize and eventually sink. One of the four crew onboard was able to escape the vessel and swim to a nearby barge where he was later retrieved. Three other crew remained missing.

At 0535, the *GLORY FIRST* notified the *COOPERATIVE SPIRIT* that the vessel was still approaching on their starboard side for the previously made arrangements and was unable to slow down or change course. The *GLORY FIRST* collided with the starboard side of the *COOPERATIVE SPIRIT*'s tow, setting the vessel's remaining tow adrift. All barges were successfully recovered but the missing three crew were never found. The U.S. Coast Guard later issued Letters of Presumed Death for the missing crewmen.

Through its investigation, the Coast Guard determined the initiating event to be the collision between the *RC CREPPEL* and *COOPERATIVE SPIRIT* that resulted in the sinking of the *RC CREPPEL* and death of three crewmembers. Causal factors that contributed to this marine casualty were: 1) high water conditions, 2) non-designation of 26 Mile Point as a Special Area, 3) inaccurate/incomplete Automatic Identification System broadcast and 4) failure to effectively communicate, 5) failure to follow company SMS, and 6) failure to maintain situational awareness.



16732
26 April 2022

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INVESTIGATING OFFICER'S REPORT

1. Preliminary Statement

1.1. This marine casualty investigation was conducted and this report was submitted in accordance with Title 46, Code of Federal Regulations (CFR), Subpart § 4.07, and under the authority of Title 46, United States Code (USC) Chapter 63.

1.2. The Investigating Officer designated the owners of the towing vessels *RC CREPPEL* and *COOPERATIVE SPIRIT* as parties-in-interest (PII) to this investigation. The bulk carrier *GLORY FIRST* declined PII designation. No other individuals, organizations, or parties were designated as PII in accordance with 46 CFR Subsection § 4.03-10.

1.3. The United States Coast Guard (USCG) was the lead agency for all evidence collection activities in this investigation. The National Transportation Safety Board (NTSB) assisted USCG investigators with initial casualty scene response and witness interviews. No other persons or organizations assisted in this investigation.

1.4. All times listed in this report are in Central Standard Time using a 24-hour format and are approximate.

1.5. All river mile markers (MM) discussed in this report are located on the Lower Mississippi River (LMR) unless otherwise indicated.

2. Vessels Involved in the Incident



Figure 1. RC CREPPEL's port aft corner aspect while underway. (Undated/MarineTraffic.com)

Official Name:	RC CREPPEL
Identification Number:	1240427 – Official Number (US)
Flag:	United States
Vessel Class/Type/Sub-Type	Towing Vessel / Pushing Ahead (Towboat) / Linehaul
Build Year:	2012
Gross Tonnage:	98 GT
Length:	68.9 feet
Beam/Width:	30.0 feet
Draft/Depth:	10.0 feet
Main/Primary Propulsion: (Configuration/System Type, Ahead Horse Power)	Diesel Reduction, 2000 horse power (HP)
Owner:	Elite Towing Inc. New Orleans, LA
Operator:	Rodgers Marine Towing Service, LTD New Orleans, LA



Figure 2. *COOPERATIVE SPIRIT*'s port side aspect. (January 28, 2020/USCG)

Official Name:	<i>COOPERATIVE SPIRIT</i>
Identification Number:	569226 – Official Number (US)
Flag:	United States
Vessel Class/Type/Sub-Type	Towing Vessel / General/ General
Build Year:	1975
Gross Tonnage:	1309 GT
Length:	185.5 feet
Beam/Width:	54.0 feet
Draft/Depth:	10.0 feet
Main/Primary Propulsion: (Configuration/System Type, Ahead Horse Power)	Diesel, 10500 HP
Owner(s):	American River Transportation Co LLC (ARTCO) Long Grove, IL
Operator:	American River Transportation Co LLC Long Grove, IL



Figure 3. Undated Photograph of GLORY FIRST's starboard bow aspect while underway. (Undated/Google)

Official Name:	<i>GLORY FIRST</i>
Identification Number:	9713909 - International Maritime Organization (IMO) Number
Flag:	Marshall Islands
Vessel Class/Type/Sub-Type	Bulk Carrier / General / Freight Ship
Build Year:	2011
Gross Tonnage:	40937 GT
Length:	715.2 feet
Beam/Width:	105.7 feet
Draft/Depth:	65.3 feet
Main/Primary Propulsion: (Configuration/System Type, Ahead Horse Power)	Diesel Direct, 13088 HP
Owner:	Glory First, Ltd. Majuro, Republic of the Marshall Islands
Operator:	Glory Ships (S) PTE. LTD Dalian, China

3. Deceased, Missing, and/or Injured Persons

Relationship to <i>RC CREPPEL</i>	Sex	Age	Status
Master	Male	52	Missing, Presumed Deceased
Pilot	Male	43	Missing, Presumed Deceased
Deckhand 2	Male	39	Missing, Presumed Deceased

4. Findings of Fact

4.1. The Incident:

4.1.1. On January 26, 2020 at 0433, the *COOPERATIVE SPIRIT* departed the Kenner Bend Upper Anchorage at MM 115 headed northbound (upriver). The vessel was pushing 40 hopper barges consisting of 22 empty barges and 18 loaded barges with various dry cargos. The vessel's Pilot¹ was in charge of the watch in the wheelhouse and at the helm navigating the vessel. The remainder of the crew (Master, Mate, Chief Engineer, Assistant Engineer, Watchmen, Cook and three Deckhands) were off duty.

4.1.1.1. The Pilot on the *COOPERATIVE SPIRIT* called out his vessel intentions via the very high frequency (VHF) radio channel 67. He indicated the *COOPERATIVE SPIRIT* was departing the Kenner Bend Upper Anchorage headed northbound.

4.1.2. Between 0508 and 0510, the Pilot picks up and puts down a cell phone several times that is located on the vessel's control station near the throttles.



Figure 4. Still shot from *COOPERATIVE SPIRIT*'s helm camera video showing a cell phone at the control station. (January 26, 2020/ARTCO, annotated by the USCG)

4.1.3. On January 26, 2020 at 0510, the *RC CREPPEL* departed the Upper St. Rose Fleet at MM 128 traveling southbound (downriver) at approximately 15 knots. The vessel was pushing two red flag barges, SCC-95 (O.N. 50839) which was empty and RHA-2204 (O.N. 680256) which was loaded with sulfuric acid. The vessel's Master and Pilot were in the wheelhouse preparing for a watch relief. The remainder of the crew, two Deckhands, were in the galley.

¹ *Pilot* is an informal term used to describe the second officer of a towboat operating within the Western Rivers region. This individual is a licensed mariner holding a USCG merchant mariners credential.

4.1.3.1. The RHA-2204 was loaded with a draft of 11-12 feet below the water's surface leaving it with a freeboard of 1-2 feet. It was tied directly to the bow of the *RC CREPPEL*. The SCC-95 was empty with a draft of 1-1.5 feet. The SCC-95 was the lead barge in the tow. This tow arrangement resulted in a "high-low coupling" in which the higher lead barge was coupled to a lower barge behind it.

4.1.3.2. Deckhand 1 stated while he was in the galley and the vessel was underway, the starboard galley watertight door was open.

4.1.3.3. The Pilot on the *RC CREPPEL* called out his vessel intentions via the very high frequency (VHF) radio channel 67. He indicated the *RC CREPPEL* was departing the St. Rose Fleet headed southbound.

4.1.4. At 0511, the *COOPERATIVE SPIRIT* passed northbound (upriver) through the Luling Bridge at MM 121.5 at approximately 4 knots.

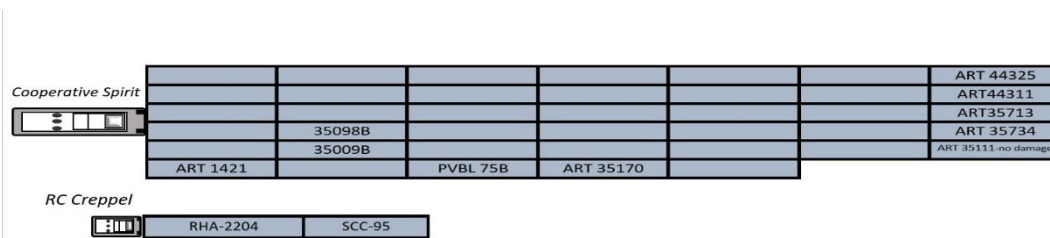


Figure 5. Approximate comparison of the *COOPERATIVE SPIRIT* and *RC CREPPEL* barge tow sizes at the time of the incident. (Date/NTSB)

4.1.5. At 0514, the *GLORY FIRST* was also travelling northbound (upriver). The New Orleans-Baton Rouge Steamship Pilots Association (NOBRA) Pilot² onboard the *GLORY FIRST* made arrangements via VHF radio channel 67 with the *COOPERATIVE SPIRIT* to overtake them above 26 Mile Point, which is near MM 123. *GLORY FIRST*'s port side was to pass the *COOPERATIVE SPIRIT* starboard side, with the Magnolia Barge Fleet on the *GLORY FIRST*'s starboard side.

4.1.6. At 0515, the *COOPERATIVE SPIRIT*'s Pilot picks up the phone located on the vessel's control station.

4.1.7. At 0522, via VHF radio, the *COOPERATIVE SPIRIT* and the *RC CREPPEL* agreed to a "one-whistle" passing arrangement, where both vessels were to meet port to port, above 26 Mile Point. During the radio communication, the *RC CREPPEL* stated they were pushing two barges. The *COOPERATIVE SPIRIT* did not specify its length or arrangement of tow.

² A NOBRA Pilot is a specially-licensed Master who boards foreign and U.S. flagged ships sailing under registry, to guide them into port or through a waterway using their expert local knowledge. They may be licensed by either the USCG or the state pilot commissions of the state they operate in.

4.1.8 At 0531, as the *COOPERATIVE SPIRIT* approached 26 Mile Point, Magnolia Fleet was approximately 200 feet off the vessel's starboard side, on the left descending bank³, when the *RC CREPPEL*'s navigation lights can be seen in the *COOPERATIVE SPIRIT*'s camera ahead of and off the starboard side of the head of the tow.

4.1.8. At 0533, the *RC CREPPEL* sounded the general alarm.

4.1.9. *RC CREPPEL*'s Deckhand 1 was in the galley at the time, heard the alarm, and donned his life jacket.

³ The shoreline of the Western Rivers, including the Lower Mississippi River are referred to as the left and right bank when traveling (facing) downstream. The left bank is called the left descending bank and the right bank is called the right descending bank.



Figure 6. Still shots from *COOPERATIVE SPIRIT*'s camera. *RC CREPPEL*'s navigation lights can be seen off the starboard bow of the *COOPERATIVE SPIRIT*'s tow. (January 26, 2020/ARTCO, annotated by the NTSB)

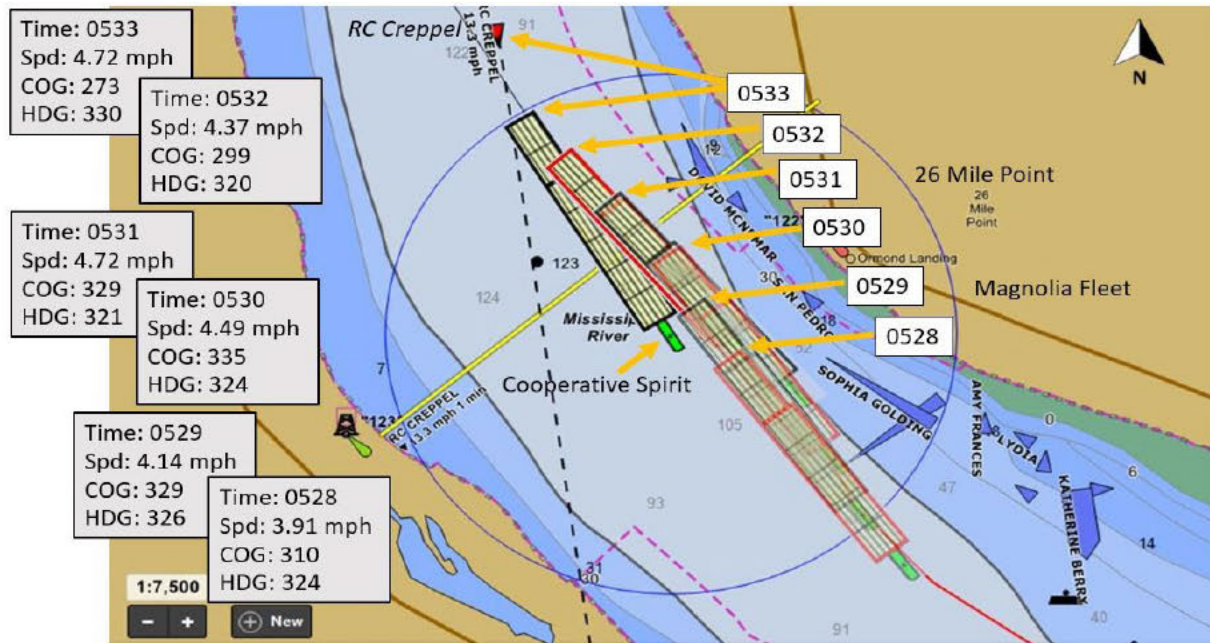


Figure 7. A Rose Point electronic chart system (ECS) display screenshot from the *COOPERATIVE SPIRIT*. (January 26, 2020/ARTCO, annotated by the NTSB)

4.1.10. Moments later, the *COOPERATIVE SPIRIT*'s tow collided with the *RC CREPPEL*'s tow. The momentum of the impact pushed the ART 44311 and ART 44325 of the *COOPERATIVE SPIRIT*'s tow, across the top of RHA-2204, the barge tied directly to *RC CREPPEL*'s bow (see Figure 5), overlapping it approximately 100 feet. During impact, the pressure relief valve on the RHA-2204 was damaged and an unknown amount of sulfuric acid was released into the air.



Figure 8. Post-accident damage survey of the RHA 2204 and ART 44325. (McKinney Salvage, LLC, annotated by the NTSB)

4.1.11. As the *COOPERATIVE SPIRIT*'s tow slid onto the *RC CREPPEL*'s tow, a barge also made contact with the *RC CREPPEL*, causing it to list to starboard. Within 2 minutes of the contact, the *RC CREPPEL* was fully submerged.

4.1.12. *RC CREPPEL*'s Deckhand 1 was still inside the vessel's galley at impact. As the water began coming into the space through the open starboard galley door, and listed to starboard, he swam toward the light coming from the galley's port watertight door. He pushed the watertight door outward and jumped from the vessel into the river. He found a wire hanging from an empty hopper barge and held onto it until he was retrieved approximately 15 minutes later by the nearby towing vessel *LOUISIANA*.

4.1.13. After the collision, the *COOPERATIVE SPIRIT*'s port string of empty hopper barges, behind the ART 44325, broke free and were set adrift from the rest of the vessel's tow.

4.1.14. At 0533, the *COOPERATIVE SPIRIT* sounded the general alarm and backed the vessel down while using its search light to look for the *RC CREPPEL*. The USCG was notified of the collision and assistance was requested via VHF radio for nearby vessels to assist with gathering loose barges and searching for any persons in the water.

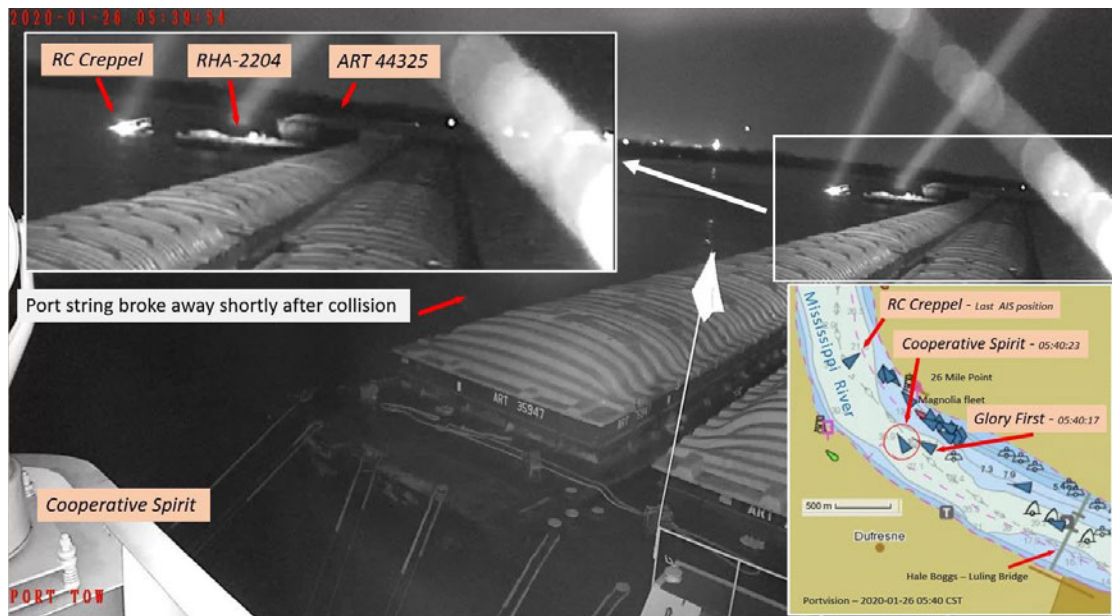


Figure 9. Video still shot from *COOPERATIVE SPIRIT*'s port camera after the collision. (January 26, 2020/ARTCO, annotated by the NTSB)

4.1.15. A Safety Zone was established by Sector New Orleans Captain of the Port (COTP) and broadcast by the New Orleans Vessel Traffic Service (VTS) with a river closure between MM 121-123 on the LMR. A hot zone was established by the COTP around the safety zone at 3.5 miles vertical and 1000 feet aerial due to the sulfuric acid release.

4.1.16. At 0533:28, the *COOPERATIVE SPIRIT*'s Pilot is captured on video with a Bluetooth device in his right ear.

4.1.17. At 0535, the *GLORY FIRST*'s NOBRA Pilot overheard a call from the *COOPERATIVE SPIRIT* to the *RC CREPPEL* over VHF radio channel 67 with no

response so he engaged with the *COOPERATIVE SPIRIT* via VHF radio channel 67 and asked, “You having trouble there captain?”

4.1.18. At 0535, the *COOPERATIVE SPIRIT* informed the *GLORY FIRST*’s NOBRA Pilot via VHF radio that “you might want to stop down there, I can’t find this boat right in front of me.”

4.1.19. The *GLORY FIRST*’s NOBRA Pilot immediately began assessing what the *GLORY FIRST*’s response to the situation should be and alerted the bridge crew of the emergency.

4.1.20. The *GLORY FIRST*’s NOBRA Pilot reviewed his portable pilot unit and saw that the *COOPERATIVE SPIRIT*, *RC CREPPEL* and their tows were blocking a large portion of the river. The NOBRA Pilot decided it was too risky to stop the vessel near the Magnolia Fleet and around 26 Mile Point because of vessel congestion and volume of red flag barges in the area. He considered maneuvering the *GLORY FIRST* into the mud along the left descending bank, which was on the vessel’s starboard side but did not because he assessed there was not enough room.

4.1.21. At 0538, the *GLORY FIRST*’s NOBRA Pilot informed the *COOPERATIVE SPIRIT* that the vessel “cannot get stopped” and that he would “try to get as much point side as possible.”

4.1.22. At 0539, *GLORY FIRST*’s NOBRA Pilot ordered emergency full ahead in an attempt to squeeze between the approximate 200-yard opening between the *COOPERATIVE SPIRIT* and Magnolia Fleet.

4.1.23. At 0540, the *GLORY FIRST* blew five short blasts bracing the vessel for any potential impact. With Magnolia Fleet on its starboard side and the *COOPERATIVE SPIRIT* dead in the water on its port side, the *GLORY FIRST* stayed its course and avoided contact with the *COOPERATIVE SPIRIT*.

4.1.24. However, moments later, the *GLORY FIRST* collided with ART 1421 and PVBL 75B, two barges on the aft starboard corner of the *COOPERATIVE SPIRIT*’s tow (see *Figure 5*). This impact caused the remainder of the tow’s cable wires to snap setting the rest of the *COOPERATIVE SPIRIT*’s barges adrift.

4.1.25. The *LOUISIANA* rescued one crew member from the *CREPPEL*. All adrift barges were successfully recovered, but the three crew members from the *CREPPEL* were not found. The U.S. Coast Guard later issued Letters of Presumed Death for those three crew members.

4.1.26. On January 27, 2020, the USCG reopened the waterway to traffic.

4.1.27. On January 28, 2020, the USCG suspended their search for the three missing crew.

4.1.28. Crew members of the *COOPERATIVE SPIRIT*, *GLORY FIRST*, and *RC CREPPEL* determined to be directly involved in the incident were subjected to post-casualty drug and alcohol testing in accordance with 46 CFR Subpart § 4.06. All test results were negative for drugs and alcohol.

4.1.29. The *RC CREPPEL* has not yet been recovered from the river bed at the time of this report. The Master, Pilot and Deckhand still remain missing. The USCG issued a Presumed Letter of Death for each of the crew on 31 January 2020.

4.2. Additional/Supporting Information:

Vessel Personnel

4.2.1. The *RC CREPPEL*'s Master and Pilot were both properly licensed at the time of the incident as with each having a valid merchant mariner credential (MMC) as a Master of Towing Vessels upon the Western Rivers.

4.2.1.1. Just prior to the incident occurring, a watch relief was in progress or had just been completed. Both the Master and Pilot may have still been in the wheelhouse. Neither the surviving crewmember nor the USCG could determine who was navigating the vessel at the time of the collision.

4.2.1.2. The Master had worked for Elite Towing Inc. for approximately 18 years during two different time periods. He had worked onboard the *RC CREPPEL* since it was built in 2012.

4.2.1.3. The Pilot had worked for Elite Towing Inc. onboard the *RC CREPPEL* for approximately 18 months.

4.2.2. The *COOPERATIVE SPIRIT*'s Pilot received his first MMC from the USCG in 1995. He was properly licensed at the time of the incident with a MMC as a Master of Towing Vessels upon the Western Rivers and had approximately 25 years of experience operating towing vessels.

4.2.2.1. He had worked for ARTCO since 2005 and had operated progressively larger vessels during that time. He had been on the *COOPERATIVE SPIRIT* for four months prior to the incident. He indicated he had navigated vessels with similar size tows in the same area and during high water conditions.

4.2.3. The NOBRA Pilot of the *GLORY FIRST* was properly licensed at the time of the incident and had approximately 8 years of experience as a state pilot. Prior to becoming a state pilot, he also spent 3-5 years as a Master onboard tankers and harbor tugs within the New Orleans area.

Vessel Equipment and Policies

4.2.4. The *RC CREPPEL*'s Owner, Elite Towing Inc. has no written procedures or policies regarding vessel passing arrangements but indicates the standard was to follow the Inland Rules of the Road.

4.2.5. The *RC CREPPEL* was equipped with 2 radars, 2 VHF radios, automatic identification system (AIS), and a Rose Point electronic charting system (ECS). Additionally, the vessel has an incapacitation alarm⁴ installed in the wheelhouse.

4.2.5.1. All equipment was operational on the day of the incident to the knowledge of the vessel's owner and there were no alarms from the incapacitation alarm.

4.2.6. The *COOPERATIVE SPIRIT* was equipped with radars, VHF radios, AIS, and a Rose Point ECS.

4.2.6.1. All equipment was operational on the day of the incident.

4.2.7. The *COOPERATIVE SPIRIT* also has several video monitoring cameras installed throughout the vessel used to monitor the inside and outside of specific areas on the vessel. The helm camera records the control station of the vessel and is focused on the helm and throttle controls. The window directly in front of the helm can also be seen in the camera view. At night, the person in control of the vessel is reflected in the window.

4.2.8. ARTCO, the owner/operator of the *COOPERATIVE SPIRIT* has a Towing Safety Management System (TSMS) manual that states cell phones in work areas are not permitted unless authorized by management.

Environmental Impacts

4.2.9. Environmental conditions at the time of the incident were described as overcast skies, wind speed 10 knots, wind direction 150 degrees, no fog, and light rain. The U.S. Army Corps of Engineers data indicated the river height at the Carrollton Gage (MM 102.8) to be 15.18 feet and at the Bonnet Carre Gage (MM 126.9) to be 19.52 feet. The river surface current averaged between 4.8 and 6.0 mph.

4.2.10. An "eddy" is present below 26 Mile Point on the left descending bank. An eddy is a natural occurrence in the rivers. An eddy is a section of circular current that tends to flow in the opposite direction from the main river current. They are created by a current flowing in one direction, striking a bank, land mass, structure, or opposing current that causes a swirling ricochet affect as the water backfills the space downriver of the obstruction. This ricochet effect reverses the flow of the river current in the opposite direction with a stronger flow on the outside perimeter of the eddy closest to the shore line. An eddy is almost always formed on the inside of the corner when a river turns a corner. An eddy that is present during high water can be more dangerous due to stronger currents that are flowing down river and can impact a vessel's control, speed, and steering. The presence of these eddies and their locations (in bends and below points) are generally considered common knowledge among local vessel operators.

⁴ The incapacitation alarm is essentially a motion sensor. If no motion is detected in the wheelhouse, an alarm will go off and may indicate the mariner has left the bridge, is asleep or had some medical event rendering him incapacitated.

Waterway Management

4.2.11. Sector New Orleans issued Marine Safety Information Broadcast (MSIB) Volume XX Issue: 019 on January 24, 2020 titled Carrollton Gauge at 15 Feet and Rising. The MSIB includes guidelines that must be adhered to during high water including those found in 33 CFR 165.810 (b) (2). The regulation states that in high water, vessels passing another vessel shall give as much leeway as circumstances permit and reduce their speed sufficiently to preclude causing damages to the vessel or structures being passed. This section also indicates the District Commander may prescribe navigation bulletins or other means to limit speed in land miles per hour deemed necessary for public safety for the entire section or any part of the waterways.

4.2.12. The Waterways Action Plan (WAP) in effect for the New Orleans area prescribes barge to HP ratio and minimum speed for up bound vessels that must be met when operating in high water.

4.2.12.1. Both vessels were in compliance with the WAP at the time of the incident.

New Orleans VTS Monitored Areas

4.2.13. In January of 1997, the Eighth Coast Guard District Commander requested the Ports and Waterways Safety Systems Committee to develop user requirements for a baseline Vessel Traffic Service (VTS) that would serve the Lower Mississippi River waterway system. The committee produced a memo dated 17Apr1997 that identified the need for six areas on the LMR to be considered as Special Areas.

4.2.13.1. Area 4 was one of those six areas identified and was comprised of Kenner Bend at MM 113.0 to Lower Belmont at Mile 152.0. This area was selected by the committee because the high concentration of refineries, grain elevators and barge fleets that made transits through this area challenging. 26 Mile Point at MM 123 is located within the defined area.

4.2.14. In 1998, a Concept of Operation was drafted by the USCG Eighth District. It was an executive summary which laid out the recommended zones for New Orleans VTS. There were 6 zones mentioned.

4.2.14.1. However, Eighty-One Mile Point (included in Area 5 in the 1997 memo), Wilkerson Point (included in Area 6 in the 1997 memo), and 26 Mile Point were not considered or mentioned in the Executive Summary.

4.2.15. More recently, Eighty-One Mile Point (LMR MM 167.5 to 187.9) is now considered a Special Area and is monitored daily as a VTS Special Area (33 CFR 161.65). Wilkerson Point (LMR MM 232 to 237) is monitored only under a special circumstance, such as when high water is considered a hazardous condition to traffic navigation. 26-Mile Point (LMR MM 121 to 123) is still not considered a Special Area and is not monitored despite the increased traffic density and documented data of incidents that have occurred within the 26 Mile Point area.

4.2.16. VTS Special Areas are defined in 33 CFR 161.2 as a waterway within a VTS area in which special operating requirements apply. A vessel movement reporting system (VMRS) user shall not enter or get underway in the area with prior approval of the VTS; shall not meet, cross, or overtake any other VMRS user in the area without prior approval of the VTS; and before doing the aforementioned, must communicate on the designate vessel bridge to bridge radiotelephone frequency, the intended navigation movement and any other information necessary in order to make safe passing arrangements.

AIS Data Entry

4.2.17. 33 CFR 164.46 required both the *COOPERATIVE SPIRIT* and *RC CREPPEL* to have onboard a properly installed, operational USCG type-approved AIS Class A device. Regulations also require the accurate input and upkeep of all AIS data fields.

4.2.17.1. Neither vessel had accurate information within the vessel's AIS. The length of the vessels and their tows were not up-to-date at the time of the incident.

4.2.17.2. *RC CREPPEL*'s 495 foot tow was not depicted.

4.2.17.3. *COOPERATIVE SPIRITS*'s 1400 foot tow was not depicted.

5. Analysis

5.1. *High Water Conditions – Eddy Current.* At the time of the incident the river levels were high, above 15 feet. These high water levels cause strong currents including eddy currents along the river. These eddies and their locations (in bends and below points) are generally considered common knowledge among local vessel operators.

Knowing that these eddy currents are present and their generally known locations affords the vessel's navigator some predictability to anticipate what actions may be needed to overcome their effect on the vessel's speed and steering (maneuverability) when/if encountered. Anticipation, planning, and preparation, should be calculated well in advance of entering areas where eddies are known to exist. This planning is especially important when considering the ability to safely navigate if a meeting, passing, overtaking, or crossing situation is to take place to ensure appropriate control is being utilized to maneuver safely through these conditions. The effects an eddy may have on the vessel can happen independently or simultaneously and may depend on whether the vessel is met by the eddy from forward (a head current), or from astern (a following current). Certainly a following current causes more concern than a head current for reasons of vessel control. An eddy current may also cause a vessel to sheer away from a near shoreline or bank that must be taken under consideration when trying to effectively maneuver a vessel.

The eddy present at 26 Mile Point can cause a vessel to set away from the point and toward the bend with the natural downriver current flow. From under the point, when the current is south bound, it will reverse flow to a north bound flow which puts the current at the stern of the up bound (north bound vessel). This can cause an increase in speed of the vessel

momentarily, but once the vessel has cleared the point they will encounter the natural south bound current which tends to alter the vessel's speed and impacts steering.

To determine how this eddy may have impacted the vessels just prior to the incident, the investigations team utilized playback-recorded evidence of the navigational assistance programs (Rose Point ECS, AIS, Radar, and VHF radio transmissions) to analyze actions that were taken and their impact. Electronic data appears to show that just below MM 122, commonly known as 26 Mile Point, corrective steering actions made by the *COOPERATIVE SPIRIT*'s Pilot were negatively influenced by the eddy current and his ability to control the vessel was reduced. Recorded data shows steering maneuvers of 0-10 degrees right rudder, increasing to 20 degrees right rudder, and then as much as 30 degrees right rudder, in an attempt to stay clear of the left descending bank and fleeting operations on the vessel's starboard side. This suggests the intention of the *COOPERATIVE SPIRIT*'s Pilot was to keep his tow and vessel closer to the left descending bank on the vessel's starboard side, running near parallel northbound as he approached the actual point. However, the dynamic forces of the eddy current overcame the Pilot's efforts and intention. These forces appear to have created a cushioning bank affect, which tends to push away from the bank causing the head of the tow to be pushed to the port which required much larger starboard steering corrections. While intending to steer starboard with right rudder, the force of current on the tow's starboard side negated the rudder commands and neutralized the vessel's maneuverability and the tow began to set towards the port. With continued forward momentum by the engines and the setting to port, the head of the vessel's tow continued to steer toward the right descending bank and into the path of the *RC CREPPEL*. This created a crossing situation versus a meeting and passing. As the *COOPERATIVE SPIRIT* came from under the point and into the stronger main current flowing down the starboard side of the tow, the ability to turn the tow starboard was made even more difficult.

Had the *COOPERATIVE SPIRIT*'s Pilot realized sooner that his efforts to stay near the left descending bank by steering starboard were being thwarted, he may have had time to contact the *RC CREPPEL* to discuss the potential of a crossing situation and request the *RC CREPPEL* change course to steer closer to the right descending bank, giving the *COOPERATIVE SPIRIT* more room to maneuver and make the turn thus avoiding the collision.

5.2. *Non-designation of 26 Mile Point a VTS Special Area.* VTS LMR's area of operations extends from Port Hudson Light at MM 254 about twenty miles above Baton Rouge, Louisiana to twelve miles off Southwest Pass Light into the Gulf of Mexico. At present VTS LMR provides 24 hour service in the area of Algiers Point Special Area MM 93.5 – MM 95 and Special Area at 81 Mile Point MM 167.5 – MM 187.9. For all other areas of the VTS LMR zone, VTS will answer service calls but doesn't actively monitor or control vessels without a reason.

Despite the concern the Ports and Waterways Safety Systems Committee in 1997 expressed regarding 26 Mile Point, the Eighth District did not designate this area when finalizing the Concept of Operation. 26 Mile Point area has many fleeting, docking, buoy facilities, anchorages, fixed bridge crossings, and high vessel traffic density that the committee considered when expressing the concern that navigating the area was challenging. These challenges have grown with the increase of vessel traffic since this committee met 25 years ago.

The Eighth District Commander has since designated other areas that were originally recommended by the committee, but has yet to identify 26 Mile Point as needing additional oversight by VTS. Had 26 Mile Point been designated as a Special Area it is reasonable to assume a VTS center actively monitoring the area would have recognized the developing situation involving the *RC CREPPEL*, *COOPERATIVE SPIRIT*, and *GLORY FIRST*. As required by VTS Special Area measures of a VTS User, all vessels would have been required to check-in and the VTS would have visibility on their intended sailing plans and vessel dimensions. This information could have aided the VTS if it was necessary to direct vessel movement after having recognized the developing situation, so that the collision could be avoided.

5.3. *Failure to update vessel dimensions in AIS.* The *RC CREPPEL* and *COOPERATIVE SPIRIT* were outfitted with an AIS, an electronic charting navigation and radar system which provides the vessel's operator with information pertaining to other vessels' location and course. Per 33 CFR §164.46, users of AIS are required to maintain the system in an effective operating condition. This includes accurate input and upkeep of all AIS data parameters. In addition, the USCG has published the AIS Encoding Guide, which is intended to assist in the proper encoding of an AIS used in U.S. navigable waters. A portion of the guide reads: "AIS is a valuable navigation safety radio communication tool. However, its effectiveness is undermined by the broadcast of inaccurate, improper or outdated data." The guide additionally provides a section describing how the dimensions, to include ahead towing, should be measured and entered.

At the time of the accident, both vessels were broadcasting erroneous data to other AIS users. The *RC CREPPEL*'s AIS broadcast displayed an overall length of 69 feet, when in actuality the overall length, with its two-barge tow was 514 feet. The *COOPERATIVE SPIRIT*'s AIS broadcast displayed an overall length of 200 feet, when in actuality the overall length, with its 40-barge tow was 1,600 feet. This indicates that both the *RC CREPPEL* and *COOPERATIVE SPIRIT* never corrected their AIS data to reflect the total overall length of their vessel which includes both the vessel length plus tow length.

Each vessel was also equipped with Rose Point, an electronic chart display. It is common for towing vessel operators to rely heavily upon this chart display as they navigate their vessels. The Rose Point software uses AIS for information about other vessels, therefore, Rose Point displayed the *RC CREPPEL* and *COOPERATIVE SPIRIT* at a length of 69 feet and 200 feet, respectively. Without the information regarding the total length of the other vessel and its tow, the operators did not have a full understanding of the pending passing situation. The vessel's as they would have been depicted on the chart, would not have caused concern for either vessel navigator as it appeared there was plenty of river to carry out their passing arrangements in the agreed upon location, despite the *RC CREPPEL* being in the center of the channel just above 26 Mile Point, minutes from the collision.

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 such as was the case here. Additionally, it is not known whether the involved vessels were using Ship Type 57 or 31. However, for vessels towing ahead or alongside, the use of Ship Type 57 (not Ship Type 31) within the static data fields must be selected in order to broadcast the overall dimensions of the vessel and its tow to other users. Had the *RC CREPPEL* and *COOPERATIVE SPIRIT* been broadcasting accurate parameters, it is reasonable to assume

that vessel operators would have recognized the developing situation and this would have prompted them to communicate with the other, any measures they could take to delay their meeting to avoid the collision that ultimately occurred.

Further, it is important that vessel owners and operators ensure towing vessel personnel responsible for navigational duties have the appropriate training and resources in order to update AIS data when tow sizes change.

5.4. Failure to effectively communicate situation/intentions to one another. The *RC CREPPEL* and *COOPERATIVE SPIRIT* made an agreement to pass near 26 Mile Point. The *RC CREPPEL* indicated his tow size verbally to the *COOPERATIVE SPIRIT*. During interviews with the *COOPERATIVE SPIRIT*'s Pilot, he indicated he was surprised that the *RC CREPPEL* was not running closer to the right descending bank as he had plenty of space in the area to do so. During the communications, the *COOPERATIVE SPIRIT* did not indicate they were running with a 40 barge tow. Without being able to ask the *RC CREPPEL*'s Pilot what his intentions were, it is easy to assume he felt comfortable in the middle of the channel and coming around the point if he was only going to be meeting a towing vessel who he thought would have plenty of room to maneuver up and around the point keeping clear of the *RC CREPPEL* and tow. Notwithstanding the discussion in paragraph 5.3 regarding AIS data entry that may aided in navigational decision making, the *COOPERATIVE SPIRIT*'s Pilot could have also shared his tow size during the agreement discussion ensuring the *RC CREPPEL* knew the *COOPERATIVE SPIRIT* would need plenty of room to maneuver through the area. He could have also initiated contact with the *RC CREPPEL* to discuss his concern that the *RC CREPPEL* didn't appear to be set up for a one whistle passing arrangement. Any of this information may have resulted in the *RC CREPPEL* changing course or slowing down to ensure he gave a wide berth to the *COOPERATIVE SPIRIT*, thus avoiding this collision.

5.5. Failure to follow company SMS regarding personal electronic devices. The *COOPERATIVE SPIRIT* is equipped with a video monitoring system throughout the vessel. Several cameras point outward of the vessel while an additional camera is mounted overhead of the control station of the *COOPERATIVE SPIRIT*. This camera points down and records the helm controls as the person in charge of the vessel navigates. The camera also captures the front window directly in front of the helm. At night the person in control of the vessel can be seen as a reflection in the window. At various times leading up to the collision the camera captures a cell phone located at the helm controls. The last time the cell phone is clearly captured on video is approximately 17 minutes before the collision. By analyzing the reflection in the window, investigators can see the operator of the vessel manipulating the cell phone at various times before the collision. Subpoenaed cell phone records show data was streaming to and from the phone at the time of the incident. Unfortunately the records cannot tell investigators what kind data was streaming. After the collision occurred, video shows the operator lean forward at the control station. Video clearly shows a blue tooth device located in the operator's right ear.

ARTCO has a policy of no cell phones on the bridge of their vessels. Though investigators cannot definitively state, based on video, that the operator was on the cell phone prior to the collision, it is reasonable to assume that based on subpoenaed records, some use of the cell phone was taking place. Accident studies have shown that cell phone use is a major distraction whether driving a car or operating a vessel. Had the operator not had the cell

phone on the bridge of the *COOPERATIVE SPIRIT*, in violation of the companies Towing Management System, his full attention would have been on the navigation of his vessel and this incident may not have occurred.

5.6. *Loss of situational awareness.* The river was experiencing high water and it was effecting the vessel's maneuvering ability. The vessel was approaching a dangerous bend in the river and was in a three vessel passing situation. Incorrect AIS and Rose Point data was being interpreted by both vessels to facilitate their agreed upon passing's. It is imperative during these times that the operator's full attention be on the safe navigation of their vessels and take all efforts to fully understand the developing situation. The combination of a failure to update AIS data fields with correct information, a failure to effectively communicate with all involved parties, and failure to follow company SMS regarding cell phone use on the bridge culminated in a loss of situational awareness by the Pilot of the *COOPERATIVE SPIRIT*, and to some degree, the Pilot of the *RC CREPPEL*. Had no loss of situational awareness been present, due to factors discussed in paragraphs 5.1, 5.3 through 5.5, it is likely the Pilots would have taken action sooner that could have avoided this collision.

6. Conclusions

6.1. Determination of Cause:

6.1.1. The initiating event for this casualty was the collision between *RC CREPPEL* and *COOPERATIVE SPIRIT*. Causal factors contributing to this incident include:

6.1.1.1. High water and eddy forces acting on the *COOPERATIVE SPIRIT*.

6.1.1.2. Non-designation of 26 Mile Point as a Special Area.

6.1.1.3. Failure to correctly input vessel specifics into AIS thereby incorrectly feeding vessel data into Rose Point for use by other vessel operators.

6.1.1.4. Failure to effectively communicate situation and intentions.

6.1.1.5. Failure to follow company SMS.

6.1.1.6. Loss of situational awareness.

6.1.2. Subsequent events include the release of sulfuric acid into the atmosphere, setting adrift a string of barges, Deckhand 1 abandoning ship, capsize and sinking of the *RC CREPPEL*, loss of 3 lives, and allision between the *COOPERATIVE SPIRIT*'s tow and *GLORY FIRST*, setting additional barges adrift. Casual factors contributing to these events were:

6.1.2.1. Collision of the *COOPERATIVE SPIRIT* and *RC CREPPEL*.

6.2. Evidence of Act(s) or Violation(s) of Law by Any Coast Guard Credentialed Mariner Subject to Action Under 46 USC Chapter 77: The actions described in paragraph 5.5 represent a violation of company policy, which are established procedures and can be viewed as misconduct. These potential violations subject the Pilot of the *COOPERATIVE SPIRIT* to administrative investigation.

6.3. Evidence of Act(s) or Violation(s) of Law by U.S. Coast Guard Personnel, or any other person: There were no acts of misconduct, incompetence, negligence, unskillfulness, or violations of law by Coast Guard employees or any other person that contributed to this casualty.

6.4. Evidence of Act(s) Subject to Civil Penalty: This investigation did not identify any evidence of acts that would warrant a civil penalty.

6.5. Need for new or Amended U.S. Law or Regulation: This investigation identified one matter needing new or amended U.S. law or regulation.

6.6. Unsafe Actions or Conditions that Were Not Causal Factors: This investigation did not identify any unsafe actions or conditions that were not causal factors.

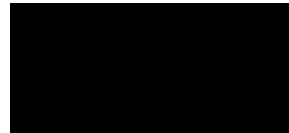
7. Actions Taken Since the Incident

7.1. On May 13, 2020, the USCG issued Safety Alert 04-20. This alert described the hazards created by inaccurate AIS data within the LMR and prompted review and update of procedures to prevent similar casualties from occurring. The Safety Alert strongly recommended that owners and operators of vessels ensure that accurate and up-to-date information is entered into AIS, including overall dimensions of a vessel and its tow, and that appropriate training and resources are provided to personnel responsible for navigational duties.

8. Recommendations

8.1. Safety Recommendations:

8.1.1. Recommend Commander, U.S. Coast Guard Eighth District, convene a Port and Waterways Safety Assessment for the re-evaluation of hazardous navigational areas located within the LMR for designation as Special Areas.



GS-13, U.S. Coast Guard
Lead Investigating Officer