



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

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## Collision between Bulk Carrier *Bunun Queen* and Offshore Supply Vessel *Thunder*

On July 23, 2022, about 1314 local time, the bulk carrier *Bunun Queen*, transiting eastbound in the Gulf of Mexico with 20 crewmembers on board, and the northbound offshore supply vessel *Thunder* collided about 66 miles south of Port Fourchon, Louisiana.<sup>1</sup> The *Thunder* sustained substantial damage to its port side, which resulted in the flooding of one of its propulsion rooms and three other spaces. Eleven of *Thunder's* 18 crew were evacuated to a Good Samaritan vessel, and the remaining crew stayed with the vessel to control the flooding while it was towed back to port. There were no injuries, and no pollution was reported. Damage to both vessels was estimated at \$12.3



million.

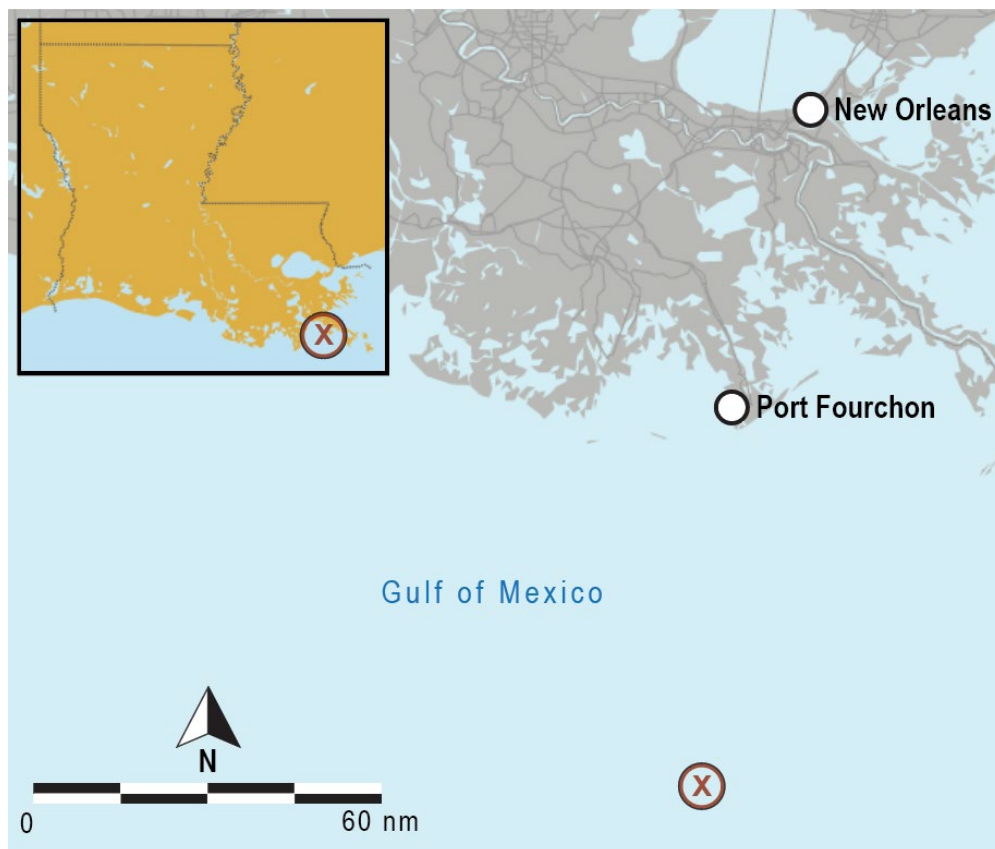
**Figure 1.** Left: *Bunun Queen* before the casualty. (Source: Wisdom Marine International) Right: *Thunder* at sea before the casualty. (Source: Jackson Offshore)

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<sup>1</sup> (a) In this report, all times are central daylight time, all miles are nautical miles (1.15 statute miles), and all speeds are knots through the water (log speed). All bearings in this report are true. (b) Visit [nts.gov](https://www.nts.gov) to find additional information in the [public docket](#) for this NTSB investigation (case no. DCA22FM030). Use the [CAROL Query](#) to search investigations.

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<b>Casualty type</b>	Collision
<b>Location</b>	Gulf of Mexico, 66 miles south of Port Fourchon, Louisiana 28°0.58' N, 90°20.49' W
<b>Date</b>	July 23, 2022
<b>Time</b>	1314 central daylight time (coordinated universal time -5 hrs)
<b>Persons on board</b>	20 ( <i>Bunun Queen</i> ), 18 ( <i>Thunder</i> )
<b>Injuries</b>	None
<b>Property damage</b>	\$12.3 million est.
<b>Environmental damage</b>	None
<b>Weather</b>	Visibility greater than 10 mi, partly cloudy, winds easterly 5 kts, seas 2-3 ft, air temperature 93°F, water temperature 86°F
<b>Waterway information</b>	Gulf, depth about 1,400 ft.



**Figure 2.** Area in the Gulf of Mexico where the *Bunun Queen* and *Thunder* collided, as indicated by a red X. (Background source: Google Maps)

## 1. Factual Information

### 1.1 Background

The 590-foot-long bulk carrier *Bunun Queen* was owned by Unicorn Pescadores, S.A., and operated by Wisdom Marine International, based in Taipei, Taiwan. The vessel had a single rudder and a single right-hand-turning propeller directly driven by a slow-speed diesel main engine rated at 8,489 hp.

Jackson Offshore Operations, based out of Harvey, Louisiana, owned and operated the 252-foot offshore supply vessel *Thunder*. The *Thunder* was powered by two 2,815-hp and two 1,220-hp diesel-engine-driven main generators. The main generators supplied electrical power for both the propulsion motors and the electrical system for vessel services. Propulsion was from two 360° azimuthing electric drive motors and propellers contained in pods outside the hull at the stern (termed “azipods” by industry), which provided variable thrust in any direction, eliminating the need for a rudder. The two propulsion rooms (port and starboard) and engine room spaces were segregated by watertight bulkheads.

### 1.2 Event Sequence

On July 22, 2022, about 1418 local time, the bulk carrier *Bunun Queen* departed the port of Houston, Texas, in ballast (with no cargo on board) destined for New Orleans, Louisiana, where it was to load cargo. Officers worked 4-hours-on, 8-hours-off navigation watches. An able seaman (AB), used for lookout and helm duties, was also assigned to each watch.

About 0700 on July 23, the offshore supply vessel *Thunder* got underway from the production platform *Bigfoot* (about 130 miles south of Port Fourchon), destined for Port Fourchon with a cargo of equipment and parts on its main deck. The master of the vessel worked a watch from noon to midnight, along with a second mate and three ABs who were assigned lookout duties on the bridge when needed. Another licensed master—referred to as the night captain—a licensed deck officer, and three ABs worked the midnight to noon watch.

About 1115, the master and second mate relieved the night watch officers. The *Thunder* was on a northerly heading in autopilot at 10 knots. At 1118, the master gathered the crew on the bridge for a drill and procedure review. At 1149, according to voyage data recorder (VDR) information from the *Thunder*, the *Thunder*’s automatic identification system (AIS) receiver picked up the *Bunun Queen* AIS broadcast, showing the *Bunun Queen* on a true bearing of 300° 23 miles away. At 1159, the master dismissed the *Thunder*’s crew from the drill. Four minutes later, the master instructed the

second mate on watch and the mate-in-training with him to carry out a routine round of the vessel and test of the fire pumps, telling them that he would take the watch.

On the *Bunun Queen*, the second officer arrived on the bridge at 1145 to relieve the third officer of the navigation watch. When he took the watch at noon, the *Bunun Queen* was in autopilot on a heading of 091° and a speed of 14.8 knots. The vessel's telegraph order was navigation full ahead, and the vessel was transiting in a safety fairway free of oil well structures. At that time, according to the *Bunun Queen's* VDR information, the *Bunun Queen's* AIS receiver showed the *Thunder* at a true bearing of 119° 19.9 miles away. The chief officer of the *Bunun Queen* told investigators that he requested for the on-watch AB to assist with cargo hold cleaning in the afternoon, which the master of the *Bunun Queen* approved. As such, the second officer assumed the duties as officer of the watch without a dedicated lookout. About 1228, the third officer left the bridge of the *Bunun Queen*, leaving the second officer alone.

Meanwhile, on the *Thunder* bridge, the master was instructing an AB, new to the vessel, on operating and testing the vessel's fire pumps. Once the instruction was completed at 1230, the AB departed the bridge, leaving the master alone. The master told investigators that after the AB departed, he began "bridge clean ups." However, about a minute after the AB left the bridge, the master made a personal call using his cell phone. The call lasted about a minute; after that, the master used voice dictation on his phone to send multiple text messages, all of which were personal in nature. Meanwhile, after their rounds, the second mate and training mate went to the mess to have lunch.

At 1245, the *Thunder* was 7.7 miles away from the *Bunun Queen* at a bearing of 118°. Both the *Thunder* and *Bunun Queen* continued their headings and speeds in autopilot with no changes. According to the VDRs of both vessels, each vessel was present on the other's automatic radar and plotting aid (APRA) display, both as a radar and AIS target. Neither radar had any automatic target tracking or alarm features enabled, and neither vessel was acquired by either person on watch.<sup>2</sup>

At 1300, according to the second officer of the *Bunun Queen*, he took a position fix of the vessel and observed a container ship on their stern (the *Garwood* was following 2.1 miles astern of the *Bunun Queen* making 16.1 knots) and an oil platform on their starboard side. At that time, according to the AIS receiver on the *Bunun Queen*, the *Thunder* was 3.8 miles away on a bearing of 117°; the *Thunder* was present on the *Bunun Queen's* ARPA both as a radar and AIS target but was not being tracked. Similarly, on the

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<sup>2</sup> Only acquired radar images will provide computed and informational data (such as AIS) on an ARPA. Acquiring a radar image on the ARPA can be accomplished automatically or manually. Automatic acquisition is accomplished, by the ARPA and without human interaction, after the operator sets time and distance parameters into the unit. Manual acquisition requires the operator to place an electronic cursor over the radar image and press a button.

*Thunder's* ARPA, the *Thunder* was present as both a radar and AIS target but was also not being tracked. The *Bunun Queen's* second officer said the electronic chart and information display system was set to sound an alarm when a vessel was within the set parameters, but he did not recall the parameter settings and admitted not checking that the alarms were set before or after taking the watch.

At 1309 on the *Bunun Queen*, the VDR picked up the sound of a machine on the bridge. The second officer, still alone on the bridge, told investigators that he was printing updates for electronic navigation charts and digital publications, one of his weekly collateral duties. He said he printed the updates even though he was the watchstander and the lookout, and that he "neglected and lacked keeping sharp lookout." The *Thunder* was now 1.5 miles away on a bearing of 115°, fine on the *Bunun Queen's* starboard bow. The machine sound stopped about 3 minutes later at 1312, when the *Thunder* was 0.7 miles away on a bearing of 112°, still fine on the starboard bow.

At 1313, on the *Thunder* (still in autopilot on a northerly heading at 9 knots), the AIS receiver had the *Bunun Queen* on a bearing of 286° at 0.4 miles away with the *Garwood* bearing 279° at 2.3 miles away. At 1313:53, the VDR picked up words from a commercial (advertisement) playing on the bridge of the *Thunder*. The master of the *Thunder*, still the sole occupant of the bridge, told Coast Guard investigators during an initial interview that he was using a cell phone before the collision. He said that he had no ARPA and alarm functions enabled due to the amount of traffic and oil field platforms in the area.

On the *Thunder*, an AB was preparing to work on the main deck when he saw a ship close on the port side. Concerned by its proximity, he left the main deck and went up the portside exterior stairs toward the wheelhouse. Additionally, the second mate, who was sent down by the master to conduct rounds and test the fire pump, said he was in the galley when he looked out of the portside porthole and saw a "ship coming for us." At 1313:58, he called the master's name over the vessel's internal radio. The master responded, "yes sir," with the commercial still audible in the background. At 1314:03, the master disengaged the autopilot. The second mate left the galley and ran up the stairs toward the bridge. At 1314:12, the AB opened the portside bridge wing door to the wheelhouse and announced to the master, "target to port." Upon hearing the announcement, the master said he increased the throttles and turned to port to minimize the damage to the vessel. The *Thunder* VDR recorded both azipods beginning to move in a direction that would turn the ship to port at 1314:14 and the rpm increasing from 60 to 73.

At 1314:19, the bulbous bow of the *Bunun Queen*, which was traveling at 14.4 knots, struck the port side of the *Thunder*, which was traveling at 9 knots. The second mate of the *Thunder*, who was on the stairs on the way to the bridge, noted a



“slight flicker” of the lights after the impact. Upon arriving on the bridge, he saw the master at the main console, and he went to the port side of the bridge where he saw the *Bunun Queen*’s port side passing down the port side of the *Thunder*. He noted the impact caused the *Thunder* to heel to starboard, and water rushed over the main deck from the starboard side. The stern was pushed to starboard, making the bow go to port.



**Figure 3.** Tracklines of the *Bunun Queen* and *Thunder* leading up to the collision, based on VDR data.

At the time of the collision, the *Bunun Queen* was still in autopilot mode, and there was no recorded change of engine telegraph (still at navigation full ahead) or rudder order. About 18 seconds after impact, the second officer engaged manual steering and turned the rudder hard to port. About 30 seconds after impact, the master of the *Bunun Queen* (who said he was resting in his cabin at the time) arrived on the bridge. When the *Bunun Queen*’s bow struck the *Thunder*, the *Thunder* turned around so that the *Thunder*’s port side scraped against the *Bunun Queen*’s port side (port to port) before it drifted away from the *Bunun Queen*.

Two minutes after the collision, the general alarm was sounded on the *Thunder*, and all crew were instructed to go to their muster stations. The chief engineer, who was in the engine control room at the time of the collision, told investigators that the port side propulsion room started to flood, and the *Thunder* began to list to port and trim by the stern. The chief engineer used the ship’s ballast pump to dewater the space and to get the hull penetration out of the water as far as possible. Although the *Thunder* lost

propulsion, the electrical generators in the engine room remained operational and provided power to the ship.

At 1317, the master of the *Bunun Queen* hailed the *Thunder* over VHF radio. The *Thunder* answered, but the communications that followed from the *Bunun Queen* were garbled and unintelligible, and the *Thunder* did not reply further. At 1320, the container ship *Garwood* contacted the *Thunder* to ask if they needed assistance; the *Thunder* replied that they did. At 1321, a distress call was made from the *Thunder* by VHF radio, announcing their position and that they were taking on water. The *Garwood*, now about 0.7 miles away, radioed that they would assist. Coast Guard Sector New Orleans received the distress call from the *Thunder* and began to dispatch search and rescue assets to the scene. A crew boat, the *Lady Tierney*, contacted the *Thunder* and announced they were about 10 miles away and were en route to their position.

At 1322, an officer on the *Bunun Queen* made multiple VHF calls trying to hail "traffic," which received no response, followed by a hail to the "Coast Guard." At 1323, about 9 minutes after the collision, the speed of the *Bunun Queen* was reduced from navigation full ahead to stop. According to the master, they did not stop immediately after the collision because they were conducting a damage assessment.

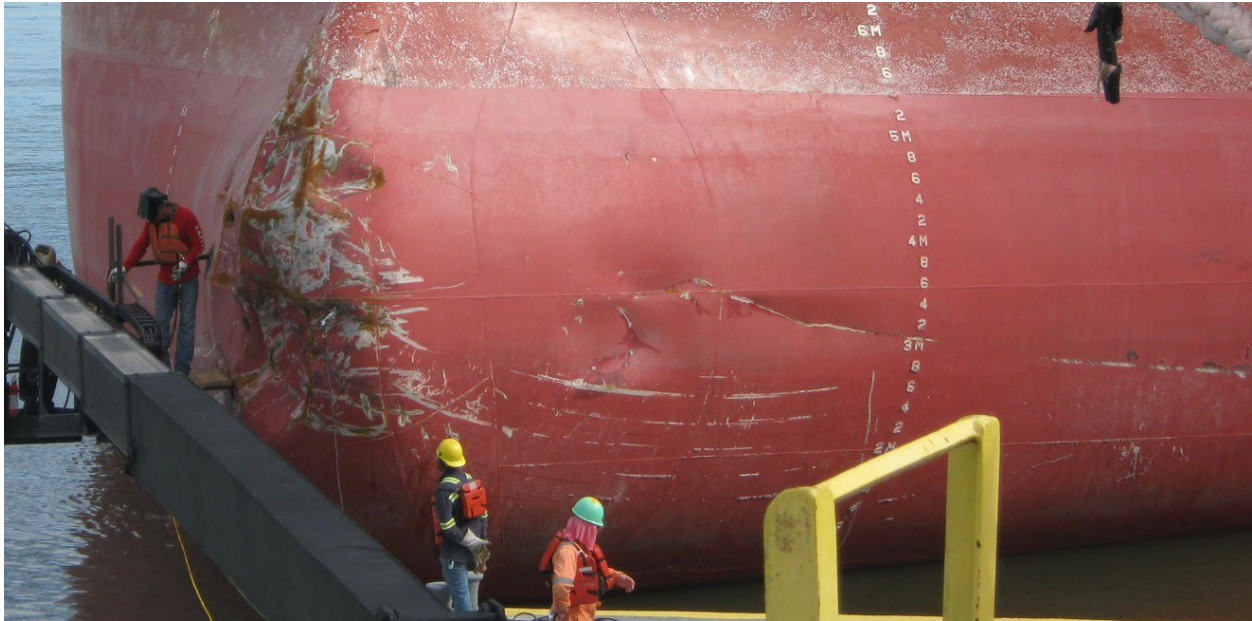
About 1411, eleven of the *Thunder's* 18 crew transferred to the crew boat *Lady Tierney*. Only essential crew volunteers remained on board the *Thunder*. Because the vessel was not able to propel itself, arrangements were made for a tug to proceed to the *Thunder* so that it could be towed to Port Fourchon.

About 2300, the tug arrived on scene, and after tow lines were made up, the tug towed the *Thunder* to Port Fourchon, where it was secured to a dock on July 24 at 1723. The *Bunun Queen* remained drifting near the collision site and departed the area on July 24 at 1230 for New Orleans, arriving at the dock on July 25 at 0524.

## 1.3 Additional Information

### 1.3.1 Damage

Damage to the *Bunun Queen's* port bow consisted of indentations and deformation of the shell plating above the waterline at water ballast tank no. 1 port. The vessel's bulbous bow sustained multiple dents, a crack, and a hull fracture of the shell plating, which caused water to enter the forepeak tank. The cost of repairs was about \$680,000.



**Figure 4.** Damage to the bulbous bow of the *Bunun Queen*. (Source: US Coast Guard)

The *Thunder* sustained damage to its port side aft consisting of a large penetration above and below its waterline that caused flooding in the port side propulsion room, the port cargo tank (empty at the time), a void space, and the no. 7 port ballast tank. The cost of repairs was about \$11,598,078.



**Figure 5.** The *Thunder* being towed to a dock in Port Fourchon after the collision. The inset shows the damage to the aft port side of the vessel. (Source: Coast Guard)



### 1.3.2 Personnel

The master of the *Thunder* was tested for alcohol and other drugs, and the results were negative. The second officer of the *Bunun Queen* was tested for alcohol and other drugs, and the results were negative.

The master of the *Thunder* was credentialed with the US Coast Guard. The second officer from the *Bunun Queen* held a Vietnamese national license with a Liberian endorsement.

### 1.3.3 Company Policy

On the *Thunder*, the master's standing orders required at "all times while underway," that two personnel (one officer, one designated lookout) be on the bridge. The master's standing orders also stated, "Pay attention leave your phone or other distraction alone! Be a responsible lookout!"

Wisdom Marine International's (the management company for the *Bunun Queen*) "Safety Navigation Procedure" document required that a watch officer and an AB be on watch when the vessel was underway. The procedure allowed for a single officer in charge of a navigation watch on the bridge, in daylight conditions only, pending the careful assessment of the master, considering the factors of weather, visibility, traffic density, proximity of dangers to navigation, confined water, and traffic separation schemes.

## 2. Analysis

The collision between the *Bunun Queen* and *Thunder* occurred in good visibility, daylight, and fair-weather conditions. Vessel traffic conditions in the area were light, with the *Garwood* as the only other vessel near the *Bunun Queen*, about 2 miles astern, heading in the same direction. There were numerous stationary oil platforms in the area, but none affected either vessel's direction of travel. There were no reported defects or deficiencies related to navigation, communication, control, or propulsion systems from the *Bunun Queen* and *Thunder*. Each vessel's ARPA and AIS receiver were functional, and crews would have been able to use these systems to detect the other vessel. As such, visibility, weather conditions, traffic density, and navigation systems were not causal factors to the collision. Further, operator impairment was not a causal factor in the collision.

The *Convention on the International Regulations for Preventing Collisions at Sea, 1972* (72 COLREGS) requires that "every vessel shall at all times maintain a proper lookout by sight and hearing as well as by all available means appropriate." In the time

leading up to the casualty, neither vessel's officer on watch maintained a lookout—either by visual scanning or by using available electronic means such as plotting and tracking tools via the ARPA—to prevent a collision.

Both officers on watch admitted to being otherwise engaged in non-navigational tasks. The master on the *Thunder* told investigators he was using a cell phone before the collision. On the *Bunun Queen*, the second officer told investigators he was engaged in other duties and not maintaining a lookout, while the AB normally assigned lookout duties was in his cabin resting. As such, both the second officer of the *Bunun Queen* and the master of the *Thunder* failed to fulfill a fundamental duty required by international law for a vessel underway: to maintain a proper lookout. Therefore, neither vessel's bridge watch officer detected the approach of the other vessel.

Leading up to the collision, while the vessels were heading toward each other, neither officer saw the other vessel, despite each vessel being clearly visible to the other. COLREGS navigation rules concerning crossing and stand-on vessels applies to vessels in sight of one another. However, because neither vessel's crew saw (detected) the other vessel in the developing crossing situation before the collision, neither had time to assess or apply the navigation rules to avoid the collision.

On both the *Thunder* and *Bunun Queen*, a single individual occupied the bridge. The company policy for the *Bunun Queen* allowed, with conditions, the bridge to be occupied by a sole watchstander, which the master approved. For the *Thunder*, the master's standing orders required at least two people on the bridge when underway. As such, the master of the *Thunder* violated his own standing orders by allowing himself to be the sole watchstander on the bridge. Had either vessel had an additional person on the bridge, it is likely that at least one vessel's crew would have sighted the other vessel.

## 3. Conclusions

### 3.1 Probable Cause

The National Transportation Safety Board determines that the probable cause of the collision between the bulk carrier *Bunun Queen* and the offshore supply vessel *Thunder* was the *Bunun Queen* officer's distraction due to performing non-navigational tasks and the *Thunder* officer's distraction due to cell phone use, which kept both officers from keeping a proper lookout. Contributing to the casualty was the *Thunder*'s officer on watch not following his company's watchkeeping policies.

### 3.2 Lessons Learned

**Distraction due to personal electronic devices**

Nonoperational use of cell phones and other wireless electronic devices by on-duty crewmembers in safety-critical positions has been a factor in casualties and accidents in all transportation modes. Using cell phones and other personal electronic devices has been demonstrated to be visually, manually, and cognitively distracting. Nonoperational use of cell phones should never interfere with the primary task of a watchstander or a bridge team member to maintain a proper lookout. It is important for personnel to follow established protocols regarding cell phone use.

Vessel	<i>Bunun Queen</i>	<i>Thunder</i>
Type	Cargo, Dry Bulk (Bulk Carrier)	Offshore
Owner/Operator	Unicorn Pescadores, S.A. (owner) Wisdom Marine International, Inc. (Commercial) (operator) (Commercial)	Jackson Offshore Operations, LLC
Flag	Liberia	United States
Port of registry	Monrovia	Port Arthur, Texas
Year built	2022	2007
Official number (US)	21319	1257685
IMO number	9912438	9684847
Classification society	Nippon Kaiji Kyokai	American Bureau of Shipping
Length (overall)	590.2 ft (179.9 m)	96.0 ft (29.3 m)
Breadth (max.)	98.4 ft (30.0 m)	34.0 ft (10.4 m)
Draft (casualty)	20.4 ft (6.2 m)	17.1 ft (5.2 m)
Tonnage	23,759 GT ITC	3,641 GT ITC
Engine power; manufacturer	1 x 8,489 hp (6,330 kW); Hyundai B&W diesel engine	2 x 2,815 hp (2,100 kW); Caterpillar 3516C, 2 x 1,220 hp (910 kW) Caterpillar C32

NTSB investigators worked closely with our counterparts from **Coast Guard Marine Safety Unit Houma** throughout this investigation.

Established in 1967, the National Transportation Safety Board (NTSB) is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space; determine the probable causes of these accidents and events; issue safety recommendations; conduct transportation research; and offer information and other assistance to family members and survivors for any accident investigated by the agency. The NTSB makes public its actions and decisions through investigation reports, safety research reports, and statistical reviews.

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For more detailed background information on this report, visit the NTSB investigations website and search for NTSB accident ID DCA22FM030. Recent publications are available in their entirety on the NTSB website. Other information about available publications also may be obtained from the website or by contacting—

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