National Transportation Safety Board

Marine Accident Brief

Collision of Cargo Vessel *Nomadic Milde* and Bulk Carrier *Atlantic Venus*

Accident type	Collision	**No.** DCA20FM017
Vessel name	*Nomadic Milde* and *Atlantic Venus*	
Location	Lower Mississippi River, mile 114.5, South Kenner, Louisiana[1] 029°58.03' N, 090°16.60' W	
Date	May 8, 2020	
Time	1655 central daylight time (coordinated universal time – 5 hours)	
Injuries	None	
Property damage	$16,854,348 million est.	
Environmental damage	13 gallons of lube oil est.	
Weather	Visibility 10 miles, overcast skies, winds northeast at 8 knots; thunderstorms in area, river surface conditions rippled, air temperature 73°F, water temperature 68°F, sunset 1943	
Waterway information	The Mississippi River at the Kenner Bend anchorage was about 54 feet deep and 0.6 miles wide. The current was estimated between 4 and 5 knots.	

On May 8, 2020, about 1655 local time, the anchored general cargo vessel *Nomadic Milde* collided with the anchored bulk carrier *Atlantic Venus* on the Lower Mississippi River near New Orleans, Louisiana, after the *Nomadic Milde* began to swing and drag its anchors in the current. After colliding with the *Atlantic Venus*, which had been anchored directly behind the cargo ship, the *Nomadic Milde* then struck a nearby chemical dock and grounded on the bank. No injuries were reported. The *Nomadic Milde* released an estimated 13 gallons of lube oil into the river. Damage to both vessels and the dock was estimated at $16.9 million.

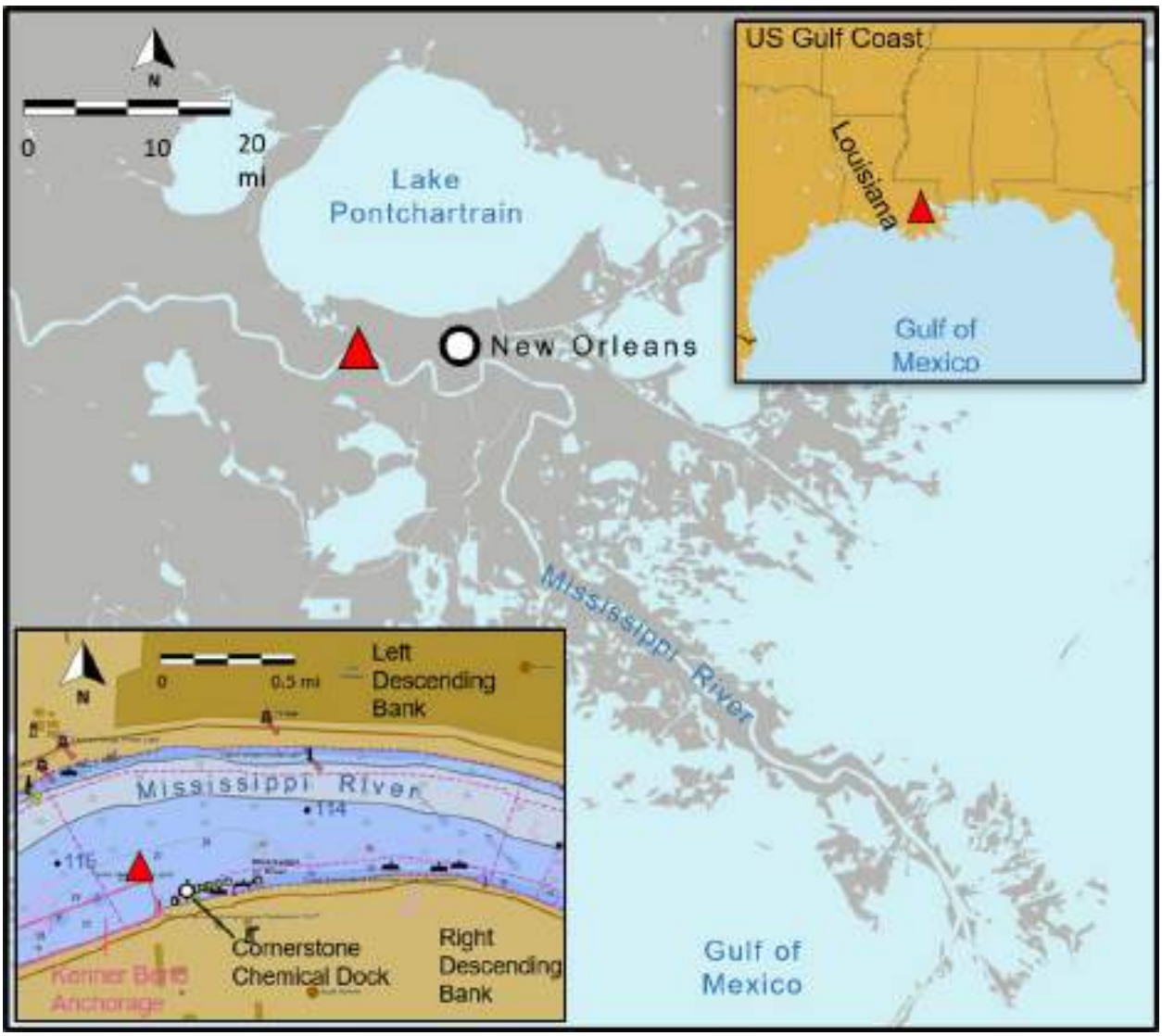
The *Nomadic Milde* loading cargo in March 2018. (Source: Intership Navigation Co. Ltd.)

[1] All miles in this report are statute miles.

Background

The *Nomadic Milde*, a 453-foot-long, Republic of the Marshall Islands-flagged general cargo ship, had a 7,241-horsepower (hp) medium-speed diesel engine connected by a reduction gear to a single four-blade controllable-pitch propeller and was fitted with a 670-hp bow thruster. There were 16 crewmembers on board.

On the day of the accident, the river gage, about 12 miles downstream at Carrollton, New Orleans (mile 102.8), was at 15.5 feet and falling, which constituted a "high water event." [2] The pilot who anchored the *Nomadic Milde* estimated the velocity of the current to be between about 4 and 5 knots at the area of the accident.



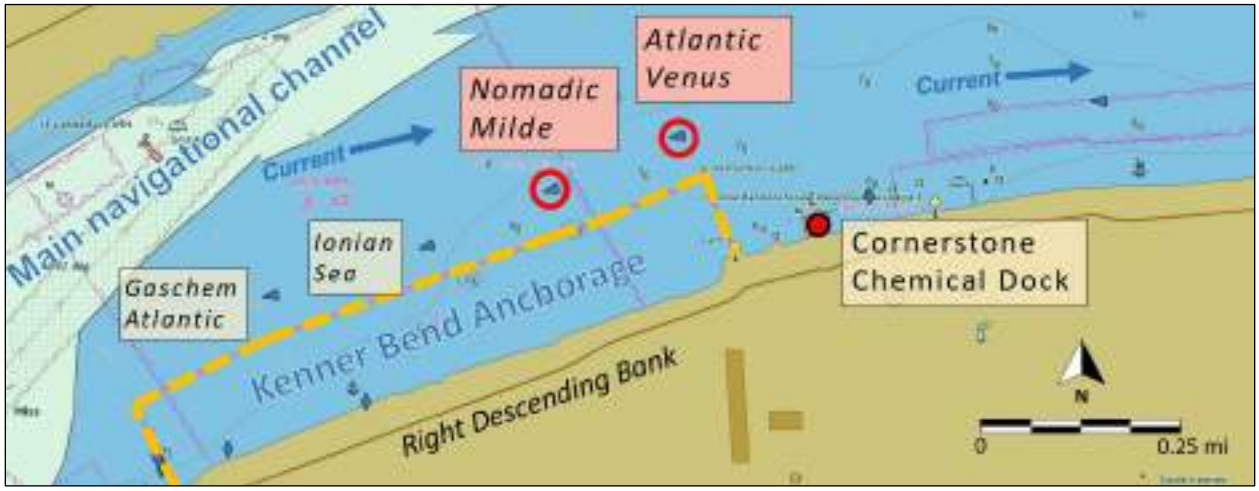
Accident location, as indicated by the red triangles in each map. (Background sources: Google Maps and National Oceanic and Atmospheric Administration [NOAA])

[2] The US Army Corps of Engineers defines a *high-water event* as 8 feet or above on a rising stage or 9 feet or above on a falling stage.

Accident Events

On May 8, the *Nomadic Milde* had completed loading lead concentrate at a facility near mile 107.6 on the Lower Mississippi River, about 8 miles south of the accident site. About 1320, a pilot from the New Orleans–Baton Rouge Steamship Pilots Association (NOBRA) boarded the *Nomadic Milde* for the transit from the dock to an anchorage where the vessel was to complete a cargo hatch repair the next morning. The master informed the pilot that the ship was fully loaded and that it was "almost" even keel, with the deepest draft of the ship at 26.4 feet aft. At 1350, the *Nomadic Milde* got under way with the pilot conning for the voyage up river to the anchorage area at Kenner Bend (mile 115).

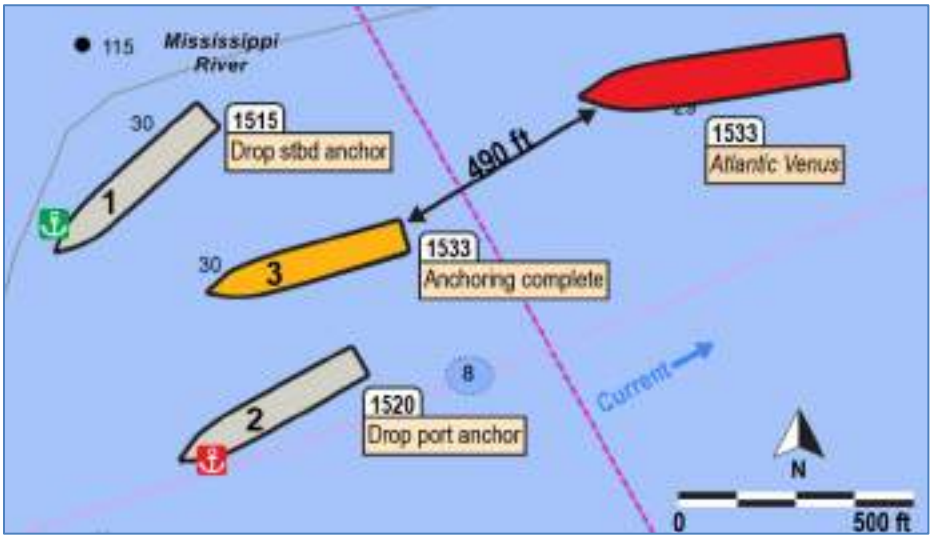
There are many anchorages in the Lower Mississippi River, and the selection of a position in a designated anchorage area is based on availability. Pilots pick the anchorage based on the general location and a vessel's draft in relation to the water depth. The pilot of the *Nomadic Milde* chose the Kenner Bend anchorage, which ran along the right descending bank from mile 114.7 to mile 115.6. The pilot showed the master and chief officer his intended anchoring position on the ship's electronic chart and information display system (ECDIS) and informed the master of his plan to let go the starboard anchor first and then establish a "good spread" between the port and starboard anchor chains, noting there were thunderstorms forecast for that afternoon that could bring strong and gusty winds to the area.



Electronic navigational chart with automatic identification system (AIS) symbols of the vessels anchored near the Kenner Bend Anchorage boundary at 1533 on May 8. Note: AIS symbols do not represent actual vessel size. (Source: PortVision, annotated by NTSB)

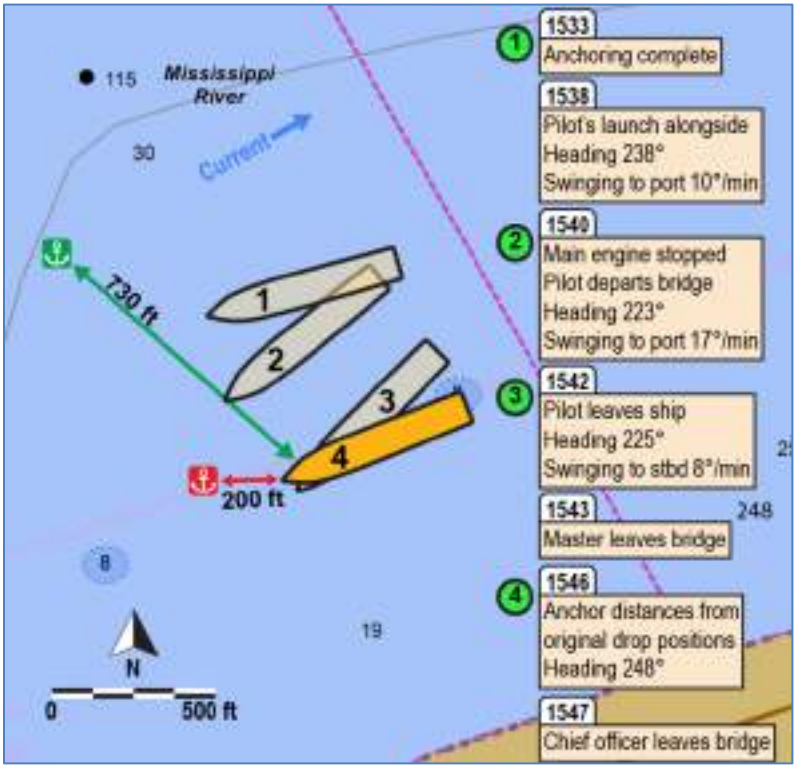
At the Kenner Bend anchorage (about mile 114.8), the pilot positioned the *Nomadic Milde* between and in line with two bulk carriers in ballast, and, at 1515, with the vessel on a heading of 228°, he requested the starboard anchor let go. After maneuvering the *Nomadic Milde* toward the right descending bank, at 1520, with the vessel on a heading of 242°, the port anchor was let go. The starboard anchor was heaved to 4 shots (360 feet) on deck and the port to 3 shots (270 feet) in the water. At 1532, the bosun on the bow informed the bridge that the starboard chain was leading 12 o'clock with a short stay and the port chain was leading 9 o'clock with a long stay. The pilot then informed the master that the anchoring was "all finished" and that "[the ship] looks good."

The master asked if he could stop the engine, and the pilot replied, "I think so," but cautioned that there was "considerable current" and, with the weather pushing through, it would be "a good idea to keep it on a short standby." He also recommended that "it would be a good idea to keep a short leash on her [the ship]." He advised the master to contact New Orleans Vessel Traffic Service (VTS) if he had any problems, since they had a pilot on call.



***Nomadic Milde* positions from the vessel's voyage data recorder (VDR). The green anchor icon indicates the starboard anchor drop position, and the red anchor icon indicates the port anchor drop position. Scale approximate. (Background source: NOAA ENC 6LA54M)**

On the bow, the bosun tightened the anchor brakes and placed the chain stoppers in position. He did not witness any movement in the chains after doing so. He and the two crewmembers assisting him were dismissed shortly after. The bulk carrier *Atlantic Venus* was down river, with its bow about 490 feet from the *Nomadic Milde*'s stern. The echo sounder on the *Nomadic Milde* indicated a depth of 23 feet below the keel; thus, the water depth was about 49 feet.



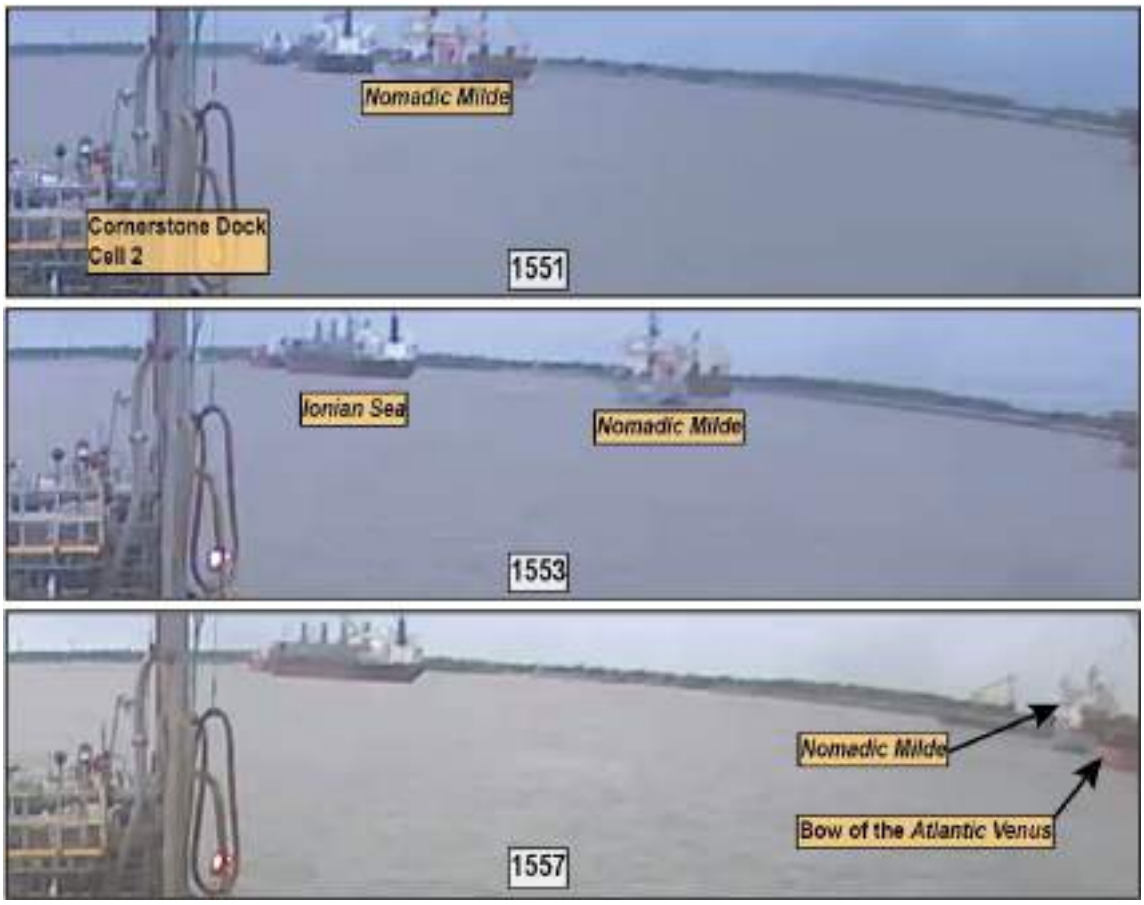
***Nomadic Milde*'s initial movements from 1533 to 1547 from the vessel's VDR, scale approximate. The green anchor icon indicates the starboard anchor drop position, and the red anchor icon indicates the port anchor drop position. (Background source: NOAA ENC 6LA54M)**

From 1533, when the pilot informed the master that the anchoring was complete, the *Nomadic Milde* continued to shift position and heading. The pilot departed the bridge at 1540 and left the ship on a launch at 1542. About a minute later, the master left the bridge. In a deposition, the pilot said that, at the time he departed he was "confident she [the ship] was in good shape" and he had no concerns about the

Nomadic Milde holding anchor. He stated that, had he noticed any "yawing," he would have remained with the ship.

The second officer, on watch on the bridge, activated the anchor watch alarm on the ECDIS and set it for a maximum radius of 180 meters (590 feet), based on the length of the ship and the amount of anchor set.[3] The master instructed the chief engineer he could shut down the main engine but must keep it on "short standby" mode so that the engine/propulsion systems would be online and available for use on short notice (10 minutes). The main engine was stopped at 1540.

About 1550, from a heading of 264°, the *Nomadic Milde*'s rate of turn began to increase to starboard. Closed-circuit television (CCTV) at the nearby Cornerstone Chemical Dock at mile 114.5 recorded the *Nomadic Milde*'s bow falling off to starboard and moving away from the right descending bank. At 1554, the *Nomadic Milde*'s ECDIS recorded its speed to be about 1.8 knots over ground. At 1557, the *Nomadic Milde* appeared to stop moving and hang in position about 350 feet off the starboard bow of the *Atlantic Venus*.



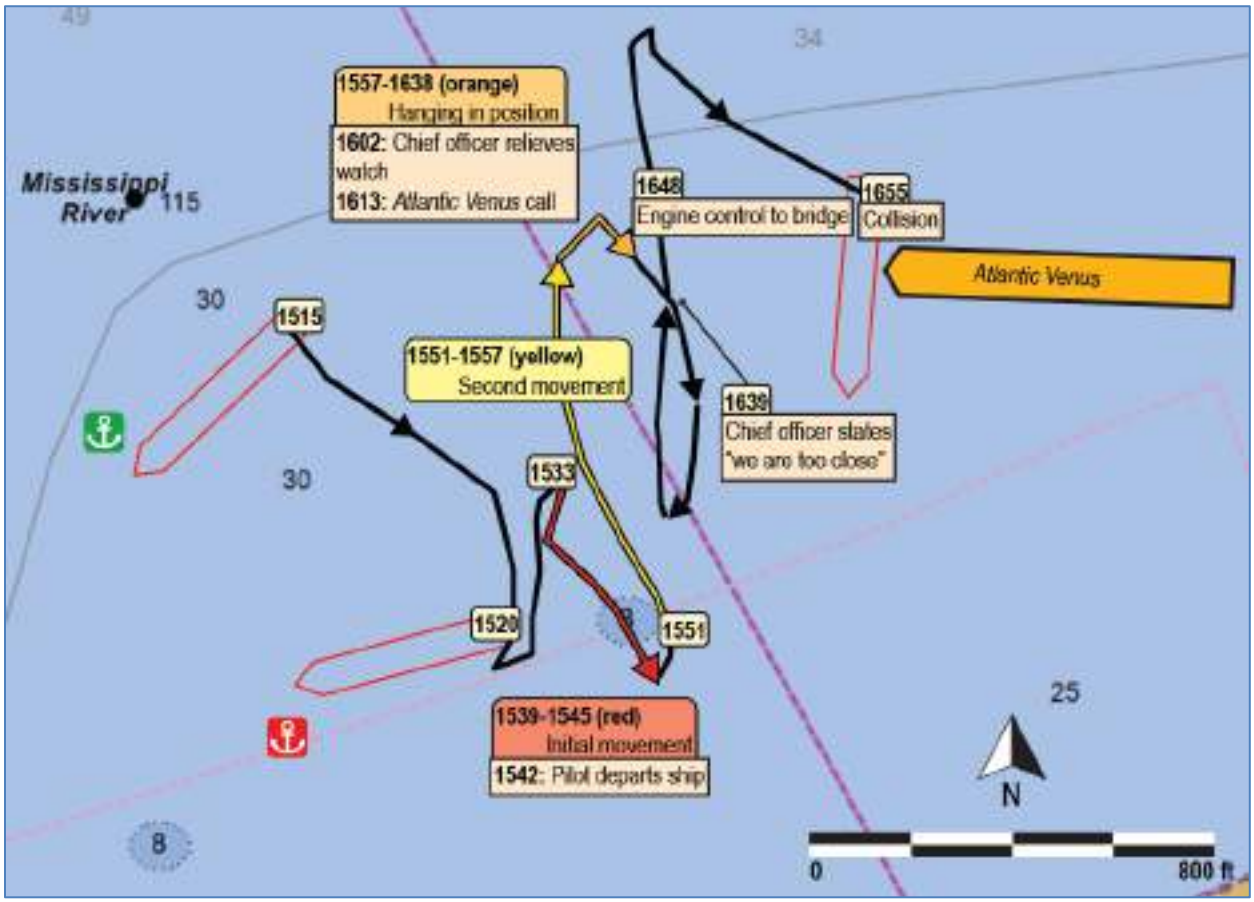
Footage from 1551, 1553, and 1557 (top to bottom) from the Cornerstone Chemical Dock showing the *Nomadic Milde* dragging anchor downriver towards the *Atlantic Venus*.

At 1602, the chief officer and second officer began the anchor watch handover. The chief officer asked the second officer why the ship was not in the middle of the ECDIS "anchor watch"

[3] The anchor watch setting uses a maximum distance (radius) from the anchoring point to display a graphical anchor watch ring on the electronic navigation chart. An alarm sounds if the ship moves out of the formed circles.

circle (at the anchor point) before commenting that he was unfamiliar with the vessel's ECDIS system. The second officer offered to help familiarize the chief officer with the ECDIS, but they did not further discuss the *Nomadic Milde*'s position at anchor.

At 1613, the officer on watch aboard the *Atlantic Venus* called the *Nomadic Milde* over very high frequency (VHF) radio to request "that [they] monitor [their] holding position." The second officer on the *Nomadic Milde*, who had remained on the bridge to tend to other duties, answered the call. The chief officer, listening to the communication, told the second officer that they were monitoring and had the engines on "short notice," which the second officer relayed back.



GPS positions of the *Nomadic Milde* from the vessel's ECDIS, from the time the *Nomadic Milde*'s starboard anchor was let go at 1515 to the collision with the *Atlantic Venus* at 1655. The green anchor icon indicates the starboard anchor drop position, and the red anchor icon indicates the port anchor drop position. Note: the GPS receiver is located on the main mast above the bridge of the *Nomadic Milde*. Scale approximate. (Background source: NOAA ENC 6LA54M)

About 1637, the *Nomadic Milde* was still about 350 feet off the starboard bow of the *Atlantic Venus* when its bow began to swing to port with its stern moving towards the *Atlantic Venus*. At 1639, the chief officer of the *Nomadic Milde* stated, "we are too close" and asked the second officer, who was still on the bridge, what the distance was to the *Atlantic Venus*. From the portside radar, the second officer informed the chief officer the distance to the *Atlantic Venus* was "point zero three cables" (182 feet). The *Nomadic Milde* continued swinging to port at a rate of 15° per minute. At 1640, the chief officer called the engine control room and asked for the chief engineer but was informed he was not there. The chief officer requested to have the chief engineer

call him on the bridge. About that time, the *Nomadic Milde*'s ECDIS showed the *Nomadic Milde*'s port quarter crossing the bow of the *Atlantic Venus* about 140 feet before swinging away and opening in distance off the *Atlantic Venus*'s port bow.

At 1641, the master of the *Atlantic Venus* radioed the *Nomadic Milde* that both vessels were very close and in an unsafe condition. The chief officer on the *Nomadic Milde* responded that he "noticed" and was going to call the pilot station. At 1642, the chief officer informed the master that they "turned on the cable" and were too close to the ship behind them. The master arrived on the bridge less than a minute later, when the bow of the *Nomadic Milde* began to swing back to starboard, with its stern crossing the *Atlantic Venus*'s bow about 150 feet at 1646 before opening in distance off its starboard bow. The second officer asked the bosun to stand by at the anchors.

As advised by the pilot, the *Nomadic Milde* master contacted New Orleans VTS at 1645. He reported the situation and stated that he needed a pilot to "change position"; VTS told him to contact his agent to arrange for a pilot. At the same time, the chief officer again called the engine control room and told the wiper who answered the phone to "tell the chief engineer to start the engine." The wiper relayed the request to the chief engineer, who immediately began the engine and propulsion system start sequence.

At 1647, VTS told the *Nomadic Milde*, "It looks like you are dragging anchor or maneuvering" and "make sure you do not raise your anchors...maneuver with your engines to stay safe but do not raise your anchors...do not raise your anchors…wait for a pilot." The chief officer replied to VTS that they were "waiting for a pilot; we need a pilot!" and that they were "not heaving anchors, we just start our main engine and wait for the pilot." At 1648, the chief engineer transferred main engine propulsion control, which was ready for use, to the bridge.

At 1649, the *Nomadic Milde* had swung to starboard about 730 feet away from the starboard bow of the *Atlantic Venus*, and 3 minutes later, at 1652, the bow of the *Nomadic Milde* began to swing to port in the direction of the *Atlantic Venus*. The master called the ship's agent and informed him that they were in a "very dangerous situation" and needed a pilot as soon as possible. The agent informed the master that a pilot would not be available for 2–3 hours, to which the master replied that they needed a pilot "as soon as possible because we cannot heave up anchor by ourselves!" The master said he began using full ahead engine, along with the bow thruster, and rudder, to reduce the swing and bring the ship ahead. At 1654, with the port bow of the *Nomadic Milde* about 245 feet from the bow of the *Atlantic Venus*, the chief officer asked the master if they should open the anchor brakes, which the master approved, and the chief officer instructed the bosun on the bow to open both anchor brakes. In a deposition, the master recalled that, at that point, the ship could not turn to starboard, away from the *Atlantic Venus*, despite his efforts to do so with the thruster and engine.

At 1655, the port side of the *Nomadic Milde* collided with the bulbous bow and anchor chains of the *Atlantic Venus*. Both vessels remained in contact: the *Atlantic Venus* was facing up river, and the port side of the *Nomadic Milde* was laying up against the bulbous bow of the *Atlantic Venus* with its bow facing the right descending bank. At 1659, the second officer of the *Nomadic Milde* informed VTS that they had collided with the *Atlantic Venus*. Neither vessel reported any flooding. With the *Nomadic Milde* broadside to the current and pushing on the bow of the *Atlantic Venus*, both vessels moved towards the right descending bank and closed on the Cornerstone

Chemical dock about 650 feet away. At 1701, VTS called for any available tugs to proceed to the Kenner Bend anchorage to assist both vessels.

Image from video taken at 1701 from the bridge of the *Atlantic Venus* with the *Nomadic Milde* lying against its bow. (Source: *Atlantic Venus* crewmember)

The first assist tug arrived on scene at 1725 to help hold and stabilize the *Nomadic Milde* in position. About 30 minutes later, two NOBRA "rush" pilots arrived on scene and boarded the *Nomadic Milde* and *Atlantic Venus*. The rush pilots planned to separate both vessels using two stronger tractor tugs that were on their way to assist. The first tractor tug arrived on scene at 1854 and took up position on the port bow of the *Nomadic Milde*. About the same time, the pilot on the *Nomadic Milde* noticed the ship move ahead on the bow of the *Atlantic Venus*. He requested an increase in propeller pitch of 10% astern, and the master increased the pitch to 40% from the previous 30% pitch astern. Just after this, the chief engineer felt an excessive vibration in the engine room, which was followed by multiple machinery automation system alarms.

At 1856, the speed of the *Nomadic Milde* increased ahead towards the Cornerstone Chemical dock, so the pilot requested full astern. Although the master moved the pitch lever to 100% pitch astern, the ship's speed continued to increase towards the dock. Seconds later, the pilot requested the engine be stopped, and the master pushed the emergency stop button for the main engine. CCTV footage from the dock showed the *Nomadic Milde* advancing toward the dock with its port anchor chain across the bulbous bow and leading down its starboard side. The master steered to swing the port quarter of the *Nomadic Milde* clear of the bow of the *Atlantic Venus* and, once clear, he steered to starboard in an attempt to avoid contact with the center of the Cornerstone Chemical dock, which contained most of the dock's piping. At 1858, the bow of the *Nomadic Milde* struck the upriver section of the Cornerstone Chemical Dock cell 2 at a speed of 6 knots before its bow grounded on the right descending bank. There were no injuries. No product from the broken piping was released into the river or atmosphere, and there was no fire or explosion.

Additional Information

Damages. The *Nomadic Milde* lost its starboard anchor with 4 shots of anchor chain just before it hit the dock, and its starboard anchor windlass was damaged. The anchor was later recovered. The contact with the Cornerstone dock left an approximate 25-foot gash aft of its port anchor pocket, as well as an indentation and a fracture to the portside shell plating in the vicinity of the no. 5 port wing ballast tank from the contact with the bulbous bow of the *Atlantic Venus*. The propeller had numerous indentations and fragments missing from each blade. There was damage to the portside bilge keel, and there were multiple anchor chain abrasion markings at the bulbous bow on the portside hull area, and in the vicinity of the propeller. An estimated 13 gallons of stern tube lube oil were released into the river from a broken propeller hub seal. Damage and repair costs were estimated at between $5.5 and $6 million.

Left: Postaccident damage to the *Nomadic Milde*'s propeller. (Source: Intership Navigation Co. Ltd) Right: *Nomadic Milde* on the right descending bank at the Cornerstone Dock showing a gash in the hull aft of the port anchor pocket. (Source: US Coast Guard)

The *Atlantic Venus* lost its starboard anchor with 9.5 shots of anchor chain, both of which were not recovered. On the remaining chain, there were rotational indentations and deep scratches on the starboard anchor chain links. The starboard anchor chain stopper was damaged. The bulbous bow sustained multiple indentations to the shell plating as well as a weld crack and buckled stringer. Damage and repair costs were estimated at $410,943.

Cornerstone's marine facility consisted of five cylindrical cells. The damaged cell (cell 2) was capable of receipt/discharge of acrylonitrile, molten sulfur, and sulfuric acid. Cell 2, its piping systems, and the structures on it were damaged beyond repair. Additionally, a bridge and walkways between the cells were damaged. Cell 3 was also damaged. Damages estimates to repair the facility were estimated to be approximately $10,943,405.

Personnel. The *Nomadic Milde*'s chief officer joined the ship 2 days before the accident, and although he sailed on other company vessels, it was his first time on the *Nomadic Milde*. His first watch since joining the ship was the anchor watch in which the collision occurred. In a deposition, the chief officer said that he was on "active watch the entire time" due to the proximity to the *Atlantic Venus*, using the ECDIS and his eyes to monitor the distance to the *Atlantic Venus* from the bridge wing.

The second officer who was on watch after the *Nomadic Milde* was anchored said in a deposition that he could not recall what means he used to determine the anchor watch alarm setting of 180 meters. He recalled that after the anchors were set, he only had a "short period of time" remaining before he went off duty. He said that he used the radar as a back-up to monitor if the ship was dragging anchor or not, but "most of the time," he relied on the ECDIS. The second officer was not aware the ship had dragged anchor at the time he was relieved, even after the chief officer questioned why the ship was not in the middle of the anchor circle set on the ECDIS.

Anchorage. The Kenner Bend anchorage was commonly used for vessels with drafts of less than 30 feet. The pilot who anchored the *Nomadic Milde* described the river current velocities as not as strong near the right descending bank, making the Kenner Bend anchorage an ideal location to anchor ships. While the Kenner Bend anchorage boundaries were depicted on the navigational charts, none of the vessels anchored there were within the boundary. The pilot

explained that he positioned the *Nomadic Milde* to be in line with other ships, to not disrupt or complicate the traffic flow in the area, to account for a barge fleet on the right descending bank that sometimes encroached on the anchorage, and to be out of the way of northbound tows that commonly used the inshore part of the anchorage, where there was less current.

The pilot who anchored the *Nomadic Milde* said he was under no time pressure to depart after he was satisfied the ship was holding. He said that there was good holding ground, and he had no concerns for the ship being able to hold anchor there. He recalled, based on his calculation, that there were no problems with the draft of the *Nomadic Milde* in relation to the available water depth where they anchored. There were no requirements for pilots to remain with a vessel for a specified time upon completion of anchoring during high water conditions to ensure the vessel was holding satisfactorily.

Anchor. The anchors for the *Nomadic Milde* were stockless anchors with a proof load of 637-kilonewtons (1,405,215-pounds-force). There were no known preaccident problems with either of the *Nomadic Milde's* anchors, winches, brakes, or holding gear, and there were no known preaccident deformities in the anchor flukes or chain. There were no deficiencies found in the company's planned maintenance and inspection records for the anchor equipment.

Vessel Traffic Service. VTS Lower Mississippi River provides service in the Algiers Point Special Area and in the regulated navigation area at 81 Mile Point. The Kenner Bend anchorage area was not in the VTS active monitoring area, but vessels in the area were still required to comply with the rules of the vessel traffic area. At the time of the accident, NOBRA pilot advisors were available by phone, but the supervisor on watch did not engage the pilot advisor on duty. He did, however, order a "rush" pilot for the *Nomadic Milde* through the NOBRA dispatch office, but this was not communicated back to the *Nomadic Milde*.

There were no regulations or captain of the port orders prohibiting the master of a vessel from getting under way in extremis when a pilot was not available. The VTS watch supervisor told investigators that they do not issue control orders to ships, but his instruction to the master to not raise anchors and get under way "probably came across as an order, a directive."

Analysis

The *Nomadic Milde*'s positions and headings suggested that the *Nomadic Milde* did not initially settle at its original anchor position. After the starboard anchor was let go, the ship moved about 730 feet away from the original starboard anchor drop position towards the right descending bank, a distance double the amount of chain that was set on the anchor, indicating that the starboard anchor likely dragged. The initial 6-minute anchor drag began within 10 minutes of when the pilot had informed the master that the anchoring was finished. The pilot departed the bridge while the vessel was still moving, although he said he had no concerns about the *Nomadic Milde* holding anchor. Had he noticed the initial drag of the *Nomadic Milde*, he may have remained with the vessel. Additionally, had the bridge team detected the initial drag before the pilot departed the vessel, or if the master had voiced any concern, they may have been able to request that the pilot remain with the ship to attend to the issue.

The second officer and chief officer both stated that the ECDIS was their means to monitor the *Nomadic Milde*'s position at anchor. Monitoring a ship at anchor, especially in an area where the risks of nearby hazards and weather and current are present, requires a continuous state of

vigilance and the use of all available means to determine whether a vessel is dragging or not. The second officer had set an ECDIS anchor watch alarm, which would have sounded had the vessel moved beyond the set radius. Neither the second officer nor chief officer recalled hearing the anchor alarm activate, and, given that the initial estimated distance from the stern of the *Nomadic Milde* to the bow of the *Atlantic Venus* was 490 feet, the anchor watch alarm radius setting of 590 feet was too large to provide for a timely alarm of the ship dragging. From 1551 to 1557, just before the change of the watch between the second officer and chief officer at 1602, the ship began to swing to starboard and dragged anchor, moving about 800 feet over about 6 minutes. Although the chief officer noticed that the vessel was not in the center of the anchor watch circle when he relieved the watch, he did not question if the ship had dragged or check whether the ship was remaining securely at anchor.

The officers on anchor watch on the *Nomadic Milde* had adequate time and means to check whether the ship was remaining securely at anchor. At the watch relief, the chief officer did not cross-check the ship's position after he noticed that the *Nomadic Milde* was not in the middle of the ECDIS anchor watch circle. Even after the initial alert by the *Atlantic Venus* to monitor their holding position, the chief officer did not take any follow-up action to address the concern, only communicating that their engines were ready on short notice. There was no evidence of either watch officer checking the ship's position at frequent intervals or by means other than the ECDIS watch alarm to determine if the ship was secure at anchor or not. Although ECDIS is a useful tool in determining a ship's position at anchor, the ship's radars would have provided information for the crew to determine or crosscheck if the range to a vessel or object had decreased, or if the ship had moved while at anchor. There was sufficient evidence to alert the bridge team that the *Nomadic Milde* was not holding well, and, had this been detected, the master could have been alerted earlier, and, in turn, there would have been sufficient time to undertake necessary measures to address the problem.

By the time the *Nomadic Milde*'s master was called to the bridge, he had lost about half the original distance between his vessel and the *Atlantic Venus* in which to react to and mitigate the situation. Knowing that a pilot was required to get under way in the Lower Mississippi River, he contacted New Orleans VTS and the ship's agent to request a pilot but was informed he would have to wait hours. Seven minutes before the collision, the main engine was ready for use on the bridge—but VTS had told the *Nomadic Milde* not to heave anchor and to maneuver only with their engine until a pilot arrived. The master followed the instructions from VTS, keeping the anchors out. However, this severely limited the bridge team's ability to control the vessel in the strong current, even while using the main engine up to full ahead, the bow thruster, and rudder.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the collision between the *Nomadic Milde* and *Atlantic Venus* was the bridge team on the *Nomadic Milde* not effectively monitoring the vessel's position and therefore not detecting that the vessel was dragging anchor and had moved from its original position during high-water conditions in proximity to other vessels.

Vessel Particulars

Vessel	*Nomadic Milde*	*Atlantic Venus*
Owner/operator	New Nomadic Short Sea Shipping AS/Intership Navigation Co. Ltd	Golden Helm Shipping Co. SA/Osaka Fleet Co. Ltd
Port of registry	Majuro	Panama
Flag	Marshall Islands	Panama
Type	General Cargo	Bulk Carrier
Year built	2011	2012
Official number (US)	none	none
IMO number	9463554	9628257
Classification society	DNV GL	NKK
Construction	Steel	Steel
Length	453 ft (138.1 m)	590.2 ft (179.9 m)
Beam/width	68.9 ft (21 m)	92.5 ft (28.2 m)
Draft	26.4 ft (8.05 m)	21.1 ft (6.4 m)
Tonnage	9,530 GT ITC	21,441 GT ITC
Engine power; manufacturer	1 x 7,241 hp (5,400kW) MAK 6M43C diesel engine	1 x 9,173 hp (6,840 kW); Kobe Diesel, 6UEC45LSE diesel engine
Persons on board	16	20

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

For more details about this accident, visit www.ntsb.gov and search for NTSB accident ID DCA20FM017.

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