February 3, 2026 MIR-26-03

Flooding of Bulk Carrier *Cuyahoga*

On March 18, 2025, about 1600 local time, the bulk carrier *Cuyahoga* was discovered partially flooded while docked in Ashtabula, Ohio (see figure 1 and figure 2).[1] There were no injuries, and no pollution was reported. The vessel was dewatered and refloated. Salvage costs were undetermined; the vessel had previously been declared a constructive total loss as a result of extensive damage sustained during a fire in March 2024.

Figure 1. The *Cuyahoga* on March 20, 2024, before the flooding.

[1] (a) In this report, all times are eastern daylight time, and all miles are statute miles. (b) Visit ntsb.gov to find additional information in the public docket for this NTSB investigation (case no. DCA24FM027). Use the CAROL Query to search investigations.

Casualty Summary	
NTSB casualty category	Flooding/Hull Failure
Location	Ashtabula Harbor, Lake Erie, Ashtabula, Ohio 41°54.25′ N, 080°47.39′ W
Date	March 18, 2025
Time	1600 eastern daylight time (coordinated universal time –4 hrs)
Persons on board	None
Injuries	None
Property damage	Undetermined salvage costs (vessel previously declared a constructive total loss)
Environmental damage	None
Weather	Clear, visibility 10 mi, winds south 11 kts, air temperature 55°F, water temperature 42°F
Waterway information	Channel; width 240 ft, depth 29 ft at casualty site

Figure 2. Area where the *Cuyahoga* flooded, as indicated by a circled *X*. (Background source: Google Maps)

1 Factual Information

The 605-foot-long Canada-flagged bulk carrier *Cuyahoga* was built in 1943 by the American Shipbuilding Company in Lorain, Ohio, and converted into a self-unloading bulk carrier in 1974. The vessel was owned and operated by Lower Lakes Towing Ltd.

On March 15, 2024, about 1315 local time, the *Cuyahoga* was undergoing maintenance while docked in Ashtabula, Ohio, when a fire broke out in a cargo hold where hot work was being conducted. The Ashtabula Fire Department, with assistance from the ship's crew, extinguished the fire. The vessel was declared a constructive total loss estimated at $11 million. The National Transportation Safety Board determined that the probable cause of the fire on the *Cuyahoga* was the ignition of the epoxy coating on the forward bulkhead within cargo hold no. 2, possibly from a smoldering fire from an undetermined source associated with earlier hot work in the hold.[2]

After the fire, the *Cuyahoga* remained moored at the Kinder Morgan Pinney Dock in Ashtabula. The owner of the vessel decided not to repair the ship, as the fire damage resulted in a total loss. The owner planned to place it in "cold layup" for the winter as the company searched for a suitable vendor to scrap the vessel, which prevented a shipkeeper from safely living on board.[3]

On December 10, 2024, one of the company's chief engineers arrived aboard the vessel to oversee a team tasked with preparing the vessel for cold layup. As part of the vessel's layup preparations, the team assessed the condition of the engine room and its piping systems. After entering the engine room, the team found ice in the bilge that was about 12 inches deep. The team determined the ice could remain in the bilge since it posed no threat to the vessel.

The vessel was equipped with sea chests for the cooling water (for the main engine and generator), fire pump, emergency fire pump, bilge, and sanitation systems. There was also a sea chest for the freshwater supply system. The team checked all of the sea chest valves for these systems to ensure they were closed. The

[2] National Transportation Safety Board, 2025, *Fire aboard Bulk Carrier* Cuyahoga, MIR-25-38.

[3] Unlike typical seasonal winter layup for ships in Great Lakes service (lakers), when a great lakes vessel is placed in a *cold layup*, there is no shore power (440 volts) provided to power heaters to keep piping systems free of ice, and a shipkeeper, who monitors the condition of the vessel, does not live on board and does not conduct daily status checks of the vessel. Instead, the shipkeeper visits the vessel on a set schedule to monitor its condition and to notify the vessel owner if any concerns with the vessel are discovered.

team discovered that the sea chest valves for the emergency fire pump and the cooling water for the main engine and generator were still open and closed them. In addition, they discovered a cracked fitting on the sea chest for an unused steam line drain. Due to the shallow draft of the vessel, this sea chest was located above the waterline, and welders sealed it before preparations for cold layup were completed.

The team opened the drain valves on the cooling water and freshwater piping systems, and no water came out. The chief engineer found water that had already frozen within several sections of these piping systems. To defrost the frozen sections of piping, the team placed heat lamps near the piping, which eventually melted the ice. After clearing the ice within the piping systems, the team drained all accessible water from the ballast, cooling, sanitary, and steam piping.

Per standard practice for layup of a Great Lakes vessel, the team opened the drains and removed the covers of the duplex strainers for the main engine and generator cooling water piping systems; the strainers were located on the lower level of the engineer room (see figure 3). Opening the strainer drains allowed the shipkeeper to see any ingress of water into the vessel, and removing the strainer covers helped keep the water from freezing and expanding, which would damage the housing of the strainer and the piping system. In addition, the team installed heat lamps—connected by extension cords to 120-volt electrical outlets located on the pier—by the sea chests to prevent ice formation within them. After this work was completed, the chief engineer and the team departed the vessel, and the vessel was considered in cold layup.

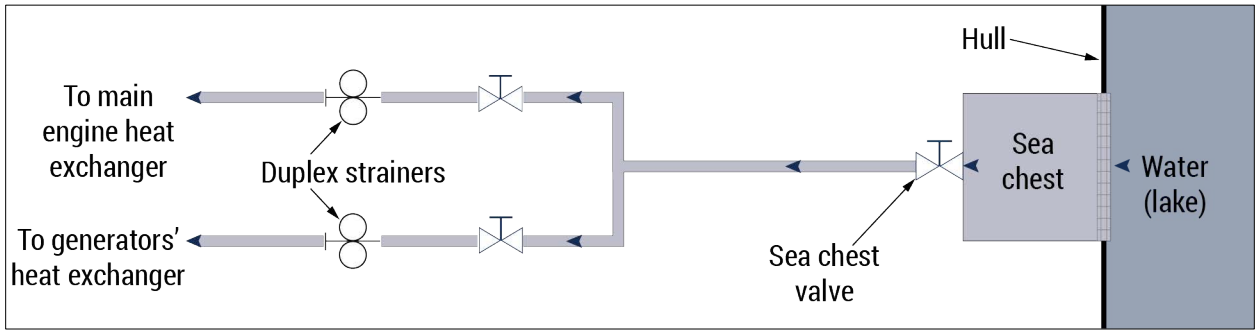

Figure 3. Simplified diagram representing the sea chest and inlet strainers for the main engine and generator cooling water systems (not to scale).

The chief engineer returned to the vessel on January 7 and 11, 2025, to inject linseed oil soap into the fittings for the sea chests to displace any residual water and mitigate freezing. Before injecting the soap, the chief engineer opened the piping system's drains to ensure that there was no ice present that would block the soap from entering. Finding none, the soap was injected. During his time on the vessel, the

chief engineer noted that the level of ice in the engine room bilge had remained the same since his last visit in December.

The shipkeeper visited the vessel on Monday, Wednesday, and Friday of each week while it was in cold layup. During the vessel visits, the shipkeeper would record the forward and aft draft marks and check the condition of the mooring lines. The shipkeeper would then board the vessel to check the status of the engine room and the cargo belt tunnel for any signs of water and ensure that the heating lamps were operational. Since there was no shore power connected to the *Cuyahoga*, there was no internal lighting, so the shipkeeper used a flashlight to check the interior spaces of the vessel. The shipkeeper told investigators that, between December and March, while he tended the vessel, the frozen water level in the engine room bilge remained about 12 inches deep.

On March 14, 2025, the shipkeeper completed a check on the *Cuyahoga* and noted no issues or concerns. The shipkeeper recorded the forward draft of the vessel as zero and the aft draft as 3 feet 6 inches, which was consistent with the previous recorded draft readings. The next check of the vessel was scheduled to be on March 17. The shipkeeper arrived at the dock that day, but the manlift that the shipkeeper used to access the *Cuyahoga* was being used by another vessel, so he was unable to board. While at the dock, the shipkeeper checked the forward and aft draft marks; he did not note any changes from the previous recording.

The following day, on March 18, another shipkeeper informed the *Cuyahoga* shipkeeper that the vessel appeared to be listing, so he returned to the dock to check the vessel. Upon arrival, the shipkeeper confirmed that the vessel was lower in the water and listing to port. The shipkeeper boarded the vessel, entered the engine room, and confirmed that water was entering the space from an undetermined location. He notified his supervisor of the flooding and left the vessel because he was concerned about remaining on a vessel that was taking on water.

The owner of the vessel contacted the US Coast Guard to inform them of the situation. A pollution boom was deployed around the vessel, as per the vessel's pollution response plan, to contain any potential oil spill. The vessel continued to flood until it rested on the bottom while remaining moored to the pier (see figure 4). The vessel owner and the Coast Guard monitored the vessel for any changes in its condition.

Figure 4. The *Cuyahoga* heeling slightly to port after flooding. (Source: Coast Guard)

The *Cuyahoga* was salvaged between June 19 and 29, 2025 (there were no changes in its condition before salvage work began). During the salvage, divers checked the sea chest valves in the engine room to ensure that they were closed before dewatering the vessel (see figure 5). The divers reported that the handwheels to all the sea chest valves were in the closed position and could not be tightened further. Afterward, the divers determined that the water was entering the engine room through the uncovered duplex strainers and open strainer drains for the engine and generator cooling water systems (the covers had been removed and the drains opened as part of the winter layup process). The divers reinstalled the covers and closed the drains, and the water ingress stopped. Salvors used pumps to dewater the vessel, which was completed on July 1. No other investigation was conducted to determine how water was entering past the cooling water sea chest valve.

Figure 5. The engine room within the *Cuyahoga* following the water ingress. (Source: Coast Guard)

The *Cuyahoga* was sold to Marine Recycling Corporation and towed to their facility in Port Colborne, Ontario, Canada, in July 2025 to be scrapped.

2 Analysis

While the self-unloading bulk carrier *Cuyahoga* was docked in Ashtabula, Ohio, in winter, in cold layup status, and awaiting disposal as a result of extensive damage from a fire a year earlier, flooding was discovered within the vessel's engine room. The flooding caused the vessel to sink and contact the bottom while moored to the pier.

During the salvage of the *Cuyahoga*, divers confirmed that all of the sea chest valves, which isolated the vessel's sea chests from their respective downstream piping systems, were closed. As they investigated further, the divers discovered that lake water was entering the engine room through uncovered duplex strainers for the main engine and generator cooling system. These strainers were located downstream of the sea chest valve. Once the covers and drains to the duplex strainers were closed and secured, the water ingress ceased, and the vessel was able to be refloated. This indicates that although the sea chest valve supplying the main and generator engine cooling water systems was closed, lake water was still able to enter their piping (see figure 3). However, because the investigation into the flooding was limited and the vessel was scrapped, the exact cause of the water flowing in the system could not be determined. It is possible that the valve disk or the valve seat failed while the vessel was in cold layup, which would have allowed water to flow into the uncovered duplex strainers and out to the engine room.

3 Conclusions

3.1 Probable Cause

The National Transportation Safety Board determines that the probable cause of the flooding of the bulk carrier *Cuyahoga* was water ingress in the engine room from main engine and generator water cooling systems' duplex strainers—which were uncovered while the vessel was in layup status—possibly due to the failure of the systems' closed sea chest valve.

Vessel Particulars

Vessel	*Cuyahoga*
Type	Cargo, Dry Bulk (Bulk carrier)
Owner/Operator	Lower Lakes Towing Ltd (Commercial)
Flag	Canada
Port of registry	Port Dover, Ontario, Canada
Year built	1943
Official number	N/A
IMO number	5166392
Classification society	Lloyd's Register
Length (overall)	604.9 ft (184.4 m)
Breadth (max.)	60.0 ft (18.3 m)
Draft (casualty)	3.5 ft (1.1 m)
Tonnage	10,532 GRT
Engine power; manufacturer	1 x 3,084 hp (2,300 kW); Caterpillar 3608 diesel engines

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