March 25, 2026 MIR-26-09

Engine Room Flooding aboard Sailing School Vessel *Oliver Hazard Perry*

About 2200 on May 10, 2025, the sailing school vessel *Oliver Hazard Perry* started taking on water while moored at Fort Adams State Park dock in Newport, Rhode Island (see figure 1 and figure 2).[1] About 0730 the following morning, a crewmember was awoken by an alarm and discovered the flooding. An estimated 21,000 gallons of seawater entered the engine room and the forward auxiliary machine space. There were no injuries, and no pollution was reported. Damage to the vessel was estimated at $1 million.

Figure 1. *Oliver Hazard Perry* underway at an unknown date. (Source: Oliver Hazard Perry Rhode Island).

[1] (a) In this report, all times are eastern standard 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. DCA25FM038).

Casualty Summary	
NTSB casualty category	Flooding/Hull Failure
Location	Fort Adams State Park Dock, Newport, Rhode Island 41°28.68'N, 071°20.10'W
Date	May 10, 2025
Time	About 2200 eastern daylight time (coordinated universal time –4 hrs) Flooding discovered 0730 eastern daylight time on May 11, 2025
Persons on board	1
Injuries	None
Property damage	$1 million est.
Environmental damage	None
Weather	Visibility 10 mi, overcast, winds west-northwest 10 mph, air temperature 50°F, morning twilight 0501, sunrise 0532
Waterway information	Harbor

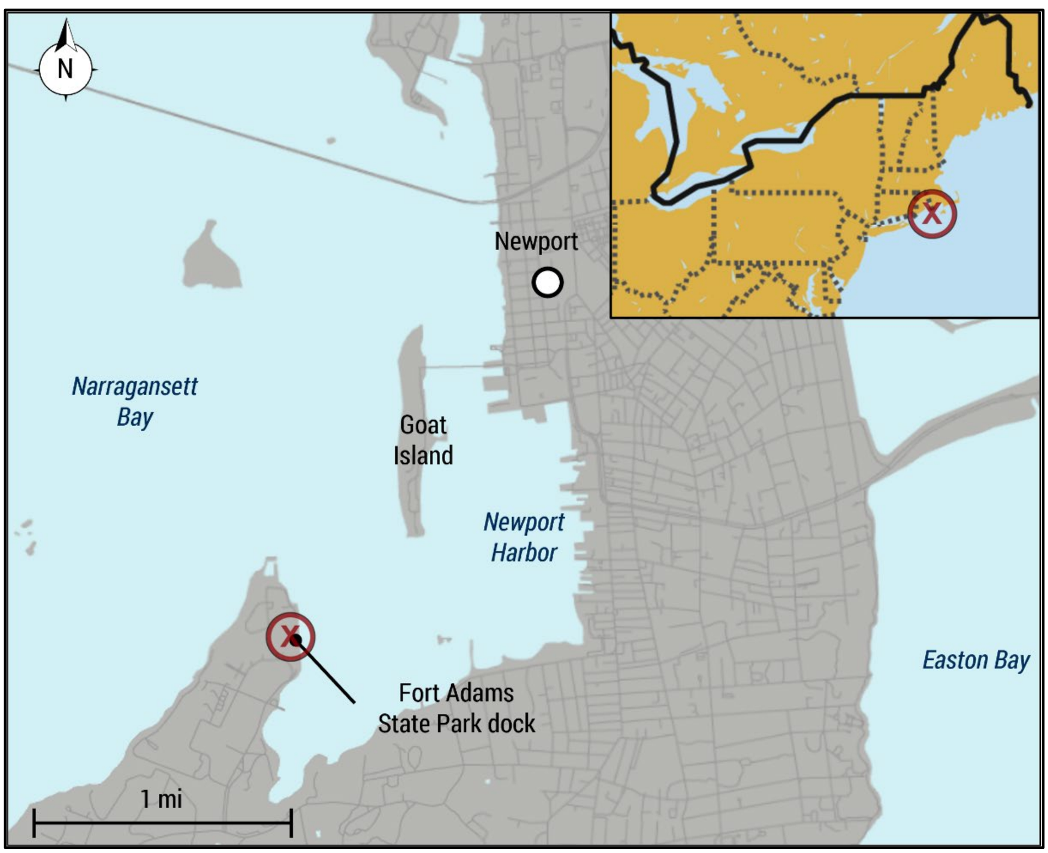

Figure 2. Area where the engine room flooding occurred aboard the *Oliver Hazard Perry* as indicated by a circled *X*. (Background source: Google Maps)

1 Factual Information

1.1 Background

The 128-foot-long, steel-hulled, three-masted, square-rigged tall ship *Oliver Hazard Perry* was certified by the US Coast Guard under Title 46 *Code of Federal Regulations* Subchapter R as a sailing school vessel.[2] Construction on the hull began in Canada in 2008, and the vessel was completed in Kingstown, Rhode Island, in 2015. A professional crew operated the privately owned vessel, which was certified to accommodate up to 49 people overnight and up to 75 during the day.[3] The vessel had two enclosed decks under the open main deck: the lower deck, which contained the machinery spaces, and the tween deck, which contained the accommodation spaces. Both decks ran the length of the vessel.

Main propulsion for the vessel was provided by sails on its three masts, and auxiliary propulsion was provided by two Caterpillar C12 diesel engines, each rated at 385 hp (287 kilowatts) and connected via a set of reduction gears to a fixed-pitch propeller. Electrical power was provided by two John Deere diesel engine–driven generators, each rated at 133 hp (99 kilowatts). The vessel was also equipped with a 36-hp (27-kilowatt) generator, located in the engine room, for emergency power.

The *Oliver Hazard Perry* was equipped with high-water bilge alarms as required by the Coast Guard. Eight high-level bilge sensors were located throughout the vessel on the lower deck: one in the forepeak space, three in the berthing spaces, one in the auxiliary machine space (AMS), two in the engine room, and one in the fixed fire extinguishing system room. The AMS contained electrical panels, pumps, and other electrical equipment. It was adjacent to, and forward of, the engine room and separated by a watertight bulkhead that was fitted with a hinged watertight door. A bilge, machinery, and tank alarm panel was located in the engine room. A fire alarm panel was located in the ship's office on the tween deck (one deck above the lower deck, where the engine room and AMS were located). The fire alarm panel was

[2] A *sailing school vessel* is "a vessel of less than 500 gross tons, carrying six or more individuals who are sailing school students or sailing school instructors, principally equipped for propulsion by sail even if the vessel has an auxiliary means of propulsion, and owned or demise chartered and operated by a qualified organization during such times as the vessel is operated exclusively for the purposes of sailing instruction." See [46 *Code of Federal Regulations* Subchapter R, Part 169].

[3] All persons aboard the vessel were considered crew and were required to participate in the operation of the vessel. The vessel did not carry passengers.

equipped with a battery back-up power source. The system contained an audible alarm that sounded when it sensed that its power source had been lost.

1.2 Event Sequence

On May 10, 2025, the *Oliver Hazard Perry* was docked at its summer berth at Fort Adams State Park in Newport, Rhode Island, with one crewmember (the bosun) aboard and the port generator running. (The captain worked aboard the vessel during the day and resided at home at night.) The captain told investigators that new shore power breakers had recently been installed on the pier, and the crew had been troubleshooting the vessel's electrical system due to the shore breakers tripping. As a result, during efforts to resolve the issue, the vessel's generator was running and supplying electrical power to the vessel. While running, the port generator's engine was cooled with seawater, which was supplied by the portside sea chest and circulated through the engines by an engine-driven pump.

About 2100 that evening, the bosun received a freshwater tank level sensor alarm. He responded to the alarm and conducted a visual inspection of the engine room and AMS. He found everything in good order, so he retired for the evening to his stateroom.

The bosun stated that at 0735 the following morning, he awakened to a faint audible "AC [alternating current] power fault alarm" coming from the fire alarm panel in the ship's office. (The bosun's stateroom was not outfitted with an alarm panel.) The ship's office was located on the same deck as his stateroom with one stateroom between them. At this time, he noticed that electrical power was out throughout the vessel, and at 0530, the alarm panel had recorded an electrical fault alarm as a result of a loss of power supplying the panel. In the darkness, the bosun went to the engine room and discovered seawater covering the base of the port generator. The generator was mounted on a raised platform about 3 feet above the deck plates and about 5 feet above the sea chest that fed the seawater cooling system. The bosun also found water in the AMS about 1 foot deep. According to the bosun and the captain, the hinged watertight door between the spaces was fully secured with all eight dogs.[4] The bosun did not report hearing any high-level bilge alarms.

Immediately after observing the flooding, the bosun called the captain via cell phone. The captain notified the park manager, who notified the local fire department

[4] A *watertight door*, when properly closed, forms a watertight seal. When the dogs on the door are seated or "dogged down," the gasket in the edge of the door presses against the knife-edge around the door frame.

and a pollution-prevention response team. The captain called the Coast Guard, a salvage company, and a local diver. Although the vessel had electrically driven bilge pumps that could have taken suction in both the engine room and AMS, and the bosun was familiar with the bilge system, with the pumps submerged in seawater and vessel power out—and main power and emergency power was unable to be restored due to the flooding—the bilge pumps could not be used to dewater the flooding spaces.

About 0810, local firefighters arrived at the vessel and worked with the bosun to set marks to monitor the water levels in the engine room and AMS (see figure 3). After monitoring for about 30 minutes, they determined that seawater was entering the vessel at a rate of about 1 inch per hour in the engine room and rising about a half inch per hour in the AMS. After the water level reached about 3 feet in the engine room, the level in the AMS increased to about 2 inches per hour.

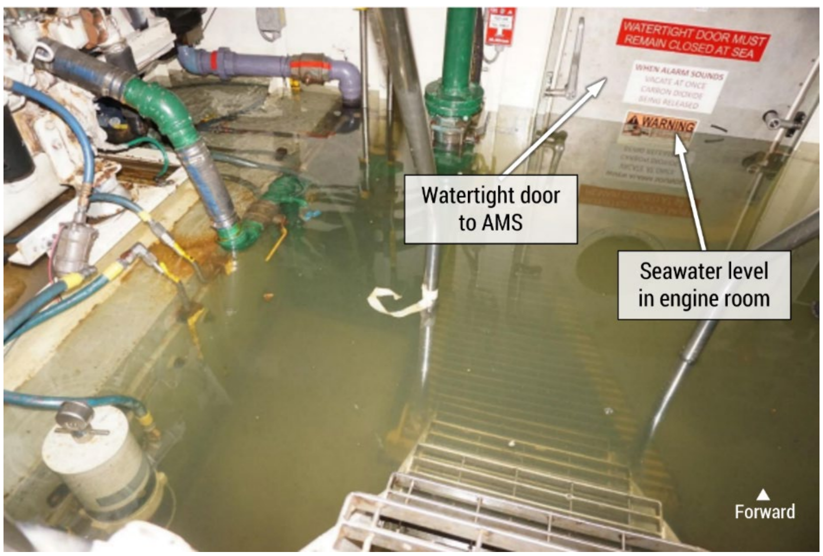

Figure 3. Seawater level in engine room of the *Oliver Hazard Perry* on May 11, 2025. (Background source: Coast Guard)

About 0835, the captain arrived at the vessel, observed that there was no pollution alongside the *Oliver Hazard Perry*, and updated the Coast Guard. About 1030, a diver entered the water alongside the vessel and removed the grating covering access to the portside sea chest. Using wooden plugs from the vessel's damage control supplies, the diver plugged through-hull penetrations into the engine room.

About 1430 a salvage team arrived, surveyed the scene, and reviewed stability and trim documents provided by the captain. The salvage team accessed the engine room and AMS using the emergency escape hatches and, about 1715, began removing water from the AMS using a vacuum truck on the pier. About 1945 that evening, the salvage team ceased pumping while they waited for additional empty holding tanks. Beginning about 2030 on May 11, the captain and bosun posted watches, made hourly rounds, and monitored bilge levels throughout the night. The salvage team resumed pumping about 0630 the following morning once the tanks had arrived on scene.

About 1145 on May 12, pumping was completed and the vessel was dewatered. The bosun told investigators that about 21,000 gallons of water had been removed from the vessel into tank trucks for disposal. During the dewatering process, the captain observed seawater leaking through the closed watertight door from the engine room to the AMS.

1.3 Additional Information

1.3.1 Damage and Postcasualty Survey

During the dewatering process on May 11 and then on May 15, a marine surveyor inspected the engine spaces. The flooding in the engine room reached a few inches above the tops of the main engines and covered the reduction gear sets. Both electrical generators and the emergency generator were partially submerged. Several batteries, chargers, wires, and switches in the engine room were submerged. The seawater supply pump, air compressors, and fuel/water separator were damaged by flooding.

The flooding in the AMS submerged in seawater and damaged several pumps for the water maker system, HVAC system, firefighting system, and marine sanitary device. Several electrical components and switchboards were submerged including wiring, switches, and breakers.

The marine surveyor determined the cause of the flooding was due to a failed (broken) seawater cooling supply pipe for the portside generator (see figure 4). The threaded portion of the 2-inch steel pipe was corroded at the connection point with the bronze strainer. The marine surveyor could not determine how seawater leaked from the engine room into the AMS but reported that it could have entered the AMS through fittings in the watertight bulkhead and/or from the hinged watertight door.

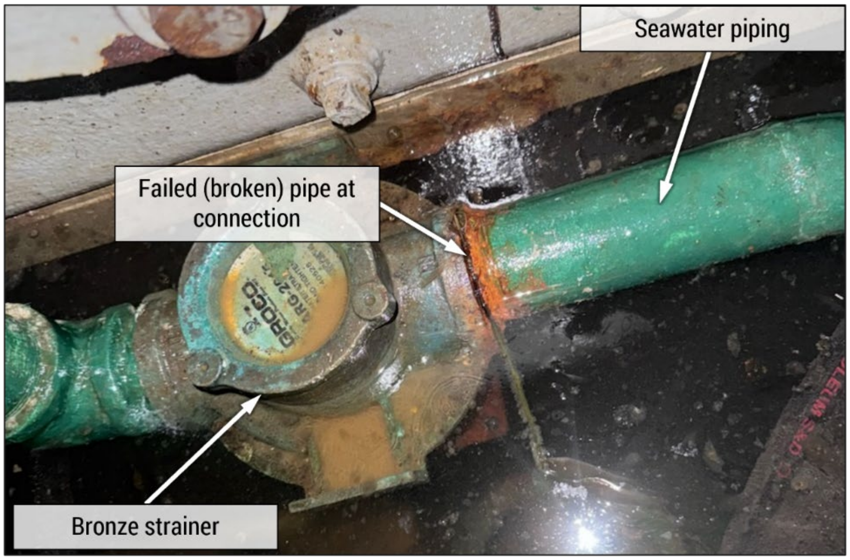

Figure 4. Broken pipe at connection between seawater supply pipe and strainer. (Background source: Coast Guard)

According to the bosun, a ship's engineer had replaced a pipe nipple and shutoff valve on the starboard-side generator seawater supply piping about a year before the casualty. Since then, the *Oliver Hazard Perry* had not had a dedicated engineer aboard the vessel. Investigators observed that the removed shutoff valve from the starboard generator showed similar corrosion to the failed port generator piping. The vessel was equipped with a cathodic protection system—a method used to prevent corrosion of metal structures by applying an external electrical current—which was operational at the time of the flooding.

1.3.2 Maintenance and Postcasualty Actions

Maintenance records provided by the captain showed all bilge alarms were tested and working properly in May, June, and July 2024. Postcasualty testing of the engine room and AMS bilge level sensors could not be performed due to the extensive seawater damage to the electrical system.

On May 15, a temporary sealing plate was installed over the port generator's seawater piping system with a rubber gasket to stop the water ingress until further repairs could be made. The captain told investigators that the vessel owner/operator was considering the installation of an alarm annunciator in the accommodation spaces to announce alarms for the bilge system. At the time of publication of this report, repairs were still ongoing.

2 Analysis

On the morning of May 11, the only crewmember aboard the school sailing vessel *Oliver Hazard Perry* discovered the engine room and AMS flooded with seawater through a failed seawater supply pipe for the port generator.

When the bosun discovered the flooding, the water level in the engine room was covering the base of the port generator, which had been running earlier, and was about 1 foot deep in the AMS, which was directly forward of the engine room and separated by a hinged watertight bulkhead with a door. Responders determined that the engine room was flooding at a rate of 1 inch per hour and the AMS about half an inch per hour. Based on the amount of water discovered in the machinery spaces and the rate of flooding, the flooding likely started on the evening of May 10 after the bosun had conducted a round of the machinery spaces and gone to bed, about 2200. The flow of water would have continued at a steady rate until about 0530, when the alarm panel recorded an electrical fault indicating a power failure, likely because the water was high enough to short out electrical connections, trip the generator offline, and blackout the vessel. While the generator's engine was operating, its engine-driven seawater cooling pump was circulating seawater through its piping system. Once the engine shut down, and its seawater cooling pump stopped, the flooding rate would have been reduced significantly.

After the casualty, a marine surveyor examined the vessel's engine spaces and determined the cause of the flooding was the failed (broken) seawater supply pipe for the port generator, likely due to corrosion. The failure was located at the threaded connection between a steel pipe and the inlet to a bronze strainer housing. When a steel pipe is threaded, the pipe's outer surface is cut and results in a reduction of wall thickness. The reduced wall thickness makes this section of a pipe more prone to corrosion and possible failure, as the pipe wall is thinner, and therefore, less degradation is necessary for a piping failure to occur. Typical causes of corrosion may include vibration or galvanic action between dissimilar metals.[5] About a year before the casualty, components in the starboard generator's seawater cooling piping system had been replaced due to corrosion. Based on the condition of the starboard generator's seawater cooling piping system, it is likely that the portside generator's seawater cooling system was similarly corroded and in need of replacement.

[5] *Galvanic action* occurs when two electrochemically dissimilar metals are in contact, creating a conductive path for electrons and ions to move from one metal to the other. As the ions are deposited onto the other metal, the first metal corrodes.

The engine room and AMS were separated by a watertight bulkhead and watertight door, which should have prevented progressive flooding between compartments.[6] Watertight bulkheads (which may contain watertight doors) exist to subdivide a vessel—that is, to divide the vessel's hull into watertight compartments so that in the event of damage, flooding is restricted to damaged compartments and the vessel will be less likely to sink. However, if a watertight bulkhead lacks watertight integrity, progressive flooding can occur, compromising subdivision. Responding firefighters observed water levels increasing in the AMS as the engine room flooded, and during the dewatering process of the AMS, the captain observed seawater leaking through the watertight door into the AMS from the engine room. The watertight door between the engine room and AMS was fully secured at the time of the casualty, according to the captain and bosun, and photos of the door while the engine room was flooded showed all eight dogs to be in the fully secured position with the seawater level halfway up the door. However, if the watertight door's gasket was not making full contact with the knife edge sealing surface, seawater could have leaked into the AMS. Additionally, if any of the pass-through fittings in the watertight bulkhead had been disturbed at some point and not properly resealed, seawater could have also flooded through the fittings into the AMS.

On the night of the flooding, there was one crewmember (the bosun) aboard the vessel. The vessel was fitted with a bilge system to dewater the engine room, AMS, and other spaces if flooding occurred, and the bosun was familiar with the system. If he was aware of the flooding before the loss of electrical power, he could have begun dewatering the vessel. Within the engine room and AMS, there were three bilge level sensors. The amount of seawater that entered the engine room and AMS flooded the bilges above the deck plates, well above the level required to activate the sensors. However, the bosun did not report hearing any bilge alarms on the evening of May 10 or the morning of May 11. The bilge alarm system had not been tested since July 2024, and due to the flooding, the bilge level sensors could not be tested after the casualty, so investigators could not determine whether the bilge level sensors and alarm system were functional at the time of the casualty. The accommodation spaces, including the bosun's stateroom, were not equipped with an alarm panel or annunciator to alert the bosun of any bilge alarms. Therefore, even if any of the three bilge level sensors in the engine room and the AMS activated when the seawater triggered the level sensors, it is unlikely that the audible alarm would have been capable of waking the bosun to respond.

[6] *Progressive flooding* is the ingress of water into intact compartments via non-watertight openings or pipes through/across the bulkhead(s) dividing the spaces/compartments.

3 Conclusions

3.1 Probable Cause

The National Transportation Safety Board determines that the probable cause of the engine room flooding aboard the sailing school vessel *Oliver Hazard Perry* was a failed seawater cooling supply pipe for a diesel engine–driven generator due to corrosion. Contributing to the extent of the damage was the lack of a bilge alarm annunciator in the accommodation spaces to alert onboard crewmembers to the flooding and a watertight bulkhead and watertight door that did not prevent progressive flooding.

3.2 Lessons Learned

Emergency Notifications on Vessels with Reduced Crew Aboard

Emergencies, such as flooding or fire, pose a substantial threat to personnel and property, especially if they go unnoticed and are not addressed quickly. Minor incidents that remain unaddressed can have catastrophic results. When a vessel is in layup or moored with reduced crew and its normal operating stations—such as the bridge or engine room—unattended, it is imperative that any crewmembers on board be notified of emergencies without delay to allow for a timely response. Alarm or other notification systems should be configured such that crewmembers, even in accommodation spaces, are notified immediately in case of flooding or other emergency.

Vessel Particulars

Vessel	*Oliver Hazard Perry*
NTSB vessel group	Specialty/Other (Sailing school vessel)
Owner/operator	Oliver Hazard Perry Rhode Island (Private)
Flag	United States
Port of registry	Newport, Rhode Island
Year built	2015
Official number	1257224 (US)
IMO number	8775560
Classification society	N/A
Length (overall)	123.0 ft (37.5 m)
Breadth (max.)	42.0 ft (7.6 m)
Draft (casualty)	25.0 ft (3.8 m)
Tonnage	471 GT ITC
Engine power; manufacturer	2 x 385 hp (283 kW); Caterpillar C-12 diesel engines

NTSB investigators worked closely with our counterparts from **Coast Guard Sector Southeastern New England** throughout this investigation.

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