	PRELIMINARY MARINE CASUALTY REPORT	
	Vessel(s) Andrew J. Barberi	**Date and Location:** May 8, 2010 St. George Ferry Terminal Staten Island, New York
	NTSB Identification: DCA10MM017	**Accident type:** Allision with pier

PRELIMINARY REPORT- MARINE: STATEN ISLAND FERRY ACCIDENT

Narrative:

On Saturday, May 8, 2010, the passenger ferry Andrew J. Barberi departed Whitehall ferry terminal in lower Manhattan for its regularly scheduled 0900 voyage to St. George ferry terminal, Staten Island. A preliminary review of the pilothouse closed-circuit television (CCTV) video of the transit from Whitehall to St. George indicates that the voyage was uneventful until the ferry approached slip No. 5 at St. George. Video data show that the vessel failed to slow before it approached the slip, and that crewmembers attempted to warn passengers over the public address system that the speed of the vessel was higher than normal. Some deckhands began directing passengers off the exterior forward embarkation areas, and others told passengers to prepare for impact. At 9:19 a.m. EDT, the vessel struck the boarding apron, transition bridge, and concrete terminal structure on slip No. 5 of the St. George pier.

Investigators visited the U.S. Coast Guard's New York Harbor Vessel Traffic Service and obtained a copy of the vessel's trackline. The trackline shows that the *Andrew J. Barberi* had a speed-over-ground (SOG) of approximately 16 knots before it began its planned slowing to the terminal, which starts when the vessel is abeam of the KV (Kill Van Kull) buoy, about 1,000 yards from the slip entrance. From the midpoint of the KV buoy to the entrance to slip No. 5, the vessel had a course over ground of 227 degrees and a SOG of about 14 knots. Investigators are still attempting to determine the speed at impact. The vessel was not fitted with a voyage data recorder (VDR), nor was one required.

The shoreside operator of the transition bridge, which allows passengers to embark and disembark from the vessel to the terminal, noticed that the speed of the ferry was faster than usual as it entered the slip. He stayed at his station in the face of the incoming ferry and positioned the transition bridge to align with the main deck, which is also performed for a normal docking. The transition bridge is not fixed, but floats and was designed to absorb some impact. The impact displaced the transition bridge up and out of its saddle. The slip sustained moderate damage.

The pilothouse crew, or bridge team, consisted of four persons: captain, assistant captain, mate, and lookout. The assistant captain was at the helm at the time of the allision, with the captain observing. The two captains split the round trip. The captain operated the vessel from Staten Island to Manhattan, and the assistant captain piloted it from Manhattan to Staten Island. The accident trip was the fourth run of the day for those crewmembers (and for the vessel).

Both the captain and the assistant captain are Coast Guard–licensed first-class pilots for the route. The captain was 27 years old and a 2005 U.S. maritime academy graduate. He had worked for the Staten Island Ferry since graduation and had docked ferries over 1,000 times, the *Andrew J. Barberi* hundreds of times. The assistant captain was 47 years old and a 1982 graduate of a foreign merchant marine academy. He had worked in the U.S. marine industry since 1998 and started with the Staten Island Ferry in 2004 as a deckhand, ultimately progressing to assistant captain in 2008. He had docked the *Andrew J. Barberi* many times.

At the time of the accident, the chief engineer was on duty in the belowdecks engine control room. Conditions were apparently normal, and no alarms sounded before the allision. The chief engineer became aware of a problem when he heard the audible pitch of the engine increase. He looked at the CCTV and saw that the vessel was in the rack and moving too fast in relation to the slip. He instructed the crew in the engine control room to brace for impact.

Postaccident drug and alcohol tests of the crew were negative for alcohol and illegal drugs.

There were 18 crewmembers, 2 New York City police officers, 2 concessionaires, and 244 passengers on the ferry. The CCTV video shows passengers jostled in their seats and some standing passengers falling to the deck during the accident. Forty-eight people reported minor injuries, primarily muscle injuries and pain to the jaw, neck, shoulder, back, hip, knee, or legs. One person also reported a minor head laceration. Some of the injured walked off the vessel, and some were removed by stretcher.

The last Coast Guard inspection of the vessel was its quarterly inspection on April 15, 2010.The vessel is a “double ender,” meaning that it is symmetric about the midpoint with pilothouses at each end (called the Staten Island and New York ends). The named end is the forward or bow of the vessel during transit to the respective dock location. At the time of the accident, the crew was controlling the vessel from the Staten Island-end pilothouse.

The vessel is propelled by cycloidal propulsion units, one mounted at each end of the vessel (two diesel engines are coupled to each propulsion unit). The engines driving the Staten Island-end propulsion unit stopped at the time of or immediately after the allision. The engines were not stopped manually by the crew. The New York-end cycloidal propulsion unit was still operating at 50 to 60 percent ahead thrust after the accident. The vessel’s electrical power and lighting circuits were never interrupted during the accident.

An underwater hull survey by divers indicated that the vessel had no hull damage or damage to either end of its propulsion system. An additional survey by the propulsion system manufacturer, using a remotely operated vehicle (ROV), also found no underwater problems with the propulsion system.

Results of postaccident testing of the Staten Island- and New York-end propulsion systems indicated that the Staten Island-end propulsion unit operated satisfactorily, while the New York-end propulsion unit did not respond properly to commands from the Staten Island-end wheelhouse. Following an assessment of the propulsion control system, investigators replicated the control issue on the New York-end propulsion unit. Certain propulsion control components on the New York-end propulsion unit were identified as possibly defective and replaced (similar components were also replaced on the Staten Island end). After the components were replaced, dockside testing showed the New York-end propulsion unit to be working properly. Investigators sent the removed propulsion control components and oil samples from the New York-end propulsion unit to NTSB headquarters for further analysis.

Following structural and mechanical repairs to the propulsion system, multiple sea trials were conducted under the regulatory oversight (with the NTSB observing the initial trial) of the Coast Guard and the American Bureau of Shipping—a classification society responsible for developing and verifying standards for the design, construction, and maintenance of marine vessels.

Parties to the investigation include the Coast Guard, the New York City Department of Transportation (owner and operator of the Staten Island Ferry), and Voith-Turbo Inc., manufacturer of the propulsion system.

The investigation is ongoing. Investigators plan to conduct additional interviews, analyze electronic data, and examine oil samples and electronic components.

In 2003, the Safety Board investigated a Staten Island Ferry accident involving the *Andrew J. Barberi* that claimed 10 lives. A link to the NTSB's report can be found at http://www.ntsb.gov/publictn/2005/MAR0501.pdf.