



# Marine Safety Unit Pittsburgh Waterways Information December 2021



## Ohio River

**Ninth Street Bridge (90.8):** Rehabilitation and painting. Vertical clearance reduced by 4 inches until Oct. 2022.

**Bellaire Bridge (94.3):** Demolition date to be determined.

## Tygart River

**1-79 Twin Bridges Replacement (2.6):** Pre-application stage.

## Upcoming Committee Events

**Pittsburgh Hydro Committee Conference Call:** January 6, 2021; Microsoft Teams

## Areas of Interest

- 1. Marine Safety Alert: Verify products from Southwest Wire Rope Company – incorrect terminations can lead to catastrophic failure:** The Coast Guard Office of Investigations and Analysis has released [Marine Safety Alert 08-21](#), to notify mariners to a potentially dangerous situation involving incorrect wire rope terminations which can lead to catastrophic failure.

This Safety Alert addresses the importance of verifying the condition, manufacturing, and physical specifications of wire rope that was purchased directly from Southwest Wire Rope (SWWR) or fabricated by SWWR and sold through other vendors.

An ongoing safety investigation following the catastrophic failure of a new wire rope provided by SWWR within a month of being newly installed has revealed several discrepancies in the company's product fabricating procedures and quality management processes (please see [Marine Safety Alert 08-21](#) for Enclosure 1, Oxy Safety Alert 07-01-2021).

The wire rope, which was the subject of the investigation, was found to not match the specifications on the purchase order and receipt provided to the client by SWWR. The subject wire rope was both constructed of the wrong components and with an improperly applied fitting than what the client actually ordered. Additionally, the Coast Guard observed discrepancies in the subject wire rope's improperly applied swaged fittings and the use of the incorrect size of swaged fittings, which resulted in unintentional damage to the wire rope and eventual catastrophic failure of the termination. The Coast Guard is currently unaware of how long this quality control measure has been an issue for the company and, for this reason, is issuing this safety alert.

The Coast Guard **strongly recommends** that owners, manufacturers, operators, and service providers utilizing wire rope purchased from or fabricated by SWWR do the following:



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- Verify the source and manufacturer of all wire rope, and if purchased or fabricated by SWWR, carefully observe the specifications of the rope to ensure it matches the product that was purchased (i.e., construction (number of wires per strand and number of strands) and wire rope lay);
- Visually examine wire rope terminations for abnormalities that may indicate improper installation (Figure 1 shows a crimp with a uniform appearance, while Figure 2 shows out-of-roundness and Figure 3 shows ridges created by over-crimping). These ridges or abnormalities **COULD** be indicative of over-crimping, but any abnormalities need to be verified based on the type of crimp and manufacturing die used in the crimping process (i.e., some manufacturers' dies have chambers for excess material that is then removed and can leave lines that appear similar to ridges);
- Compare fitting dimensions against the manufacturer's specifications/tolerances for the completed fitting (i.e., does the length and diameter fall within fitting manufacturer specifications?);
- Verify that the termination type does not reduce the safe working load of the wire rope below the minimum safety factor for the type of service; and
- If any abnormalities in the wire rope are detected, immediately remove the wire rope from service and make an appropriate replacement.

It should be noted that SWWR fabricated fittings are typically marked with gold paint, but paperwork related to SWWR products should also be verified. If any person is unsure whether their wire rope may be affected or has ongoing concerns about wire rope purchased from Southwest Wire Rope, the Coast Guard recommends reaching out to the company directly, your nearest Coast Guard marine inspector, or the below Coast Guard National Centers of Expertise (NCOE).

**2. Marine Safety Unit Pittsburgh Winter Safety Recommendations:** As we approach what looks to be a colder-than-average winter, MSU Pittsburgh asks that barge and barge fleeting operators are ready. We recommend the following precautions during high water and river ice conditions:

- Ensure all mooring devices, wires, chains, lines, and connecting gear are of sufficient strength and in sufficient number to withstand forces that may be exerted on them by moored barges. This includes not securing barges to trees or vegetation, as well as not using unraveled or frayed lines;
- Barges secured side-by-side and moored end-to-end should be secured to each other from fittings as close to each corner of abutting sides and ends as practicable;
- During high water and river ice conditions, continuous surveillance of fleeting areas is recommended. Additionally, hourly inspections of mooring wire, chain, line, and connecting gear between mooring devices and each wire, line and connecting equipment used to moore a barge is suggested;
- Quality records of the barges currently moored at the fleeting areas, with corresponding cargo, should be maintained in the event of a breakaway.