



UNITED STATES COAST GUARD

U.S. Department of Homeland Security

FINDINGS OF CONCERN

Sector San Francisco

February 20, 2025
San Francisco, CA

Findings of Concern 002-25

UNSAFE LINE HANDLING OPERATIONS

Purpose. The U.S. Coast Guard issues findings of concern to disseminate information related to unsafe conditions that were identified as causal factors in a casualty and could contribute to future incidents. Findings of concern are intended to educate the public, state, or local agencies about the conditions discovered so they may address the findings with an appropriate voluntary action or highlight existing applicable company policies or state/local regulations.

The Incident. A deckhand onboard a ferry experienced a crush injury and subsequent lower leg amputation during an unmooring evolution at the San Francisco Ferry Terminal. The deckhand was standing on the gunwale outboard of the vessel's railing and reached toward a pier-side hook to hang a fixed length mooring line when his leg was caught between the vessel and the pier.

Contributing Factors and Analysis. The investigation identified multiple causal factors related to unsafe line handling operations including use of fixed length mooring lines, cleats positioned outboard of the railing, and the company's failure to adequately identify and assess risk. The fixed mooring line was approximately 3' in length with the bitter end permanently made to a pier-side bit and soft eye used on the vessel's cleat. The soft eye was connected to a small tag line to add length which allowed the line to be hung from a pier side affixed hook during departure. This was designed to speed up the mooring and unmooring process and eliminate the need for pier-side or vessel crew to manually tend the line. However, to hang the line on the hook, crewmembers were forced to position themselves on a 9-12" wide gunwale outboard of the railing. To maintain footing, they stood sideways and held the vessel railing with one hand and the line with the other to reach the hook while simultaneously avoiding falling overboard. The company failed to adequately identify, assess, and mitigate the risk of line handling outboard of the railing with a fixed length line, an inherently unsafe practice with the potential for man overboard or critical injury/death outcomes.



The line was pre-made to a bit on the pier and of a fixed length. Crew removed the eye and hung it on a pier-side hook for ease of access.



Crew stood sideways on this outboard gunwale to handle the aft spring line. The cleat was hard to access and outboard of the railing. The hook used is also pictured.



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Findings of Concern. Coast Guard investigators have identified the following voluntary actions for owners & operators of similar vessels to consider to reduce the likelihood of recurrence:

- Review current company or vessel safety procedures and Safety Management System (SMS) documentation, related to line handling operations, if applicable. Ensure procedures adequately assess and identify the safety risks associated with line handling, including, but not limited to mooring line arrangements, basic line handling safety, and instances where crewmembers may be positioned outboard of the vessel's railing due to the location of cleats, bits, or similar apparatuses. If high risk activities are identified, implement safety measures and risk mitigation measures.
- Avoid use of fixed length or pre-made mooring lines (those that are secured to the vessel or pier/terminal at pre-determined lengths and are not tended by crewmembers during mooring evolutions). Although use of fixed lines may expedite mooring evolutions, particularly for onboard ferries and other vessels that frequently run the same route, they inherently introduce additional risks. The utilization of spring-loaded lines or employing additional line handlers, when possible, may limit risk to personnel.

Closing. These findings of concern are provided for informational purpose only and do not relieve any domestic or international safety, operational, or material requirements. For any questions or comments please contact Sector San Francisco Investigations Division by phone at (510)-813-9636 or by email at SFINV@uscg.mil.