



FINDINGS OF CONCERN

Sector Mobile

April 19, 2023
Mobile, Alabama

Findings of Concern 012-23

REMOTE BRIDGE TENDER 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 findings with an appropriate voluntary action or highlight existing applicable company policies or state/local regulations.

The Incident. Recently, an inspected towing vessel (ITV) and its 7-barge tow allided with a remotely operated railroad bridge. The bridge tender/operator was not physically located at the bridge, but rather at another location equipped with monitoring and control equipment including a satellite video link of the bridge. The freeboard of the ITV's tow varied among the barges.

On approach to the bridge, the ITV made arrangements with the bridge tender via VHF radio. The tender remotely opened the bridge and the ITV proceeded to navigate through the fully opened bridge. The tender then lost video feed of the ITV approaching the bridge while simultaneously noticing an approaching train via the bridge control console. The train received the correct signals for an open bridge and therefore began to slow and stop. Meanwhile, the lead barge had already tripped the first and second set of vessel sensors on the bridge.

When the subsequent barges with lower freeboard began passing through, the first set of sensors became clear and indicated no vessel; however, the second set of sensors still indicated the higher-freeboard lead barge was passing. Despite seeing that some of the bridge's vessel sensors were still tripped to indicate the presence of a vessel under the bridge, the tender decided to manually override the bridge's safety sensors and close the bridge while the ITV was passing through. The bridge closed on the ITV resulting in damage to the ITV and its barges to break free.

Contributing Factors and Analysis. The investigation identified poor judgement and lack of situational awareness and communication on the part of the tender controlling the railroad bridge. The tender saw the approaching train and then manually began closing the bridge without verifying the absence of vessel traffic under the bridge and without communicating the bridge closure to the ITV. During the closing of the bridge, the tender did not have the bridge video feed available and the first set of bridge sensors were not activated due to the low freeboard of the barges behind the lead barge.

Findings of Concern. Coast Guard investigators have identified the following measures to mitigate the risks associated with the above identified contributing factors.



UNITED STATES COAST GUARD
U.S. Department of Homeland Security

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- Owners/operators of remotely operated bridges should require that all video feeds, if so equipped, be fully functional and that bridge tenders must not operate the bridge in the event of an outage of a video feed.
- Owners/operators of remotely operated bridges should consider installing Automatic Identification System (AIS) functionality to remotely operated bridge work sites for increased situational awareness. If the bridge is in a remote area of the country where is no reception, consider installing an AIS receiver on the bridge. Additionally, training on the use of AIS should be provided to bridge tenders.
- Owners/operators of remotely operated bridges should consider providing training and awareness to bridge tenders of remotely operated bridges regarding the height of bridge sensors and that certain vessels, such as a loaded barge, may be lower than the sensor.

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 Mobile Investigations Division by phone at (251) 441-5763 or by email at secmobile-investigations@uscg.mil.