

FROM: Frank Wilson, DSO-NS

DATE: October 21, 2011

TO: All NS Staff Officers

SUBJECT: Additional Guidance Regarding Bridges

The Eighth District Bridge Branch has provided clarification regarding several issues. In this communication, *bridge* means bridge over waters used by commercial navigation unless otherwise stated.

One issue was how an Aid Verifier knows whether or not the absence of one or more fenders is a discrepancy or not. Common sense, historical knowledge, and observation for evidence of previously-present fenders should be used. Fenders are structures intended to protect bridges from damage from vessels striking them; they are almost always designed to protect only piers that are adjacent to navigation spans. Some bridges have no fenders because they are designed to be strong enough to withstand allisions, e.g. newer interstate highway bridges. Some bridges have none because the piers are so far from the channel that they are not needed, e.g., a pipeline bridge on the Arkansas River that has 1,700 feet of horizontal clearance. Sometimes a bridge lacks a fender where one would otherwise be required because the pier is so close to the bank that the bank and/or shallow water protects it.

There are two types of fenders. Protection cells are cylindrical structures made of steel sheet pile that is driven into the bottom that are filled with dirt, gravel, concrete, or something similar. It is safe to assume that where there is no protection cell, there never was one, and there is not supposed to be one. However, they can be damaged, and damage that compromises structural integrity or presents a danger to vessels should be reported.

Wood structures are also used as fenders. They are much more easily damaged or destroyed than protection cells. If they are destroyed, there will usually be some visible evidence that they were previously present, such as remnants of the structure itself or remnants of fasteners. In addition, people who have observed the area over years will remember that they were present in the past.

The standard placement of retroreflective material on bridges is one red reflector wherever there is a red light. The reflectors are six inches square on older bridges, but are two feet square on new bridges. As with all bridge signals, requirements for an individual bridge can be different from the standard, and larger reflectors or additional reflectors are required on some bridges.

All fixed bridges should have two clearance gauges, one upstream and one downstream. Drawbridges may or may not have gauges. Each gauge should be on the approaching mariner's right, i.e., the upstream gauge should be on the right descending bank, and the downstream gauge should be on the left descending bank. All gauges should be legible.

A bridge's permit may require either more or less than the standard requirements. As a general rule, aid verifiers should assume that a bridge is required to display standard signals unless they know otherwise. They should assume that any bridge that has light fixtures is required to be lighted, even if it is over waters not normally used for commercial navigation. Questions about particular bridges should be sent to me via the Navigation Services chain, and I will forward them to the Bridge Branch. When an aid verifier is in doubt about whether something that is observed represents a discrepancy or a permitted variation from the standard signal, it should be reported as a discrepancy. When permitted variations are mistakenly reported as discrepancies, the Bridge Branch will give us feedback so that we do not continue to report them. **All information that we receive from the Bridge Branch regarding permitted variations from standard signals for bridges in their AORs should be permanently preserved by FSO-NSs and SO-NSs and passed on to their successors, and should be made available to all aid verifiers who may check those bridges.**