Assignment: At the September 2019 meeting in Columbus, OH, the Committee members present voted to submit the following for letter ballot:

Insert new Commentary 9.6.5.37.4.9, 9.6.5.37.5.6, 9.6.5.37.6.4, and 9.6.5.37.6.5

Rationale: The proposed commentary was found to be necessary to address the recent updates and reaffirmations of the hydraulic portions of part 6.

Submitted by: Lee Lentz, Chair SC 4 Movable Bridges

Due Date: January 31, 2020

Insert new Paragraphs 9.6.5.37.4.9, 9.6.5.37.5.6, 9.6.5.37.6.4, and 9.6.5.37.6.5 as shown (additions shown as underlined bold red, deletions shown as bold red strikethrough, comments [ ] not part of final text):

6.5.37.5 Hydraulic System Controls (2018)\(^1\)

\(^1\) See Part 9, Commentary

6.5.37.6 Hydraulic Power Units and Systems (2018)\(^1\)

\(^1\) See Part 9, Commentary

9.6.5.37.4 Safety (20152021)

9.6.5.37.4.7 Counterbalancing

Counterbalance valves are…

9.6.5.37.4.9 Flexible Hose Failure

The length of flexible hose should be designed and installed to the minimum practical. It is important to note that a failed flexible hose could strike personnel.

[continued]
9.6.5.37.5 Hydraulic System Controls (2021)

9.6.5.37.5.6 Synchronization of Actuators

Cylinder geometry and flow dividing device operational characteristics often do not have the tolerances required to move different cylinders accurately at varying pressures. This is especially a concern for long cylinder strokes, or where multiple cylinders are attached to a rigid structure. Alternate forms of position control are usually required.

9.6.5.37.6 Hydraulic Power Units and Systems (2021)

9.6.5.37.6.4 Fluid Reservoirs

In previous versions of the Manual, fluid reservoirs were specified to be welded steel, non-galvanized, and coated with a vapor rust inhibitor. This treatment was not effective, and corrosion and degradation resulted in damage to pumps and valves. Stainless steel is recommended to obtain the lifetime required of movable bridge machinery.

9.6.5.37.6.5 Electric Motors

Where the flow rate, and therefore span speed, is varied by variable pump displacement or by flow control valves, the motor control should be as simple as possible. A single speed motor with across the line start should be used whenever high inrush currents are not a concern. Alternately, a fixed displacement pump with a solid-state variable speed drive for control of an AC or DC electric motor may be specified.