Legislation Review

Bill: SB 1510 (LC0257)

Re: Interstate Bridge Near Hood River

Date Reviewed: 25 JAN 2016

By: Eric Burnette
Executive Director
Oregon Board of Maritime Pilots

Recommend: **Support**

Comment:

The Interstate Bridge near Hood River crosses over waters of the Columbia River which are designated vessel pilotage grounds of the State of Oregon. (ORS 776.025(2)) As such the Oregon Board of Maritime Pilots has a direct interest in supporting measures which would the preserve or improve safe navigation on its pilotage grounds.

I am aware that the particular reach of the Columbia River in the immediate vicinity of the Interstate Bridge at Hood River is experiencing a set of significant and unusual long term challenges to navigational safety. Specifically:

1. **The White Salmon River Delta:** Approximately 1.6 miles downriver of the Hood River Bridge a sedimentary delta has protruded southwards into the Columbia River from the White Salmon River. This delta has formed as a result of the intentional breaching of the White Salmon River's Condit Dam, on October 26, 2011, several miles upstream of the Columbia. USGS estimates hold that 70% to 90% of the 1.7M cubic meters of sediment trapped behind the dam will eventually be mobilized by the dam breaching. This sediment is continuing to flow into the Columbia where it is creating a shallow delta that impinges on the designated Columbia River Navigation Channel from the north.

2. **The Hood River Delta:** Located approximately 0.6 miles downriver of the Hood River Bridge is a second sedimentary delta, this one protruding northwards from the mouth of the Hood River. On November 7th, 2006, a glacial outburst event occurred on the slopes of Mt. Hood that increased the surface area of the Hood River delta by 70 to 75 acres in the course of 5-6 hours. It is estimated that 0.8M cubic yards of material were transported over 25 miles downstream during those hours. This alluvial fan now impinges on the Columbia River Navigation Channel from the South.

3. **The Hood River Bridge:** A 2003 study prepared for the Southwest Washington Regional Transportation Council states that the structure was originally built in 1924 as a fixed span bridge. In 1937 a lift span was added nearer the WA shore

to accommodate vessels floating in the higher pool behind the newly built Bonneville Dam. The horizontal clearance of the lift span is 246 feet, which is less than the 300' wide navigation channel. The vertical clearance of the lift span is 148' when raised, and 67' when lowered. (This varies slightly with the water level behind the Bonneville Dam.) The 2003 study went on to address the safety issues then associated with the bridge:

> "Barge configurations currently experience problems with the existing SR-35 Bridge and navigation channel. The navigation channel and bridge opening are not lined up with the westerly winds, forcing barges to tack through the bridge. The westerly winds in the area of the bridge blow at an angle from the Oregon bank to the center of the bridge's lift span. To compensate for the westerlies blowing empty barges sideways, the barges set a course at an angle to the Oregon bank and tack to the navigation channel at the bridge. Compounding the problem is the bridge opening, at 246 feet wide, being narrower than the navigation channel (300 feet). Over the past seven years, the Port of Hood River recalled two or three barges that have scraped through the bridge opening but not caused any significant damage." (p.6)

(Please note that this hazard assessment predates the emergence of both the White Salmon River Delta and the Hood River Delta.)

Bear in mind that a typical Columbia River tug/barge configuration is:

- 4 barges (two wide x two long) all pushed by a tug or "towboat"
- About 550' long in total (a Panamax ship is about 760'long)
- It draws over 13' of water
- The displacement of the cargo and barges is about 19,000 tons
- The tugs are typically between 3,000 and 4,500 horsepower
- The combined speed is between 5 to 8 knots (or 5.8 to 9.2 mph)

When configured as a unit, these 4 barges and one towboat form a large vessel that by is, by itself, slightly over 1/10 of a mile long. It requires precise and skillful navigation.

The practical impacts of these combined factors on navigational safety are significant. A tug/barge headed upriver will typically favor the south side of the channel as it passes the While Salmon River Delta, and then quickly shift to the north side of the channel to avoid the Hood River Delta. Once clear of the Hood River Delta it must then immediately get into position to pass under the lift span of the Hood River Bridge.

A down-bound vessel faces a different set of challenges. Lacking the obstacles found on the downstream side of the Hood River Bridge, a tug/barge approaching from upstream will have more time and room to get into proper alignment to pass under the Hood River Interstate bridge. However, once under the bridge that tug/barge must negotiate both the Hood River and then the While Salmon River Deltas with the current coming from behind. This following current only accelerates the vessel's speed over the

bottom and reduces the time available to make the necessary course corrections as it passes both deltas.

And, of course, any windy summer day will bring hundreds of sailboards and kite boards onto the Columbia near Hood River, each one a compounding navigational hazard unto itself.

My understanding is that this bill is triggered, at least in part, because a tug operator appears to have had a significant collision with the bridge in the past few weeks. Moreover, that collision may have significantly diminished the remaining lifespan of this 1924 bridge.

If the net effect of the bill is to better position the Hood River Bridge for eventual replacement with a more modern and safer span, especially one that has a larger aperture for vessel passage and is better aligned with the navigation channel, that can only be seen an improvement to navigational safety on Oregon's Pilotage Grounds.

For those reasons we would support it.

Respectfully submitted.

Eric Burnette
Executive Director
Oregon Board of Maritime Pilots
State Office Building, Suite 507
800 NE Oregon Street
Portland, OR 97232

eric.burnette@state.or.us
971 . 673 . 1532 o
503 . 580 . 1940 m

END

(The Legislation as reviewed.)

https://www.oregonlegislature.gov/2016LCs/LC-0257.pdf