

## Combined Meeting

### Puget Sound Harbor Safety Committee and Puget Sound Partnership Oil Spill Work Group

## Vessel Traffic Risk Assessment (VTRA)

### Steering Committee

### Notes and Decisions

June 5, 2013 – 1:00-3:30pm

**In attendance:** Todd Hass (Puget Sound Partnership), John Veentjer (Marine Exchange), Rene van Dorp (GWU), Jason Merrick (VCU), Bob McFarland (USCG, note: many from USCG were attending a memorial service), Del Mackenzie (Puget Sound Pilots), Chad Bowe chop (Makah Tribe), Fred Felleman (Wave Consulting), Chip Boothe, Norm Davis and Jon Neel (Ecology), Mike Moore (Pacific Merchant Shipping Association), John Robinson (Cardno-Entrix), Frank Holmes (Western States Petroleum Association), Mike Doherty (Clallam County), Daryl Williams (Tulalip Tribe), Andreas Udbye (Portland State U), JD Ross Leahy (UW-SMEA),

Much of the discussion focused on near-final decisions on vessel traffic and oil carriage, some discussion also focused on “what if” scenarios related to risk mitigation measures.

- I. Rene van Dorp presented updated results to the Puget Sound Harbor Safety Committee meeting in the morning (posted on his website). The central theme of the presentation was to illustrate the taxonomy of 2010 vessel traffic. The presentation demonstrated why it has been challenging to expand the VTRA Focus Vessels classes to include some vessels that have been inconsistently classified by vessel traffic databases in the past (e.g., chemical carriers, deckship, cargo, etc.). Focus vessels now represent about 25% of the traffic in the waterway system when measured by time of exposure. This completes Step 1 of 14 in VTRA process as outlined in Rene’s presentation.

In a nutshell, shifting the study methodology from one focused on representative vessel routes modeled in the BP study for the year 2005, to actual routes in the present VTRA study for the year 2010 has increased the complexity of data input and modeling. The SC agreed that the benefits of more accurate modeling outweigh any challenges presented by the more complex analysis requiring different assumptions.

- II. “What if” scenarios discussed included:
  - a. Gateway Terminal – possibility of modeling ship movements such that: if Rosario Strait is “full” and a bulk ship will be delayed for more than a specific time period, then the ship would be routed through Haro Strait and Boundary Pass.
  - b. Bunkering Routes – ECA sulfur oxide standards will change bunkering routes to an unknown degree, and this will not be modeled.
  - c. Laden Vessel Assumption – The study will model outflow and will provide information on percentage of increased relative risk not absolute risk.
  - d. East Point in Boundary Pass – The potential worst case spill could be an inbound laden tanker bound for Cherry Point engaged in a mishap with an outbound laden tanker from Vancouver, BC at East Point in Boundary Pass.
  - e. Scheduling Vessel Arrivals & Departures – Mike Moore explained challenges in the Port of LA/LB in California where longshore shift hours create high traffic volumes as ships arrive before a shift and tend to depart at the end of a shift thereby increasing traffic volume

during two periods of time each day during the morning pre-shift hours and end of shift hours in the afternoon. Our system here is more spread out, but the concept of having the VTRA evaluate peaks and scheduling realities received a positive discussion.

- III. *SC<sup>1</sup> Decision 1: Assume tank vessels are 100% full for the simulation.* Despite much discussion on alternatives to achieve a more realistic 50:50 split (in other words, half vessels arrive full, half empty), the model cannot easily accommodate such a designation because it is derived from thousands of original route segments in 2010. This is a consequence of early SC decision to not use simplified “representative” routes. SC agrees that this bounding of the highest risk (100% full) is conservative and is therefore a valid assumption that must be fully explained when reporting on “oil outflow” results in the final project and other reports. As tug/barge operators were not in attendance during the meeting, Frank Holmes cautioned that we need to consult with AWO (Mark Homeyer) on this decision.
- IV. *SC Decision 2: Use an estimate of 60 British Columbia barge bunker transits from the Phillips 66 Ferndale refinery (shortest route) to Vancouver, Canada.*
- V. *SC Decision 3: Assume Gateway bunkers are transported from Seattle.*
- VI. Jason Merrick gave a presentation on the vessel traffic simulation. *SC guidance/ reminder to Jason: “Turn off” escort tug beyond Port Angeles with tankers for WA (Dungeness Spit) and BC (Victoria pilot station).*
- VII. *SC Decision 4: To improve model accuracy, outbound Kinder Morgan (TMEP) tank vessels should be simulated to have escorts because they are laden.* Unlike in Decision 1, directional and laden/unladen considerations are possible for “What If” simulations because routes/patterns derived from subset of clean original routes and route segments. However, there was a concern expressed about the need for consistent assumptions in the model. It could open study to criticism if assumptions are inconsistently applied.
- VIII. *SC/PSP Discussion and Pending Decision: SC discussed the merits of emphasizing analyses and mitigation measures to reduce accident/interaction frequencies, rather than “oil outflow” per se. Hass will review this issue with respect to VTRA Contract/Scope of Work between Puget Sound Partnership and GWU. PSP agrees in principal with SC guidance that incident/accident/spill avoidance by any focus vessels should be a primary goal in the waterway and therefore the primary focus of the study; however, in the BP Cherry Point study, the oil outflow analysis (for tank vessels only) revealed key types of accidents to avoid were powered groundings and collisions, as drift groundings and allisions did not lead to comparably high outflows – in other words, all accidents/incidents should not necessarily be considered equal in terms of environmental and economic impact.*

Therefore, while the primary focus of the study should be on incidents and accidents, some analysis of oil outflow should be completed as consequence is a key factor in risk calculation and could also influence appropriate selection of cost-effective mitigation strategies to reduce such risk. Note: Jason Merrick reported that the physical granularity of the study used a grid cell of 0.5 mile by 0.5 for calculating the presence and time of a vessel in a specific area of the waterway.

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<sup>1</sup> SC = VTRA Steering Committee composed of members from the Puget Sound Harbor Safety Committee and Puget Sound Partnership Oil Spill Work Group