

Vancouver Energy  
Operations Facility Oil Spill Contingency Plan  
ADDITIONAL INFORMATION

EFSEC Application for Site Certification No. 2013-01

Docket No. EF131590

5 November 2015



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***Attachment***  
*Applicant's 5 November 2015 Request for Planning Spreadsheet  
and Confirmation that Cardno Entrix is not Engaged to Provide  
Consulting Services Relative to Spill Response Activities*



5 November 2015

Mr. Stephen Posner  
Energy Facility Site Evaluation Council  
Washington Utilities and Transportation Commission  
P.O. Box 43172  
Olympia, WA 98504-3172

Subject: Vancouver Energy  
EFSEC Application No. 2013-01, Docket No. EF131590  
Additional Information in Support of Request for Planning Standard Spreadsheet

Dear Mr. Posner:

On behalf of Tesoro Savage Petroleum Terminal LLC (the Applicant), BergerABAM is providing information to the Energy Facility Site Evaluation Council (EFSEC) in order for EFSEC's Washington State Department of Ecology (Ecology) contractor to prepare a facility-specific planning standard spreadsheet. In January 2015, EFSEC indicated this information was required for EFSEC to prepare a planning standard spreadsheet for the Applicant to include in its Oil Spill Contingency Plan<sup>1</sup>. Following the submittal of the revised plan on 26 June 2015, the Applicant is providing this information to obtain the necessary spreadsheet from Ecology for inclusion in the Oil Spill Contingency Plan.

Upon receipt of the planning spreadsheet, the Applicant will be able to update and complete the Vancouver Energy Oil Spill Contingency Plan.

Further, as indicated in item 5 of the table below, the Applicant confirms that Cardno Entrix will not be engaged to provide consulting services relative to spill response activities. The Applicant has not entered into a contract with a similar firm at this time, however commits to doing so prior to beginning of crude oil transfer at the Area 400 Terminal.

Please feel free to contact me at 206/431-2373, or [irina.makarow@abam.com](mailto:irina.makarow@abam.com), if you have any questions about this submittal. We look forward to further coordination with you, your staff, and EFSEC's consultants.

Sincerely,



Irina Makarow  
Senior Environmental Project Manager

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<sup>1</sup> E-mail correspondence between Sonia Bumpus, EFSEC, and Irina Makarow, BergerABAM, Re: Information request Re: Oil Spill Contingency Plan Review, 22 January 2015.



Mr. Stephen Posner  
5 November 2015  
Page 2

IM:nb  
Attachment

cc: Kelly Flint, Savage Companies  
Jay Derr, Van Ness Feldman

Response to EFSEC Information Request for Oil Spill Contingency Plan Review

Information Request Item	Applicant Response																																													
<p>1. Confirmation of the Worst Case Spill Volume. The worst case spill volume per WAC 173-182 is defined as the facilities largest tank. Per the application Tank 0300-TK-001 is the largest tank and is defined to be 360,000 bbls. Please have the applicant confirm this is the volume of the largest tank.</p>	<p>As per Section 1.1 of the Oil Spill Contingency Plan (submitted to EFSEC on 26 June 2015), the Facility has a possible worst-case discharge volume per WAC 173-182 of 380,000 barrels of crude oil from Tank 0300-TK-001.</p>																																													
<p>2. A detailed list of all (plan holder owned) equipment in spreadsheet format that is available now or will be purchased and staged at the facility to support oil spill response for this facility.</p>	<table border="1"> <thead> <tr> <th data-bbox="653 472 1213 516">Item</th> <th data-bbox="1213 472 1430 516">Access Time</th> <th data-bbox="1430 472 1671 516">Location</th> </tr> </thead> <tbody> <tr> <td data-bbox="653 516 1213 560">1,600' of 18" Fence Boom</td> <td data-bbox="1213 516 1430 560">Immediate</td> <td data-bbox="1430 516 1671 560">VE Dock</td> </tr> <tr> <td data-bbox="653 560 1213 604">1,000' 12" x 6" Containment Boom w/36" Floats</td> <td data-bbox="1213 560 1430 604">Immediate</td> <td data-bbox="1430 560 1671 604">VE Dock</td> </tr> <tr> <td data-bbox="653 604 1213 647">2,000' 12" x 6" Containment Boom w/72" Floats</td> <td data-bbox="1213 604 1430 647">Immediate</td> <td data-bbox="1430 604 1671 647">VE Dock</td> </tr> <tr> <td data-bbox="653 647 1213 691">1 - 20' ISO Storage Container</td> <td data-bbox="1213 647 1430 691">Immediate</td> <td data-bbox="1430 647 1671 691">VE Dock</td> </tr> <tr> <td data-bbox="653 691 1213 735">3 - 12' x 30' Chafing Cloth</td> <td data-bbox="1213 691 1430 735">Immediate</td> <td data-bbox="1430 691 1671 735">VE Dock</td> </tr> <tr> <td data-bbox="653 735 1213 802">2 - NOFI "Current Buster 2" High Speed Recovery System</td> <td data-bbox="1213 735 1430 802">Immediate</td> <td data-bbox="1430 735 1671 802">VE Dock</td> </tr> <tr> <td data-bbox="653 802 1213 846">2 - Containerized Hydraulic Reels</td> <td data-bbox="1213 802 1430 846">Immediate</td> <td data-bbox="1430 802 1671 846">VE Dock</td> </tr> <tr> <td data-bbox="653 846 1213 889">2 - 10-horse power Hydraulic Power Packs</td> <td data-bbox="1213 846 1430 889">Immediate</td> <td data-bbox="1430 846 1671 889">VE Dock</td> </tr> <tr> <td data-bbox="653 889 1213 933">4 - High-Capacity Backpack Blowers</td> <td data-bbox="1213 889 1430 933">Immediate</td> <td data-bbox="1430 889 1671 933">VE Dock</td> </tr> <tr> <td data-bbox="653 933 1213 977">2 - C-Disk 13/30 Coated Disc Skimmer Systems</td> <td data-bbox="1213 933 1430 977">Immediate</td> <td data-bbox="1430 933 1671 977">VE Dock</td> </tr> <tr> <td data-bbox="653 977 1213 1021">2 - 10,000-lb Flatbed Trailer w/Ramps</td> <td data-bbox="1213 977 1430 1021">Immediate</td> <td data-bbox="1430 977 1671 1021">VE Dock</td> </tr> <tr> <td data-bbox="653 1021 1213 1081">1 - 18' Response Boat</td> <td data-bbox="1213 1021 1430 1081">Within 15 minutes</td> <td data-bbox="1430 1021 1671 1081">Tesoro Terminal Dock</td> </tr> <tr> <td data-bbox="653 1081 1213 1141">2,800' of 20" Harbor Boom</td> <td data-bbox="1213 1081 1430 1141">Within 15 minutes</td> <td data-bbox="1430 1081 1671 1141">Tesoro Terminal Dock</td> </tr> <tr> <td data-bbox="653 1141 1213 1201">8" x 12" Kepner Sea Boom</td> <td data-bbox="1213 1141 1430 1201">Within 15 minutes</td> <td data-bbox="1430 1141 1671 1201">Tesoro Terminal Dock</td> </tr> </tbody> </table>	Item	Access Time	Location	1,600' of 18" Fence Boom	Immediate	VE Dock	1,000' 12" x 6" Containment Boom w/36" Floats	Immediate	VE Dock	2,000' 12" x 6" Containment Boom w/72" Floats	Immediate	VE Dock	1 - 20' ISO Storage Container	Immediate	VE Dock	3 - 12' x 30' Chafing Cloth	Immediate	VE Dock	2 - NOFI "Current Buster 2" High Speed Recovery System	Immediate	VE Dock	2 - Containerized Hydraulic Reels	Immediate	VE Dock	2 - 10-horse power Hydraulic Power Packs	Immediate	VE Dock	4 - High-Capacity Backpack Blowers	Immediate	VE Dock	2 - C-Disk 13/30 Coated Disc Skimmer Systems	Immediate	VE Dock	2 - 10,000-lb Flatbed Trailer w/Ramps	Immediate	VE Dock	1 - 18' Response Boat	Within 15 minutes	Tesoro Terminal Dock	2,800' of 20" Harbor Boom	Within 15 minutes	Tesoro Terminal Dock	8" x 12" Kepner Sea Boom	Within 15 minutes	Tesoro Terminal Dock
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<p>3. A list of all primary response contractors, which will be under contract, to provide personnel and response resources to meet the planning standards. Per the application Clean Rivers Cooperative (CRC) and Marine Spill Response Corporation (MSRC) will be the contracted to meet the planning standards for oil spill response. Please</p>	<p>A letter indicating the commitment of MSRC's resources to the Facility is included in the June 2015 Oil Spill Contingency Plan as Appendix B, Figure B.2 (see page B-4). Following approval of the Agreement for Site Certification, the Applicant will enter into contractual agreements with CRC and MSRC; such contracts will be added to Figure B.2.</p>																																													

<p>confirm these contractors would be under contract to meet the planning standards.</p>																																					
<p>4. A list of all petroleum products that will be handled at the facility. Please include all types of crude oil that potentially could be handled. Will there be any oils that could be classified as a Group 5 oil. Group 5 oils require additional response capability. Will the facility handle products in addition to crude oil?</p>	<p>Only crude oil will be transloaded at the Facility, i.e. unloaded from rail cars, stored and loaded to vessels. The Facility will not handle Group 5 oils as defined in WAC 173-182-030 (42). The Facility will only handle crude oil with an API of 15 to 45 (see Attachment 1). Therefore, the Facility will not handle Group 5 oil as defined in WAC 173-182-030(42)(a)(iv).</p> <p>The Facility will not transload refined petroleum products.</p> <p>Three double-walled 500-gallon diesel tanks will be used at the Facility to store ultra-low sulfur diesel for powering emergency fire water pumps.</p>																																				
<p>5. Information about any mutual aid agreements or letters of intent that will be held to support oil spill response. Facilities in the area typically have mutual aid agreements for use of oil spill response equipment and storage capability. The current Tesoro Facility has an agreement with Nu Star and Global Diving for additional response capability. Will this new facility have any agreements?</p>	<p>As indicated in Figure 3.3 of the Oil Spill Contingency Plan, Sections F. Response Contractors, and G. Mutual Aid, the Facility will engage Global Diving as a response contractor and will enter into a mutual aid agreement with Nustar.</p> <p>Further, the Applicant confirms that Cardno Entrix will not be engaged to provide consulting services relative to spill response activities. The Applicant has not entered into a contract with a similar firm at this time, however commits to doing so prior to beginning of crude oil transfer at the Area 400 Terminal.</p> <p>Figure 3.3. Notification Summary and Documentation Form (continued)</p> <table border="1" data-bbox="669 841 1902 1401"> <thead> <tr> <th>AFFILIATION</th> <th>PHONE NUMBER</th> <th>NAME OF PERSON CONTACTED</th> <th>TIME CONTACTED</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;"><b>F. RESPONSE CONTRACTORS</b></td> </tr> <tr> <td>Marine Spill Response Corporation</td> <td>1-800-645-7745 (360) 417-9287 (Office) (206) 799-1621 (Cell)</td> <td></td> <td></td> </tr> <tr> <td>Clean Rivers Cooperative</td> <td>(503) 220-2040*</td> <td></td> <td></td> </tr> <tr> <td>TBD Environmental Consultants</td> <td>TBD</td> <td></td> <td></td> </tr> <tr> <td>Global Diving and Salvage Inc.</td> <td>(206) 623-0621* 1-800-441-3483</td> <td></td> <td></td> </tr> <tr> <td>NRC</td> <td>(800) 337-7455</td> <td></td> <td></td> </tr> <tr> <td>Harder Mechanical</td> <td>(503) 281-1112</td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;"><b>G. MUTUAL AID</b></td> </tr> </tbody> </table>	AFFILIATION	PHONE NUMBER	NAME OF PERSON CONTACTED	TIME CONTACTED	<b>F. RESPONSE CONTRACTORS</b>				Marine Spill Response Corporation	1-800-645-7745 (360) 417-9287 (Office) (206) 799-1621 (Cell)			Clean Rivers Cooperative	(503) 220-2040*			TBD Environmental Consultants	TBD			Global Diving and Salvage Inc.	(206) 623-0621* 1-800-441-3483			NRC	(800) 337-7455			Harder Mechanical	(503) 281-1112			<b>G. MUTUAL AID</b>			
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Response to EFSEC Information Request for Oil Spill Contingency Plan Review

	Nustar	(360) 694-8591 (360) 772-5031 (Cell) (360) 567-8871 (Cell)		
<p>6. A description of the location and volume of facility shoreside storage locations and the process by which recovered oil water can be transported to those shoreside storage tanks. Facility plan holders typically request shore side storage credit under WAC 173-182-355. This allows for a lesser amount of required storage under the planning standards at specific hour marks. Without the credit there could be potential storage deficits when the spreadsheets are calculated. In order to obtain the credit the company must provide a commitment to provide tankage for shoreside storage in the event of an oil spill. They must also describe how recovered oil is able to be recovered, transported and offloaded to shore side storage including storage devices, vessels and equipment necessary to conduct the operation.</p>	<p>The Facility/Company will seek to supplement storage capacity (if necessary) with available oil barges, tank trucks, railcars, and tankage at the Facility. Oil barges are frequently the most readily available asset for storage of recovered liquids. NRCES has access to five 10,000- to 12,000-barrel oil barges routinely in service on the Columbia River. Facility/Company will seek these and any other barges that may be available at the time of the spill to contain recovered liquids. Recovered oil and water will be hauled/transported to the Facility for storage or to the liquid oil recycling facilities identified in the Northwest ACP for separation and recycling. Excluding the largest tank volume, the Facility has a storage capacity of 1,850,000 barrels. Recovered oil will be pump transferred to/from barges, tank trucks, railcars, and tankage.</p>			
<p>Vessel Coverage and Planning Standard Spreadsheets:</p> <p>Vessels calling at the Terminal are required to be covered by an oil spill contingency plan required under WAC 173-182. Oil spill contingency plan coverage for vessels is typically provided by Maritime Fire and Safety Association (MFSA). MFSA's worst case spill coverage for vessels transiting on the Columbia River is currently 300,000 barrels.</p> <p>The worst case spill potential for the vessels calling at the terminal potentially have a worst case spill volume (cargo and fuel capacity) that is significantly larger (up to 600,000 barrels) than the 300,000 barrels currently provided by MFSA. If the vessels calling at the terminal have a worst case spill volume larger than 300,000 barrels MFSA will be required to</p>	<p>To clarify, Vancouver Energy's Application for Site Certification requests approval for a variety of vessels to call for loading. See Attachment 2. However, as stated in the attachment:</p> <p>"Finally, the Applicant acknowledges that the presently approved planning standard for the Lower Columbia River will limit the maximum volume of crude oil that can be loaded for a single shipment to approximately 300,000 bbl<sup>9</sup>. A vessel with a holding capacity greater than the standard would only be loaded to the planning standard....</p> <p><sup>9</sup> The planning standard counts both vessel fuel and cargo towards the 300,000 bbl limit."</p> <p>The Applicant further acknowledged that at some time in the future Ecology may receive a request to increase the planning standard. The Applicant does not have the authority to make such a request because the Applicant is not responsible for transit of the laden vessels once they have departed the Terminal.</p>			

update their oil spill contingency plan which will require new spreadsheets to be prepared. A larger volume may demonstrate that additional response equipment is needed to meet the applicable standards.

Additionally, Washington State's current oil spill contingency planning standards in WAC 173-182-415 (Cathlamet) , 420 (Vancouver Planning Standard, and 450 (Washington Coast Planning Standard) were developed with the understanding that tank vessels transiting the Columbia River would not carry persistent oils such as crude oil at the volumes identified for the proposal. Additional standards may be developed in the near future to ensure appropriate oil spill response protection is in place for this type of petroleum.

IM:nb

Attachments

5 November 2015

**Attachment 1**



February 5, 2015

Stephen Posner, Manager  
Sonia Bumpus, EFS Specialist  
Energy Facility Site Evaluation Council  
Utilities & Transportation Commission  
P.O. Box 43172  
Olympia, Washington 98504-3172

Re: Tesoro Savage Vancouver Energy Distribution Terminal  
Application No. 2013-01 | Docket No. EF131590  
Request for Additional Information to Assess EIS Alternatives

Dear Stephen and Sonia:

You have asked the Applicant to provide additional clarification regarding the project objectives and additional information regarding the distribution terminal facility (Facility) design to assist the Energy Facility Site Evaluation Council (EFSEC) and its Environmental Impact Statement (EIS) consultant team in its evaluation of possible alternatives for the DEIS. This letter responds to those questions. If, after your review of these responses, you or your EIS team requires additional information or clarification, we encourage EFSEC to schedule a peer-to-peer discussion with EIS consultants, EFSEC EIS staff, and Vancouver Energy employees to provide you with any further information or clarification.

We note by way of introduction that many aspects of the facility's design are based on the characteristics of crude oil, market forces and demands, and the Applicant's and its owners' extensive experience in operating crude oil terminals. With this letter, we are providing an explanation of key principles and considerations in a manner that hopefully gives you an adequate level of information upon which to make your SEPA judgments.

Project Objectives (purpose and need):

The project objectives were described at Section 2.22 of the Application for Site Certification (ASC) and Section 1.2.3 of the Applicant-prepared Preliminary Draft Environmental Impact Statement (PDEIS). In summary, the project's objective is to serve the market demand for mid-continent North American crude at the Petroleum Administration Defense District (PADD) 5 refineries, in particular those along the West Coast (as described in PDEIS Section 1.3). This project objective encompasses both a market demand component (the PADD 5 refinery demand) and a market supply component (the mid-continent North American crude source). Based on production projections for the various mid-continent North American sources, the Bakken is expected to continue being one of the primary mid-continent sources<sup>1</sup>. As explained in PDEIS Sections 1.2.5.2 and 1.3.7.2, there are no oil pipeline routes from the Bakken to PADD 5; and, therefore, transportation by rail is the only feasible option for transporting this crude to the PADD 5 refineries. The project objectives clearly stated that "Implementation of Facility elements that accommodate the flexibility to serve multiple clients through the appropriate capacity for receipt, segregation and loading of the crude oil" was a necessary development criteria (see PDEIS Section 1.2.3.1).

California and Alaska crude production delivered to PADD 5 is declining. See PDEIS Figure 1.3.7. This decline in production has been replaced by foreign imports (via marine vessel) to meet the PADD 5 demand. See also PDEIS Figure 1.3.7. The foreign import portion of the PADD 5 demand accounts for 1 million to 1.2 million barrels per day. (See PDEIS, Table 1.3-10, taking those annual totals, multiply by 1,000 and divide by 365 days to convert the annual totals shown in that table to the

<sup>1</sup> U.S. Energy Information Administration, January 2015 Drilling Productivity Report for the Tight Oil and Shale Gas regions.  
<http://www.eia.gov/petroleum/drilling/pdf/dpr-full.pdf>

daily average stated here). Therefore, at a proposed average daily throughput of 360,000 barrels per day, the project does not satisfy the full demand for PADD 5 refineries to replace foreign sources, but satisfies approximately 1/3 of that current demand. The California and Alaska supplies are projected to continue to decline<sup>2</sup>; and thus, the PADD 5 market demand for alternative sources of crude, including alternative mid-continent North American sources, is expected to continue to increase. Accordingly, as described in more detail below, market demand would not limit the facility to the proposed 360,000 barrels per day throughput capacity. That throughput capacity limit is a function of the terminal site's physical and rail access constraints.

To accomplish the project's objective, an EIS alternative should consider how this PADD 5 demand for mid-continent North American crude can be addressed either through the proposed Facility or through other facilities in Washington State. The Applicant described some of these alternative scenarios in Chapter 6 of the PDEIS.

You also asked us to comment on what the Port of Vancouver's purpose and objectives are for this project and why or how the Port arrived at the project scale defined in its request for proposals. PDEIS Section 1.2.2 provides a brief statement of the Port's objectives. However, if EFSEC staff and its EIS team need additional detail or have additional questions about the Port's objectives for the project, the Applicant believes that information is best obtained in a direct conversation with (or request to) the Port. While we would be happy to participate in or facilitate that discussion, we assume that EFSEC would prefer to make that request directly to the Port.

#### **Factors that Led the Applicant to Choose the Port of Vancouver Location**

As mentioned above, the Applicant anticipates that the primary source of crude oil that the Facility's customers will deliver to the Facility will be the Bakken. Crude may also come from other North American formations, such as the Niobrara and Uinta, depending on market conditions and the needs of the Facility's customers. We note again that the Applicant will not source or own any crude oil. Rather, the Applicant will receive its customers' crude oil by rail, unload and stage that crude oil in the on-site tanks, and load the crude oil onto vessels provided by those customers. However, it is really not possible to project future market conditions that might favor a different source with any degree of certainty. Based on the strength of Bakken production (see EIA productivity report) and market conditions known at this time, assuming Bakken as the primary source seemed and still seems to the Applicant to be the most reasonable and appropriate assumption regarding the likely source of the mid-continent North American crude.

Existing marine port infrastructure on the Washington coast and water ways leading to the coast are geographically the closest outlets for Bakken crude to PADD 5 refineries. BNSF owns or controls the rail infrastructure in the Bakken region. BNSF is, therefore, the likely rail transporter out of the Bakken. Because rail transport agreements and rates tend to favor a single carrier wherever possible, BNSF is also the likely carrier all the way from the Bakken to any marine terminal facility on the Washington coast. Therefore, both because of physical geography (Washington's closest proximity to the Bakken) and because of the ownership of existing rail infrastructure, the BNSF lines and the Port of Vancouver terminal site offer the shortest distance between the Bakken crude source and a deep water marine terminal site that can receive the crude oil directly by rail and load it onto marine vessels for transport to the PADD 5 refineries. Chapter 5 of the PDEIS analyzed at length the most likely route loaded unit trains would be expected to travel through Washington State. Other potential terminal locations elsewhere along the Washington coast, for the same reasons, are likely to receive unit trains using the same BNSF route, but such trains will travel a longer distance past the Port of Vancouver Facility location to reach other terminal facility destinations or the PADD 5 refineries in Washington directly. As described in PDEIS Section 1.2.3.1, the Port of Vancouver Facility location provided the best opportunity in Washington, and along the entire North American West Coast, for a crude-by-rail marine terminal to address the PADD 5 market demand described above. These criteria include:

- A site that can be constructed and placed into operation within a time frame that allows expeditious West Coast refinery access to mid-continent crude oil;
- A location that is centrally located with respect to shipping the oil to West Coast refineries;
- A location that already has the necessary transportation infrastructure to accommodate receipt by rail (unit train) and shipment by marine vessel;
- A site with deep draft access to accept the range of Jones Act vessels;
- A location that is already zoned and developed for industrial use; and
- A site that can be designed to provide flexibility to serve multiple clients through the appropriate capacity for receipt, segregation and loading of the crude oil.

<sup>2</sup> U. S. Energy Information Administration, U. S. Crude Oil and Natural Gas Proved Reserves, 2013, December 2014, <http://www.eia.gov/naturalgas/crudeoilreserves/pdf/usreserves.pdf>.

**Receipt and Storage Capacity (Why 6 tanks are required? and Whether a reduced number of tanks could accomplish the project objectives?)**

The Applicant notes, at the outset, that reducing the number of storage tanks does not necessarily reduce the requirements for spill containment, since those requirements are based upon the largest single tank volume (not the total aggregate tank volume) plus a factor of safety. See PDEIS Section 2.2.9. It was not clear as posed whether this question relates to spill containment requirements or some other probable significant impact issue or mitigation required.

A number of factors contribute to the determination of what storage volume and how many tanks of what size are required:

- 1) For example, the storage capacity at the terminal must be sized to accommodate periodic surges in capacity needs due to unplanned fluctuations in the timing of rail deliveries and marine vessel loading. In a typical year, for example (based on information from Columbia River Bar pilots), the Columbia River entrance may shut down approximately 6-10 days over the course of the winter due to severe weather. Because these closures will impact marine vessel arrival and loading, but do not necessarily impact rail traffic to the terminal, the storage must be sized to accommodate these unexpected (yet temporary) surges in storage needs.
- 2) As explained in PDEIS Section 5.2, ocean-going Jones Act crude oil vessels that are able to navigate the Columbia River are currently primarily sized for the 300,000 to 360,000 barrel range (comparable to the project designed throughput).
- 3) The need to segregate different types of crude and customer requirements to segregate crudes by ownership also drives the number of tanks and the amount of storage potential beyond total throughput volume. For example, Tesoro will be an anchor customer for this Facility. Two of the 6 tanks will be dedicated to Tesoro's use, leaving 4 tanks for other customer storage needs. Other customer factors that might dictate segregation of the crude into separate tanks include:
  - a. Different refineries accept different grades of crude;
  - b. Refiners must know the specific characteristics of the crude they will be receiving ahead of time, to make sure the refinery can appropriately handle and process the crude received;
  - c. Customers want to retain control of their crude oil quality from its source to delivery, to avoid any unintended or unexpected blending that might change the quality (and value) of the crude they have or are purchasing; and
  - d. Even a single customer (such as Tesoro) may well source crude for different refineries and thus, require segregation into separate tanks.

It is expected that the Facility will have as many as 10 customers. The more customers, the greater the amount of storage required to keep the product segregated for the reasons described above. The 6 tanks proposed were determined to be the appropriate number to accommodate these customers' needs within the size constraints of the site. Because individual customer contracts have not (and cannot) be entered into at this time, it is not possible to provide any more specifics regarding individual customer contract requirements.

**Throughput Capacity (Why the proposal is for an average daily throughput of 360,000 barrels per day? and What would be the consequence if the project were scaled to accept a smaller daily volume?)**

As noted above in the project objective response, inland crude could replace up to the current 1 million to 1.2 million barrels per day of foreign source waterborne crude. The Facility as proposed only meets a portion of this need (approximately 1/3 of the foreign waterborne imports to PADD 5 refineries). Thus, even larger volumes would be required to meet this PADD 5 demand. The proposed Facility throughput was actually limited by the physical terminal site and rail infrastructure constraints, not by limitation in PADD 5 demand. The project phasing proposed in the ASC was originally proposed to allow operations to start as soon as possible, not as a suggestion that the Facility would operate at a reduced capacity long term. When the Applicant originally began development of the project, phasing was also proposed to allow the Applicant time to gauge the market, commence operations as soon as possible, and allow time to negotiate additional customer contracts. With all of the time that has passed since that original August 29, 2013 ASC, all indications continue to show that the demand is present and sustainable to support the proposed 360,000 bpd throughput (the site limiting factor); and the Applicant expects to begin construction of Phase 2 as soon as Phase 1 is in operation.

The proposed throughput does not drive the Facility rail infrastructure, but rather it is the other way around. The Port's rail infrastructure is driving what is available within the Terminal 5 area. The Port's West Vancouver Freight Access project (WVFA) is permitted for 5 loop tracks in the Terminal 5 area. The WVFA project added grade separation between the North/South mainline rail and the entrance into the Port. In the Terminal 5 area, a grade separated overpass was added to

change the traffic flow within the port and keep trucks and rail cars moving unimpeded . Vancouver Energy will permit and build one additional loop track outside of the 5 permitted (for a total of 6 loops at the Terminal) on WVFA. The loop track is an

efficiency for rail and terminal operations because an entire train (unit train) can be staged and unloaded without being broken up and stacked on parallel tracks (e.g., the ladder tracks at other facilities) and without impeding rail access to other Port users, or without impeding mainline rail traffic. Because the Terminal 5 area does not have the property available to add any additional rail loops sized for unit train operations beyond those described in this paragraph, the facility cannot receive more than the stated average of 4 trains per day, without creating impact to other existing and future Port rail operations and the BNSF mainline traffic . The 360,000 bpd throughput (4 trains) is based on tank car capacity and the number of tank cars in a unit train, using high-end assumptions regarding volumes per train so that potential impacts related to these volumes are not underestimated in the environmental documents.

For the vessel berth, the size and types of vessels used to transport the crude dictate the dock improvements, not the number of vessels that will be loaded on a weekly basis. A smaller volume Facility would not change the requirements to modify the dock or the scale or nature of those modifications.

Given the somewhat standard ocean-going Jones Act vessels used to transport crude oil, the storage requirements and the transfer pipelines must be sized to allow efficient vessel loading when the vessel arrives to avoid "demurrage"-additional charges for a vessel lease for overtime use. Thus, the transfer pipelines must be sized to efficiently load a 300,000 to 360,000 barrel vessel when it arrives, regardless of how many arrive in any given period of time. Transfer pipe size does not change with fewer vessels that might be associated with smaller daily volumes . See PDEIS Section 5.2.

Because the rail infrastructure investment; the dock improvement investment; the size and configuration of the transfer pipeline; the number and size of tanks required to segregate product; and the anticipated unexpected surges in storage needs (due to river closure or rail traffic backups) would not change with reduced throughput volume at this facility, the initial investment costs for the facility would not be expected to vary significantly, if at all, with a reduced volume throughput.

Additionally, if the proposed Facility throughput were reduced, project objectives and PADD 5 demand would then need to be satisfied with other, smaller scale facilities at other terminal locations or with direct delivery by rail to the refineries. A greater number of smaller facilities could introduce a greater number of transfer points, and the potential for an associated greater number of failure points (or at least opportunity for failure points) since the point of transfer is often the point at which elevated risk of a release could occur.

### Why are Other Crude-by-Rail Marine Terminal Proposals in the State of Washington Proposing Smaller Scale Projects?

Because the Applicant is not involved in any of the other proposed terminal facilities under review in the State of Washington, the Applicant is not in a position to comment with any specific detail on what might be the reasons why those other facilities are proposed at a smaller throughput volume. However, based on information that is generally publicly available through the existing public SEPA information<sup>3</sup>, the Applicant believes that the following factors might contribute to the size of the facilities proposed:

- The terminal proposals at the Port of Grays Harbor, for example, do not appear to have loop rail access, and the maneuvering required to cut the train and stack the cars on ladder tracks for unloading may be a factor that limits daily throughput size. The Grays Harbor sites are also served by a short-line railroad and not exclusively by the BNSF Class I rail line. Short line operational requirements or constraints may contribute to lower proposed throughput volumes for those projects;
- The Westway and Imperium sites have other existing operations (methanol and biofuels processing, respectively) that may limit throughput volumes that those sites can accommodate;
- The NuStar site at the Port of Vancouver is simply a repurposing part of an existing facility; and
- The Applicant did note, based on public SEPA information (referenced in the PDEIS at Table 7.1-1), that the ratio of storage capacity to daily throughput proposed in the Grays Harbor facilities exceeds that same ratio proposed by the Applicant at the Port of Vancouver Facility. This is presumably for reasons similar to the reasons described above to accommodate anticipated customer requirements for product segregation.

<sup>3</sup> Shoemaker, R.K. 2014, Westway Terminal expansion joint aquatic resources permit application (JARPA) form . February 13, 2014. Available at <http://www.ecy.wa.gov/geographic/graysharbor/20140211-Westway-JARPAapp.pdf>, accessed August 22, 2014. Plaza, J. 2013. Imperium Terminal Services, LLC. Imperium bulk liquid terminal facility project proposal environmental checklist resubmittal. February 22, 2013. Available at <http://www.ecy.wa.gov/geographic/graysharbor/20130222-Imperium-SEPAchecklist.pdf>, accessed August 22, 2014.

The Applicant cannot otherwise comment on what may be economic or other business reasons why those other facilities are proposed with smaller throughput. However, the Applicant does believe for that reason, it is not possible to assume that the fact that those facilities are smaller is any indication of whether a smaller throughput at the proposed Vancouver Energy Facility would be feasible, nor whether a smaller throughput at the proposed Vancouver Energy Facility would have less probable significant adverse impacts.

Will Blending of Crude Oil Types or Grades Occur? and What Impact does this have on the Number or Size of Tanks?

Some minor blending will occur out of necessity, given that on average approximately 4 unit trains will be required to load 1 vessel, and some minor variation in crude qualities among those trains is almost inevitable. In addition, some amount of blending may occur among customers within similar crude grades if permitted by customer specifications to be stored in the same tank. However, as described above in the section on size and number of tanks, customers who use the Facility will likely be interested in ensuring that the quality of the crude oil they sourced remains unaltered because they are managing that crude to feed their specific refinery systems. These customers may, therefore, specify independent storage of their specific crudes at the Facility. These requirements drive the number and size of tanks, as described above.

Why are Heated Tanks and Heated Transport Pipelines within the Site Proposed, and Could those 2 Tanks be Eliminated if the Facility did not receive the Lower API (i.e., "heavier") Crude Oils?

As described in Section 2.10.1.2 of the ASC, the Facility is being designed to accept what is known as "pipeline quality" crude oils, with a range of API from approximately 15 to 45, all of which fall within the range that will flow in a pipeline. The project is not being designed to receive or handle bitumens or other ultra-heavy crudes in their natural state. Heated tanks (and the heated transfer pipelines) are proposed to accommodate the lower API grades within this range, or higher viscosity crudes (due to characteristics such as high wax content present in the Uinta Basin), which depending on ambient conditions, may require heating to flow at appropriate vessel loading rates, particularly if the transfer pipeline is shut down for any reason with lower grade crudes in the pipeline. Because the sources of crude will vary from customer to customer and from source to source, it is not feasible to eliminate the tanks or heated transfer pipeline components of the project as part of any reduced volume throughput.

Hopefully, we have accurately captured and responded to the questions you have raised to assist EFSEC and its EIS team in the evaluation of DEIS alternatives and project objectives. Again, if you or your team require any additional explanation of the items described in this letter, please do not hesitate to contact the Applicant for any additional clarification.

Sincerely,



David Corpron  
Senior Project Manager  
Savage Services



Irina Makarow  
Senior Environmental Project Manager  
BergerABAM

Cc: Ann Essko



**Attachment 2**



16 June 2015

Mr. Stephen Posner  
Energy Facility Site Evaluation Council  
Washington Utilities and Transportation Commission  
P.O. Box 43172  
Olympia, WA 98504-3172

Subject: Vancouver Energy  
EFSEC Application No. 2013-01, Docket No. EF131590  
Supplemental Information Regarding Vessels

Dear Mr. Posner:

During the conference call held on 2 June with Sonia Bumpus and Cardno Entrix staff relative to the rail and vessel risk analyses, she requested that Tesoro Savage Petroleum Terminal LLC (the Applicant) clarify several items related to vessel traffic at Vancouver Energy (Facility). Please find these clarification items below.

On the issue of the range of vessel sizes and percentage of each anticipated to call at the Facility, you requested a clarification of the potential conflict between statements in (c) and (d) of response to Item PD-25, namely (emphasis in italics added):

“c. The Aframax and Suezmax were only included to demonstrate that larger vessels could call but would have a maximum loading threshold of 600,000 bbls. *In actuality, the Handymax ship would call 99 percent of the time* and the ATBs would only be used during the initial start-up of the Facility before sufficient Area 300 tankage was available to stage a full load for a Handymax-size vessel.

d. On a regular basis, once the Facility is fully operational and storage tanks have been constructed as proposed, *an estimated 365 vessel calls would occur, primarily of the Handymax size; however, as indicated in PD-15, to conservatively assess impacts, “the DEIS should conservatively assume that because the types of vessels could change in the future approximately 15 percent of the vessels calling would be the 105 MDWT and approximately 5 percent would be the 165 MDTW.”*

These statements are revised in underline/strikeout format as indicated below to remove ambiguity.



Code	Data Request Item	Applicant Response
PD-25	<p>The PDEIS provided a list of vessel types/sizes expected to call at the Facility which included Articulated Tug and Barges (ATBs). Your response to Data request PD-15 states the following:            “All of the vessel types indicated in Table 5.2-1 could be anticipated to dock at the Facility. The 46 MDTW vessel is anticipated to be the vessel size usually loaded; however the DEIS should conservatively assume that because the types of vessels could change in the future approximately 15 percent of the vessels calling would be the 105 MDWT and approximately 5 percent would be the 165 MDTW.”</p> <p>This response does not include ATBs which are smaller tank vessels.</p> <p>a. Do you anticipate ATBs being used to transport crude oil from the proposed Facility?</p> <p>b. If ATBs would be used, what percentage of the vessels that would call at the proposed Facility would be ATBs?</p> <p>c. An estimate of 365 annual vessel calls per year at the proposed Facility has been used in the risk analysis and a distribution of 80% Handymax, 15% Aframax and 5% Suezmax has been used to characterize the vessel type distribution. How would this distribution change if ATBs are included?</p> <p>d. Please clarify the number of trips by vessel class per year that would be expected to call at the proposed marine terminal.</p>	<p>a. During start-up, these smaller ATBs may call at the Facility to load. ATBs are operated in a similar fashion to tankers.</p> <p>b. The Applicant anticipates ATBs to call only in the very beginning of Facility operations and would represent less than 5 percent of calls. <u>The remaining calls during this period would most likely be from Handymax vessels. The ATBs would only be used during the initial start-up of the Facility before sufficient Area 300 tankage was available to stage a full load for a Handymax-size vessel.</u></p> <p><u>Once the Facility is fully operational and storage tanks have been constructed as proposed, ATBs would not likely be used.</u></p> <p>c. <u>As stated in Item b above, The Aframax and Suezmax were only included to demonstrate that larger vessels could call but would have a maximum loading threshold of 600,000 bbls. In actuality, the Handymax ship would call 99 percent of the time and the ATBs would only be used during the initial start-up of the Facility before sufficient Area 300 tankage was available to stage a full load for a Handymax-size vessel. On a regular basis, once the Facility is fully operational and storage tanks have been constructed as proposed, ATBs would not likely be used, and an estimated 365 vessel calls would could occur, primarily of the Handymax size; however, as indicated in PD-15, to conservatively assess impacts, the DEIS should conservatively assume that because the types of vessels could change in the future approximately 15 percent of the vessels calling could be the 105 MDWT and approximately 5 percent could be the 165 MDTW.</u></p> <p>d. <u>As explained in Item c above, on a regular basis, once the Facility is fully operational and storage tanks have been constructed as proposed, an estimated 365 vessel calls would could occur, primarily of the Handymax size; however, as indicated in PD-15, to conservatively assess impacts, the DEIS should conservatively assume that because the types of vessels could change in the future approximately 15 percent of the vessels calling could be the 105 MDWT and approximately 5 percent could be the 165 MDTW.</u></p>

You also requested clarification on reasons why vessels larger than the “Handymax” may be limited in the number of calls they make to the Facility.

Table 1 below provides an overview of typical vessel size classes and how such classes relate to the typical vessels identified in Table 5.2-1 of the PDEIS. In order for a vessel to be viable for use by a Facility client to load and transport crude oil, it must meet several requirements:

- 1) The vessel dimensions must be such that once loaded (or partially loaded) it can transit through the Lower Columbia River navigational channel. The world’s largest Very Large Crude Carrier (VLCC) (180-320 MDWT<sup>1</sup>) and Ultra Large Crude Carrier (ULCC) (320-441 MDWT) tankers will not meet such requirements and could, therefore, not even transit to the Facility to be loaded. Only smaller-size Suezmax-class vessels could be accepted at the Facility dock due to this navigation channel and berth limitation.
- 2) In accordance with federal regulation, only “Jones Act” vessels are permitted to transport U.S. crude oil to a U.S. port. Table 1 below identifies the approximate number of existing Jones Act vessels by class size available to transport crude oil - there are very few larger Jones Act vessels available.
- 3) Construction of most of the larger vessels was funded through the Capital Construction Fund (CCF)<sup>2</sup>. Vessels funded under the CCF are only permitted to transport crude oil non-contiguously in the U.S., and most of them are being used in the Alaska North Slope trade for that reason (i.e., from loading in Alaska with delivery to the west coast states of Washington, California, and Hawaii). CCF funding requirements, including the “non-contiguous” limitation, expire at the end of the twentieth year from vessel delivery. Table 2 below lists the currently existing larger Jones Act vessels and identifies which were funded through CCF. All but one of the larger Jones Act Vessels were funded with CCF. CCF vessels would not be permitted to carry crude oil from the facility to the contiguous 50 states. To the Applicant’s knowledge, the two smallest vessels listed in Table 2 (Eagle Bay and Liberty Bay, both operated by ExxonMobil) could physically be moored at the Facility for loading, and then transport oil from the Facility to a non-contiguous location (i.e., Alaska Cook Inlet). However, the Applicant is unaware of any interest by ExxonMobil to use the Facility in this manner, and the mooring of these vessels at the Facility is, therefore, highly unlikely. In contrast, to the Applicant’s knowledge<sup>3</sup>, the medium range (MR) vessels were not built with CCF funding and are not restricted to non-contiguous transportation.

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<sup>1</sup> MDWT: Thousand deadweight tonnes.

<sup>2</sup> See <http://www.marad.dot.gov/ships-and-shipping/capital-construction-fund/> for additional information.

<sup>3</sup> Personal Communication, Captain Marc Bayer, June 2015.

- 4) Finally, as noted in Table 2, many of the CCF vessels are approaching, and several have exceeded, 20 years of age; the Facility will not accept vessels greater than 20 years in age.

**Table 1: Approximate Vessel Class Sizes and Number of Jones Act Vessels by Class**

Vessel Size Class <sup>4</sup>	Length (meters)	Beam (meters)	Full load deep draft (meters)	MDWT range	Representative vessel in PDEIS Table 5.2-1	Approximate Number of such vessels in Jones Act Fleet <sup>5</sup>
Oceangoing ATB					27.5 MDWT ATBs	35 existing; 10 of the 35 are >30 yrs <sup>6</sup> ; 10 under construction
Medium Range (MR)	180-190	32.2	12.2	45-53	46 and 53 MDWT Tankers	28 MR <sup>7</sup> ; 2 of the 28 are >20 yrs; 16 on order <sup>8</sup>
Panamax	228-230	32.2	13.7	68-76	68 and 76 MDWT Tankers	0
Aframax	244-248	42-45	14.9	99-119	115 and 125 MDWT Tankers	4; 2 of 4 are >35 yrs
Suezmax	273-276	47-49	17.5	140-165	142 and 160 MDWT Tankers	5, of which only 1 constructed without CCF
VLCC	180-330	60	22	Up to 320	Only smallest size could potentially be accepted	4 - all constructed with CCF

<sup>4</sup> The data presented in this table is for illustrative purposes only. Various worldwide organizations class vessels relative to size; therefore vessel classes (e.g., Medium Range, Handymax, Panamax) may be attributed differently relative to actual vessel weight and dimensions. Examples of vessel classifications are available at the following locations: <http://maritime-connector.com/wiki/ship-sizes/>, accessed June 9, 2015; <http://www.eia.gov/todayinenergy/detail.cfm?id=17991>, accessed June 9, 2015; [http://www.worldtraderref.com/WTR\\_site/vessel\\_classification.asp](http://www.worldtraderref.com/WTR_site/vessel_classification.asp).

<sup>5</sup> Personal Communication, Captain Marc Bayer, June 2015. Additional information about the current composition of the Jones Act fleet is also available at: Shipping U.S. Crude Oil by Water: Vessel Flag Requirements and Safety Issues, John Frittelli, July 21, 2014, available at: <https://www.fas.org/sgp/crs/misc/R43653.pdf>.

<sup>6</sup> As reported in: Shipping U.S. Crude Oil by Water: Vessel Flag Requirements and Safety Issues, John Frittelli, July 21, 2014, available at: <https://www.fas.org/sgp/crs/misc/R43653.pdf>.

<sup>7</sup> This number does not include four tankers in this size range, which are greater than 30 years in age and/or in chemical service.

<sup>8</sup> As reported in: Shipping U.S. Crude Oil by Water: Vessel Flag Requirements and Safety Issues, John Frittelli, July 21, 2014, available at: <https://www.fas.org/sgp/crs/misc/R43653.pdf>.

**Table 2: Larger Jones Act Vessels in Crude Oil Transportation and their Status under the Capital Construction Fund**

Vessel	CCF	Delivered for Use in Year:	MDWT
Alaskan Explorer	Yes	2005	193
Alaskan Frontier	Yes	2004	193
Alaskan Legend	Yes	2006	193
Alaskan Navigator	Yes	2005	193
Polar Adventure	Yes	2004	142
Polar Discovery	Yes	2003	142
Polar Endeavor	No <sup>(1)</sup>	2001	142
Polar Enterprise	Yes	2006	142
Polar Resolution	Yes	2002	142
Eagle Bay	Yes	2014	115
Liberty Bay	Yes	2014	115
Kodiak	Yes	1978	122
Sierra	Yes	1979	122

Note (1): This is the only existing vessel available for contiguous lower-48 state crude oil shipments due to CCF funding limitations.

In conclusion, as described above, the pool of existing larger tank vessels that could be drawn upon by Facility clients to load and transport crude oil is very limited. There are presently no U.S. flag ships on the order books over the 46-52 MDWT (MR, such as Handymax). However, given the 20-year life of the Facility, the Applicant anticipates that a small number of larger vessels may be constructed in the future that could be placed into service to load at the Facility. To ensure the needed flexibility to allow receipt of such vessels should they be constructed, the Applicant, therefore, identified such vessels in the PDEIS, and specifically requested that EFSEC consider such vessels in any risk analysis being conducted for the DEIS, i.e., that the DEIS should conservatively assume that because the types of vessels could change in the future approximately 15 percent of the vessels calling could be the 105 MDWT and approximately 5 percent could be the 165 MDTW.

Finally, the Applicant acknowledges that the presently approved planning standard for the Lower Columbia River will limit the maximum volume of crude oil that can be loaded for a single shipment to approximately 300,000 bbl<sup>9</sup>. A vessel with a holding capacity greater than the standard would only be loaded to the planning standard. However, the Applicant also acknowledges that at some time in the future a request may be made to the Washington State

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<sup>9</sup> The planning standard counts both vessel fuel and cargo towards the 300,000 bbl limit.

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16 June 2015  
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Department of Ecology (Ecology) to increase the planning standard<sup>10</sup>, and larger vessels could be loaded to a higher capacity. A possible change to the planning standard provides another reason for the DEIS vessel risk assessment to consider the potential for larger vessels.

Please feel free to contact me at 206/431-2373, or at [irina.makarow@abam.com](mailto:irina.makarow@abam.com), if you have any questions about this submittal. We look forward to further coordination with you, your staff, and EFSEC's consultants.

Sincerely,



Irina Makarow  
Senior Environmental Project Manager

IM:nb

cc: Kelly Flint, Savage Companies  
Jay Derr, Van Ness Feldman

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<sup>10</sup> Because the Applicant is not responsible for transit of the laden vessels once they have departed the Terminal, the Applicant does not have the authority to request an increase to the planning standard. Such a request would come to Ecology from a third party.