

27 July 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
Response to EFSEC Draft EIS Data Request on Berm Size

Dear Mr. Posner:

On behalf of Tesoro Savage Petroleum Terminal LLC (the Applicant), BergerABAM is providing a response to the Energy Facility Site Evaluation Council's (EFSEC) Draft EIS Data Request on berm size, e-mail dated 10 July 2015. The request stated:

"We have an urgent question for Berger ABAM that can probably be answered by a quick email exchange. The question is related to the redefinition of storage tank capacity in response to CB Crouse's questions on the floating roof (see row addressing 2.2.2.6 Storage Tanks on page 6 in Table 1 of the May 27, 2015 Project Description Update). The Applicant states that the tank shell capacity is approximately 400,000 barrels and that the shell capacity is used in sizing the secondary containment. In the PDEIS, the Applicant committed (at a time when the shell capacity was reported to be 360,000 barrels) to designing and building a containment berm that would have the capacity to contain 110% of the shell capacity PLUS the volume of water associated with a 24-hr 100-year storm event. We need to know if that is still their intent, such that the new berm would be capable of holding 440,000 barrels plus the 24-hr 100-year event. We would appreciate a response as soon as possible."

The Project Description Updates referred to above provided additional clarification on four commonly accepted descriptions for crude oil volumes associated with tank operation, specifically:

- "shell capacity": 400,000 bbl
- "net working capacity": 340,000 bbl
- "normal fill level": 360,000 bbl, and
- API 650 "maximum capacity": approximately 375,000¹

¹ As indicated in the Project Description Updates memorandum, the maximum capacity is dictated by API 650 which requires an overfill level protection.

The statement regarding the volume of the secondary containment berm should be revised to the following:

“The Area 300 secondary containment area would have a capacity at least equal to 110 percent of the *API 650 maximum capacity of the largest tank*, plus precipitation from a 24-hour, 100-year storm event.”

Several local, state and federal regulations and one fire protection code establish requirements for secondary containment volume. The table below summarizes each applicable regulation and the secondary containment volume it requires.

Regulation or Code	Requirement
City of Vancouver Surface Water/Stormwater Design and Construction Requirements and Surface Water General Requirements, 4-9.08, Above-Ground Storage Tanks ² .	“Above-ground Storage Tanks (ASTs) shall be designed with a secondary containment area that contains spills and allows leaks to be more easily detected. The containment area surrounding the tank shall hold 110% of the contents of the largest tank. Secondary containment for ASTs shall be impermeable to the materials being stored. Methods include berms, dikes, liners, vaults, and double-walled tanks.”
The Facility is required to prepare a stormwater pollution prevention plan that reflects the implementation of appropriate best management practices (BMPs) from the Stormwater Management Manual for Western Washington. BMP S4283, Storage of Liquids in Permanent Aboveground Tanks, requires secondary containment surrounded by dikes.	“The dike must be of sufficient height to provide a containment volume of either 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank, whichever is greater.”
Ecology’s Facility Oil Handling Standards WAC 173-180-320(1)(b).	“Capable of containing one hundred percent of the capacity ⁴ of the largest storage tank within the secondary containment area.”

Regulation or Code	Requirement
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² The General Requirements are available here: http://www.cityofvancouver.us/sites/default/files/fileattachments/public_works/page/11891/section_4_20_09_storm_general_requirements.pdf (accessed 7/14/2015). The requirements are intended to supplement and clarify the Stormwater Management Manual for Western Washington to provide guidance for and tailor to local conditions. The requirements are enforceable via Vancouver Municipal Code Chapter 14.09, Stormwater Management.

³ BMP S428 is found in Volume IV, Source Control BMPs, of the Stormwater Management Manual for Western Washington, available here: <https://fortress.wa.gov/ecy/publications/parts/1410055part6.pdf> (accessed 7/14/2015).

⁴ Neither the regulation nor the statute define the term “capacity”

Regulation or Code	Requirement
Ecology's Facility Oil Handling Standards WAC 173-180-320(4).	"The facility must maintain at least 100 percent of the working capacity of the largest tank within secondary containment area at all times."
Spill Prevention, Control, and Countermeasures (SPCC), 40 CFR 112.8(c)(2).	"Construct all bulk storage container installations so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation ⁵ ."
National Fire Protection Association (NFPA) 30 ⁶ , Subsection 22.11.2.2.	"The volumetric capacity of the diked area shall not be less than the greatest amount of liquid that can be released from the largest tank within the diked area, assuming a full tank."

With the exception of WAC 173-180-320(4) (which is based on "working capacity"), these regulations establish the volume required for secondary containment based on the maximum volume contained within the tank, not the shell capacity. In the PDEIS the Applicant proposed a berm volume of 110% of 380,000 bbl (i.e. 418,000 bbl) plus precipitation from a 24-hour, 100-year storm event. It remains the Applicant's proposal. This proposal still meets and exceeds the regulatory requirements stated above.

Please feel free to contact me at 206/431-2373, or at 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

⁵ See also Section 4.3.2 of U.S. Environmental Protection Agency, SPCC Guidance for Regional Inspectors, EPA Document 550-B-13-002, December 16, 2013. Available here:

http://www.epa.gov/OEM/docs/oil/spcc/guidance/SPCC_Guidance_fulltext.pdf (accessed 7/14/2015).

⁶ Both the 2012 and 2015 editions have the same requirement.