

Trans Mountain is expanding its current 1,150-kilometre pipeline between Strathcona County, Alberta and Burnaby, BC. The expansion will create a twinned pipeline that will increase the nominal capacity of the system from 300,000 barrels per day to 890,000 barrels per day.

On November 29, 2016, the Government of Canada granted approval for the Trans Mountain Expansion Project to proceed with 157 conditions. The expansion will add approximately 980 km of new pipeline and reactivate 193 km of existing pipeline. To support the expanded pipeline, there will be 12 new pump stations, 19 new tanks at existing storage terminals and three new berths at the Westridge Marine Terminal.

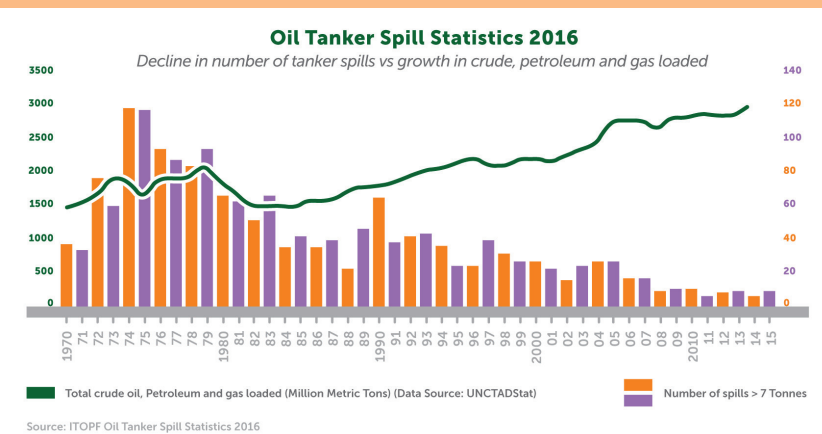
Routing of the expansion will remain along the existing Trans Mountain Pipeline route where practical – 89 per cent of the new pipeline would parallel the existing pipeline system or linear infrastructure, minimizing environmental and community impacts.



MARINE TRAFFIC – BY THE NUMBERS

With the Expansion Project, tanker traffic to Westridge Marine Terminal is expected to grow from approximately five tankers per month (60 tankers per year) up to 34 partly-laden Aframax tankers per month (408 tankers per year). In round numbers, based on a 2012 traffic assessment, each year approximately 6,000 large vessels enter the Strait of Juan de Fuca destined to ports in Canada and the US. Of these, approximately 600 vessels (10 per cent) are tankers. Subject to anticipated increase in marine trade, Table 1 shows the 408 Trans Mountain-related vessels will continue to remain only a small percentage of large vessels in the region, and number less than half the 1,000 tankers that will trade in the Salish Sea.

According to the International Tanker Owners Pollution Federation Ltd (ITOPF), oil transportation by sea has become significantly safer since the 1970s, to the point where an increase in seaborne oil trade activity has coincided with significant year-over-year decreases in tanker-related oil spill incidents.¹ Strengthened industry advancements in tanker safety globally are further supported by locally-developed best practices to ensure safe transit of vessels in and out of the Port of Vancouver.



Juan de Fuca Strait Traffic Forecast	2012	With TMEP
All Large Vessels	~5,500	~6,200
All Tankers	~600	~1,000
TM Tankers	60	408
TM Tankers as % of all Large Vessels	1.1%	6.6%

¹ ITOPF Ltd. Oil Tanker Spill Statistics 2016. London, UK. February 2017. www.itopf.com/fileadmin/data/Photos/Publications/Oil_Spill_Stats_2016_low.pdf (accessed March 11, 2017).

TUG ESCORT ENHANCEMENTS

To increase shipping safety of tankers calling at Westridge Marine Terminal (Westridge), Trans Mountain has committed to, as part of its Trans Mountain Expansion Project, several enhancements to marine risk controls for laden Project tankers, including additional pilotage along the shipping route, extended tug escort and working with marine pilots and bridge crew to enhance situational awareness of tankers.



Given all the progress in tanker safety and the already strong marine regime, a spill from a Westridge-related tanker would be an unlikely event. Guided by experienced local pilots, tankers are escorted by tugs through the Port of Vancouver and other portions of the outbound shipping route where the vessel travels near to shore.

Notwithstanding the excellent marine safety record in the region, based on public feedback and supported by a comprehensive risk assessment, Trans Mountain will extend tug escort of laden Project tankers for the entire outbound shipping route, i.e., from Westridge to Buoy J (the western entrance to the Strait of Juan de Fuca, near the 12-nautical mile limit of Canada's territorial sea.

Tugs used for escorting tankers are already highly capable, however the tugs escorting tankers through the Strait of Juan de Fuca will be bigger and more capable than any available in the region at this time. These tugs

will ensure on-time and on-site support for a laden tanker should it become disabled for any reason.

Given Trans Mountain's strong tanker acceptance process, which ensures calling tankers are of high global standards, the likelihood of a tanker becoming disabled is unlikely. Trans Mountain's processes are in addition to the international standards already in place.

PROGRESS TO DATE

The National Energy Board (NEB) imposed Condition 133 as part of Trans Mountain's conditions of approval. This condition requires the enhanced tug escort with minimum tug capabilities be in place by the time the Project comes into service; anticipated for late 2019. Once the new tug package is in place, Trans Mountain will incorporate it as part of the requirements of its vessel acceptance criteria, ensuring all vessels that call at Westridge Marine Terminal adhere to it.

To date, Trans Mountain has been advised by a highly reputable local tug expert, Robert Allan Limited, and is engaged with British Columbia Coast Pilots, tug operators and maritime regulators such as Transport Canada and the Pacific Pilotage Authority, in developing a "tug matrix." The tug matrix determines escort tug criteria based upon the range in tanker sizes (up to Aframax class vessels) and variability in environmental conditions along the shipping route throughout the course of a year. Tankers will be required to engage such tugs for their outbound transit as a pre-condition of loading.

Trans Mountain is currently working with its shippers and tug operators to ensure timely availability of tugs of appropriate capacity for the expanded escort duty. Trans Mountain continues to consult and engage with the appropriate stakeholders to ensure this additional escort can be implemented effectively.

TUG ESCORT ENHANCEMENTS

TUGS CURRENTLY USED FOR TANKER ESCORT IN THE SALISH SEA



Photo: Seaspan ULC

Seaspan Osprey (81-mt Bollard Pull) – Operated by Seaspan Marine



Photo: Saam Smit Towage

SST Orleans (85-mt Bollard Pull) – Operated by Saam Smit Towage



Did you know?

- Each tanker calling at Westridge Marine Terminal is assessed against Trans Mountain's Tanker Acceptance Standard. Prior to arrival, Trans Mountain evaluates vessel information submitted by pipeline shippers and vessel inspection history maintained on an international database.
- Trans Mountain has the right to reject any vessel proposed by the pipeline shipper that does not meet the standards and criteria set by the harbour master for the Port of Vancouver and/or by Trans Mountain. Adoption of enhanced tug escort will be incorporated into the Tanker Acceptance Standard when it becomes available, prior to the Project going into service.
- The expansion at Westridge Marine Terminal is based on the loading of Aframax tankers, the same-sized tankers, shipping the same products they do today.
- In addition to tug escorts, further precautionary risk control measures include extended pilots disembarkation near Race Rocks, instead of Victoria, and the Pacific Pilotage Authority is leading an effort to increase education of waterways users about small boat safety.
- There will be an investment of more than \$150 million in Western Canada Marine Response Corporation that will further improve safety for the entire marine shipping industry. The investment will fund five new response bases, more than 100 new employees and new vessels at strategic locations along BC's southern shipping lane.

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