

NUKA Elements	Marine Actions and Commitments
<i>Prevention</i>	
<p>1. Vessel operations surpass international safety and spill prevention standards</p>	<ul style="list-style-type: none"> • The NEB expects safety culture programs within its regulated companies to apply to both worker health and safety, and process safety. • All vessels visiting the Westridge Marine Terminal are vetted by TMP to ensure they meet TMP's vessel quality criteria, in accordance with its Tanker Acceptance Standards. • In addition to TMP's own vessel screening and inspection program, tankers docking at the Westridge Marine Terminal will meet all applicable local and international rules and regulations, and will be inspected by Transport Canada for compliance.
<p>2. Vessel traffic is monitored and, in higher-risk areas, actively managed to prevent accidents</p>	<ul style="list-style-type: none"> • TMP identified existing practices that support this element and what is being done to make improvements, including: <ul style="list-style-type: none"> ○ Mandatory use of modern navigation equipment Electronic Chart Display and Information System, AIS, Radar required; ○ Identify potential improvements to existing navigational safety controls related to the predicted increase in tanker traffic; and ○ Development of new base locations along tanker route.
<p>3. Rescue and salvage resources can be on-scene quickly enough to be effective after an incident or spill</p>	<ul style="list-style-type: none"> • TMP will invest approximately \$150 million in WCMRC (pending project approval) that will allow for response capacity that exceeds the legislative requirements in the amount of oil recovered and response time, and will extend the response area. • NEB Conditions indicate a minimum requirement for TMEP of 20,000 tonnes of response capacity within 36 hours. WCMRC indicates that under its enhanced spill response program it could have around 30,000 tonnes of capacity on site within the same time frame. • The minimum response time for spills within Vancouver Harbour is currently 6 hours after the spill is identified, while WCMRC indicates that it historically averages around 1 hour.
<i>Preparedness and Response</i>	
<p>4. Geographic areas are prioritized for protection from oil spills</p>	<ul style="list-style-type: none"> • Based on recommendations from the Tanker Safety Expert Panel, the Federal Government is implementing new area response planning and resources for tailored response planning and clean-up based on the geography of a region, its tanker traffic, and environmental conditions. • New measures fall into four areas across the country that currently has comparatively high tanker traffic including Southern B.C. (Strait of Georgia and Juan de Fuca). There is a fund of \$1.7 million to support First Nation participation. • Identification of three broad areas for improvement to reduce risk and improve safety: a) geographical gap for tug escorts; (b) provisions for an exclusion zone around the tanker; and (c) enhancements to spill response. • TMP committed to using WCMRC whose activities will include geographic prioritization and response planning. • TMP increased current spill response area to include Salish Sea and Strait of Juan de Fuca. • TMP completed a hazard identification exercise to identify locations where there is a higher degree of navigation complexity and probability of an incident (five of the eight locations identified were modelled to develop hypothetical spill scenario).
<p>5. Contingency planning is comprehensive, integrated and well understood by all relevant parties</p>	<ul style="list-style-type: none"> • TMP is committed to supporting WCMRC's implementation of the enhanced planning standards so that they are in place prior to commencing Project operations. • TMP is also committed to supporting the Government of Canada's efforts to establish and enforce marine safety regulations that ensure a world-class tanker system, particularly those with similar affect as the WCMRC enhancements. • NEB Conditions 90, 117 and 124 require TMP to undertake consultation with Government Authorities, first responders, impacted First Nations and tenants/landowners with regards to enhancing and integrating Emergency Response Planning. NEB Condition 124 (ii) specifically requires TMP to file a summary of how the enhanced plans consider, and would allow coordination with relevant federal, provincial, municipal and Aboriginal community emergency response plans. NEB Condition 124 (v) requires confirmation that an independent third party has reviewed and assessed the Emergency Response Plans and that Trans Mountain has considered and incorporated comments generated by review and assessment into the plans.
<p>6. Sufficient equipment can be deployed quickly to respond to a world-class spill</p>	<ul style="list-style-type: none"> • Amendments to legislation are currently being planned to clarify the use of alternative oil spill response measures such as spill-treating agents and on-site burning of spilled oil, when using such measures during a spill is the best way to minimize damage to the marine environment, or achieves a net environmental benefit. • TMP has committed to using WCMRC as their response organization. WCMRC has 11 response equipment caches - Haida Gwaii, Kitimat, Shearwater, Port Hardy, Campbell River, Sunshine Coast, Port Alberni, Nanaimo, Deltaport, Fraser River and Esquimalt. In addition, WCMRC has office/warehouse facilities in Burnaby, Prince Rupert and Duncan. • NEB Conditions indicate a minimum requirement for TMEP of 20,000 tonnes of response capacity within 36 hours. WCMRC indicates that under its enhanced spill response program it could have around 30,000 tonnes of capacity on site within the same time frame.

	<ul style="list-style-type: none"> The minimum response time for spills within Vancouver Harbour is currently 6 hours after the spill is identified, while WCMRC indicates that it historically averages around 1 hour. WCMRC currently has over 30,000 m of containment boom, more than double the 15,000 m required by Transport Canada regulation, and a fleet capable of a combined skimming capacity of 280 tonnes/hour, more than ten times the 27 tonnes/hour required by Transport Canada.
7. Sufficient personnel are available to respond to a worst-case spill	<ul style="list-style-type: none"> WCMRC is actively increasing its personnel, has training programs, and is aligned to Incident Command System. Maintains external support through Fishermen's Oil Spill Emergency Team, marine contractors and mutual aid agreements and partners, and spill response advisors. More than 100 contractor personnel are trained every year.
8. A process is in place to restore damaged resources and to promote ecosystem recovery after a spill	<ul style="list-style-type: none"> WCMRC working with regulators to pre-approve techniques for restoring damaged resources, to promote ecosystem recovery and reduce response times after a spill. WCMRC has procedures in place to treat oiled wildlife. TMP working with Port Metro Vancouver on program to investigate effects of marine vessel traffic on marine mammals and seek an industry wide solution to reduce impacts.
System Elements	
9. Government ensures compliance and transparency	<ul style="list-style-type: none"> NEB oversees and evaluates full scale emergency response exercises that test a company's emergency response plan. Announced in February 2016 that all evaluations will be posted publicly on the NEB web site. Evaluation of TMP's Emergency Response Exercise at its Westridge Marine Facility was the first one posted online by the NEB. The NEB evaluation concluded that TMP remained in compliance with NEB regulatory requirements for emergency preparedness and response and no corrective actions are required. WCMRC engages local stakeholders, including aboriginals, in developing geographic response plans to identify sensitive areas and areas of special importance to the local community. TMP Marine Public Consultation Program is an extension of the existing stakeholder engagement program to include coastal communities beyond the pipeline terminal at Westridge Marine Terminal. Hosted two marine workshops in Vancouver and Victoria with regional stakeholders and First Nations representatives from Burrard Inlet, Vancouver Island and Gulf Islands to review project details and TMP's approach to the marine studies for the risk assessment and the Environmental and Socio-economic assessment.
10. All parties actively pursue continuous improvement through research and development and the testing of planning assumptions	<ul style="list-style-type: none"> In September 2016 WCMRC wrapped-up a two-day oil spill response exercise in Nanaimo Harbour. As part of the exercise, equipment and vessels from WCMRC's South Coast and Vancouver Island fleets deployed to a simulated spill in Nanaimo Harbour. The unannounced exercise, the first of its kind on the West Coast, was designed to test WCMRC's capacity for rapid response and to identify any gaps in planning. WCMRC is exploring the establishment of a new response base in Nanaimo on port property. Construction of the new base is dependent on the Trans Mountain Expansion Project moving forward. The Nanaimo response base would be part of a broader spill response enhancement program for Trans Mountain. TMP, industry and Federal and Provincial Governments are conducting and have made several commitments to conduct research and development, including: <ul style="list-style-type: none"> Environment Canada to strengthen its commitment to providing leadership in scientific and environmental advice related to spill preparedness activities, participate in Area Response Planning The Government of Canada to collaborate with industry to establish a Canadian research and development program for oil spill preparedness and response The Behaviour and Environmental Impacts of Crude Oil Released into Aqueous Environments (Royal Society of Canada) Impacts of Pretreatment on Properties and Behaviour of Diluted Bitumen in Water (Natural Resources Canada) TMP contributed \$1.6 million to Enhancing Cetacean Habitat and Observation (ECHO) Program to better understand and manage the impact of shipping activities on at-risk whales, including the southern resident killer whale, throughout the southern coast of B.C. ECHO Program supports a series of individual short-term projects, scientific studies and education with a focus on three categories: acoustic disturbance (underwater noise); physical disturbance (vessel collision); and environmental contaminants. TMP is bound by its commitment to adopt any feasible best practices which arise from this study as part of its Tanker Acceptance Standard.
11. Financial mechanisms and resources meet needs from initiating the response through recovery.	<ul style="list-style-type: none"> Canada's Ship-Source Oil Pollution Fund will be enhanced to help strengthen the current "polluter pay" principle and to ensure adequate coverage for those suffering damages as a result of a ship-source oil spill. If passed, the full amount of the Fund will make a total of about \$1.6 billion available for clean-up and compensation. If further funding is required, the Fund will be temporarily topped up by the federal government and any requirement to top up the Fund will be recouped from industry through a levy, thus making an unlimited amount available for eligible clean-up and compensation. TMP will invest approximately \$150 million in WCMRC (pending project approval) that will allow for response capacity that exceeds the legislative requirements in the amount of oil recovered and response time, and will extend the response area.

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