

FACT SHEET

World-Class Marine and Land Spill Prevention, Preparedness and Response

MARINE-BASED

A robust Spill Prevention, Preparedness and Response Plan has been developed for the Vancouver Airport Fuel Delivery Project. In the unlikely event of a marine fuel spill, the proposed best practices provide a credible and effective response to reduce the already low risk of spills to very low.

About the Plan

- Western Canada Marine Response Corporation (WCMRC) prepared the plan.
- VAFFC will engage WCMRC to respond to any marine fuel spills.
- WCMRC will provide the response resources required to contain, control and recover any spilled fuel.
- The development and maintenance of the plan is required under the Canada Shipping Act, 2001.
- The proposed response equipment and resources for the marine terminal exceed the requirements of the Canada Shipping Act, 2001.
- The Act requires a response organization to have the minimum ability to respond to a spill of 10,000 tonnes, but WCMRC actually has the capability to respond to a spill of 25,000 tonnes. The VAFFC marine terminal will also include additional dedicated equipment.
- Includes details on initial responses, sources of response equipment and personnel, response action detail, interaction with other plans and contact notification checklists for individuals and organizations.
- All terminal operational personnel and those involved with responding to marine terminal spills must have full knowledge and understanding of the plan.
- The plan must be updated annually and after any spill incident or exercise.

Spill Response Modelling

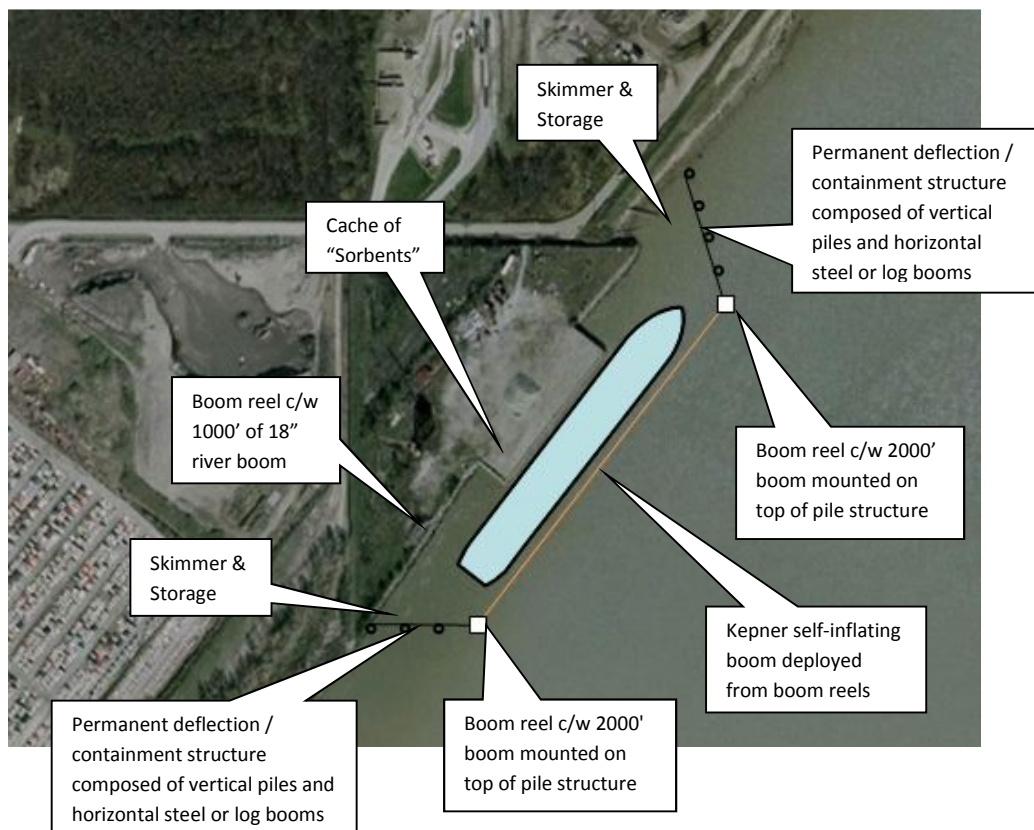
- In June 2011, WCMRC conducted an assessment of spill response techniques for protection of sensitive areas on the Fraser River to inform the development of the plan.
- As a result of the assessment, WCMRC concluded that the spill response safety measures outlined in the plan will ensure WCMRC has a superior capability to respond to a spill at the VAFFC marine terminal and will also improve the response capability of all users of the Fraser River.
- The combination of industry best practices for terminal design, dock operations, dock spill preventative measures and tanker preventative measures coupled with a solid response readiness plan reduces the risk of a spill ever happening.
- In the unlikely event of a spill all of the safety measures will ensure a rapid response to minimize the effects.

About the VAFFC Marine Terminal

- Fuel will be transferred from vessels to shore using hydraulically-operated articulated unloading arms.
- The unloading arms will be designed to have flexibility and move with the vessel as winds, tides and currents change and as the vessel rises higher in the water as the fuel is offloaded.
- If the movement of the vessel exceeds the safe range, the fuel transfer process will be automatically stopped and the arms will be disconnected using leak-free emergency release couplings.
- The terminal will be equipped with pre-deployed permanent booming complete with a pile deflection/protection system and skimmers to collect any fuel spilled.

On-site Spill Response Equipment & Supplies

- The following spill response equipment will be available at the VAFFC marine terminal:
 - Two response boats complete with boom and skimmers during vessel arrival and offloading, two boom reels with over 600 metres of self-inflating boom, fast-current skimmers, one boom reel with over 300 metres of river boom, temporary storage for recovered fuel, sorbents and an array of related parts such as anchors and towing vanes
- Before a vessel is offloaded, the boom and skimmers will be positioned around the vessel to contain a spill in the unlikely event of an accidental release of product onto water, and to recover the product as quickly as possible (see the figure below).
- The two response boats would be on standby to deploy boom in the open river if required.
- The sorbents would be used to absorb any spilled fuel.



Spill Reporting:

- In the event of a spill, VAFFC has the responsibility to ensure the Canadian Coast Guard and federal and provincial authorities are promptly notified.

Properties of Jet A Fuel:

- Aviation fuel is a refined product and if spilled on water, the fuel will spread on the surface and rapidly evaporate.
- The rate of evaporation will be influenced by air temperature, water temperature, wind and wave conditions.

LAND-BASED

VAFFC will follow best practices for all components of the project. The land-based risks associated with the project will be managed to insignificant levels with currently available and well understood technology and expertise.

Fuel Receiving Facility

The fuel receiving facility will include six above ground steel storage tanks. It will:

- Be regulated by the BC Oil and Gas Commission
- Be built to modern storage tank and seismic design requirements
- Provide secondary containment features for all fuel storage and handling areas
- Incorporate emissions control systems
- Incorporate modern corrosion protection, leak detection and flow control systems
- Be automated, monitored 24/7 and electronically safeguarded through electronic video surveillance
- Be controlled and monitored by on-site operations personnel during all offloading, fuel transfer and fuel handling activities

Pipeline

Modern pipeline systems have the benefit of precise locating technologies, new materials and coatings, and high-tech installation techniques to reduce disturbances during construction.

Of the entire 14 km length of pipeline, less than 3.5 kilometres will be in Richmond, over 7.5 kilometres will be in the provincial Highway 99 right-of-way, and the balance (approximately 3 km) will be on federal land (Port Metro Vancouver and Vancouver Airport Authority). The new pipeline, 300 mm or about 12 in. in diameter, will have only one river crossing.

The pipeline system will:

- Be regulated by the BC Oil and Gas Commission
- Be constructed with resilient materials to current seismic design standards
- Be controlled and monitored by operations personnel during all fuel transfer activities
- Be pressurized only during fuel transfer operations (not 24/7)
- Include state-of-the-art corrosion protection and leak detection technologies
- Be buried underground and well-marked, mapped and electronically located for reference by municipal and private contractors
- Be monitored by a control system using pressure sensors and automatic flow shutoff devices