Vancouver Airport Fuel Facilities Corporation is proposing a new aviation fuel delivery system to serve the airlines at Vancouver International Airport.

**Marine Terminal**
- Located on the north bank of the south arm of the Fraser River, 15 km upstream of the mouth
- Accommodate barges and tanker vessels

**Fuel Receiving Facility**
- Located near the marine terminal
- Includes six steel storage tanks with a total capacity of 80 million litres, with additional capacity available

**Pipeline**
- Connect the fuel receiving facility with the airport
- Approximately 15 km long, 300 mm (12 in.) in diameter and buried 2.5 metres underground
Why is a New System Needed?

For the past 40 years, aviation fuel has been supplied to YVR through a 150 mm (6 in.) pipeline from Burnaby, 40 km away. Since the late 1990s, this supply has been augmented by tanker trucks as YVR’s demand began to exceed the pipeline’s capacity. Over the next 20 years, this system would only be able to meet the long-term requirements of the airport by adding more trucks to the road. Furthermore, local supply sources have diminished and airlines are becoming increasingly reliant on imported fuel to meet their needs. There is limited access to imports on the existing system.

- YVR receives an average of 25 truck deliveries daily, rising to 35 during peak travel periods
- Without a pipeline with greater capacity, tanker truck deliveries could increase to 200 daily within 20 years
- Domestic sources of aviation fuel cannot meet the growing needs of YVR, so access to off-shore sources will help ensure YVR can serve its airlines and passengers

Aviation fuel properties

Commercial aviation fuel is commonly referred to as jet fuel. It is a kerosene based liquid that pours like water. The type of jet fuel used by airlines served by VAFFC is called Jet-A, an internationally standardized product that is used by almost all of the world’s commercial airlines. Jet-A is a clear, straw-coloured liquid, very similar to diesel fuel in its composition. It is relatively safe to handle at room temperature.

A lit match dropped in a bucket of jet fuel will simply go out. Because it is a product of distillation, jet fuel exposed to the atmosphere will evaporate completely over time.

Current Supply Network
Marine Terminal
- Barges could be expected to deliver fuel once every two weeks with an unloading time of 12 hours, while larger tankers could be expected once a month with an unloading time of between 24 and 36 hours

Fuel Receiving Facility
- Aviation fuel will be transferred from the vessels to nearby storage tanks, where the fuel will be certified for use before entering the pipeline to the airport

Pipeline
- The pipeline will be buried and located within existing transportation and utility corridors in Richmond

A new, shorter pipeline will transport fuel to YVR from a new fuel receiving facility located on the south arm of the Fraser River at the foot of Williams Road.
The project has a number of long-term benefits.

- The new system will be able to reliably meet the future needs of YVR with increased capacity from a greater number of fuel sources.
- The project will greatly reduce, if not eliminate, the tanker truck traffic by providing sufficient capacity in the pipeline.
- The reduction of tanker truck traffic will greatly reduce harmful air pollutants.
- The marine terminal will allow larger, less frequent deliveries of aviation fuel.
- Reduced emissions mean the project will have a smaller environmental footprint.
- Dependable, diverse, viable and competitive offshore fuel supply sources mean that YVR will remain a “gateway of choice” for airlines over other West Coast airports, and continue as a source of jobs and economic benefits for our community.

Daily Fuel Truck Deliveries from the US to YVR

Today: 25 to 35

20-Year Forecast: 200

Increasing fuel truck deliveries from Washington State is not an efficient solution to YVR’s fuel needs. Eliminating truck deliveries means:

- Safer roads
- Less GHG emissions
- Less traffic
Public safety and the protection of the environment are fundamental priorities.

- The new marine terminal will be located at one of the widest and deepest sections of the Fraser River.
- Upgrades of the existing wharf will be based on best practice designs and incorporate state-of-the-art mooring and offloading technologies.
- Vessels will be double-hulled.
- Government-certified BC marine pilots from the Fraser River Pilots Association will command the ships on the river.
- Tugboats will guide the vessels during mooring.
- A Spill Prevention and Emergency Response Plan will be developed, and Western Canada Marine Response Corporation contracted to provide marine spill response services.
Tanks for this project will be located on industrial land adjacent to the terminal, distant from residential and commercial areas.

The facility will:

- Incorporate fuel containment features, treatment systems and water quality testing
- Incorporate vapour suppression technologies
- Incorporate a modern corrosion protection system and computerized leak detection technology
- Be automated, monitored 24 hours daily and electronically safeguarded through closed-circuit television
- Have on-site operations personnel in attendance during all fuel offloading, fuel transfer and fuel handling activities
Regulated by the BC Oil and Gas Commission, the pipeline will incorporate a number of important safety features.

- All pipeline infrastructure will employ a modern corrosion protection system and computerized leak detection technology
- Its walls will be sufficiently thick and strong to guard against seismic events and other potential damage
- The pipeline will be well marked, mapped and electronically located for reference by municipal and private contractors performing other work in the vicinity
- Pressure sensors and automatic flow shutoff systems will be incorporated into the pipeline design to ensure that the flow is shut off immediately in the event the line is damaged
- The pipeline will be inspected regularly using a high-tech internal probe that runs the length of the buried pipeline
In 2001, VAFFC initiated an evaluation of alternate long-term fuel delivery system strategies to YVR, including upgrading or replacing the existing pipeline system.

- Alternatives included combinations of fuel delivery by marine routes, rail, tanker trucks and pipeline to bring fuel from its source to YVR
- 14 fuel delivery options were identified and assessed on the potential economic, environmental, social and regulatory impacts associated with their construction and operation
- Based on this evaluation, the proposed project best meets safety, environmental, technical and financial criteria, and offers long-term reliability of fuel supply to YVR
VAFFC voluntarily applied, and was successful, in having the project deemed reviewable by the BC Environmental Assessment Office.

As part of this process, a consultation program is being conducted with the public, First Nations and other stakeholders to seek input on the project.

In addition, the project will be reviewed for approval by several other regulatory agencies and authorities, each with its own review process, including:

- Port Metro Vancouver Environmental Assessment Process
- Vancouver Airport Authority Development Permit and Facility Permit Processes
- Fraser River Estuary Management Program
- BC Oil & Gas Commission
- City of Richmond Development Permit Process

The project may also be reviewable under the Canadian Environmental Assessment Act.
Vancouver Airport Fuel Facilities Corporation (VAFFC) is a not-for-profit company owned by a consortium of commercial airlines representing most of the domestic and international carriers serving Vancouver International Airport (YVR).

VAFFC owns and operates fuel storage and distribution facilities at YVR. These facilities are shared among the airlines, allowing them to avoid duplication and minimize costs. Similar fuel facility corporations operate at all of the major international airports across Canada.

The company has more than 20 years of experience in aviation fuel handling activities at YVR.

VAFFC contracts the management, construction and operation of its facilities to qualified organizations, and draws expertise from a network of experienced engineering and environmental consultants specializing in aviation fuel infrastructure.

Contact Us

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We Want Your Input

As the first stage of consultation, VAFFC is holding public information sessions in February and March 2009 to provide an overview of the project. We want your input, your insights and your questions regarding the proposed new fuel delivery system for Vancouver International Airport (YVR). Further public consultation sessions will be held later in the year to explain the proposed project in detail to the public, First Nations and other stakeholders prior to submitting an application to the BC Environmental Assessment Office.

As part of VAFFC’s project consultation, the public, First Nations and other stakeholders are being asked to provide input on a variety of subjects, such as:

- Proposed pipeline route
- Marine transportation
- Fuel receiving facility
- Construction
- Safety and security
- Environmental impacts
- Fuel truck traffic
- Alternative delivery systems
- YVR’s future fuel demands
- Existing fuel system

Your Feedback

All the feedback we receive through information sessions, web, phone, fax and emails will be recorded and summarized in a Consultation Summary Report, which will be submitted to the BC Environmental Assessment Office. The report will also be posted on the project website: www.vancouverairportfuel.ca

Timeline

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